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MANAGEMENT, MARKETING

MANAGEMENT, MARKETING

NEW PHENOMENA OF ARTIFICIAL INTELLIGENCE

Martin Graca, Sláva Gracová

Abstract

The development of artificial intelligence (AI) began already in the first half of the 20th century. To this day, artificial intelligence is not at such a level that it is capable of fully autonomous thinking and independent decision-making. Even so, we have come a long way, and with the development of new technologies, artificial intelligence is also improving. At the same time, artificial intelligence has developed in such a way that it can completely replace some activities and, in the foreseeable future, even job positions. With the help of machine learning, it analyzes data, algorithms and subsequently learns from them and improves specific processes. In the study, we will analyze current trends in the field of artificial intelligence. Specifically, Generative AI in the area of creating graphic elements. The artificial intelligence in creating its own graphic elements and images has improved significantly, especially in its scope and the number of modules it can handle. Among other things, it can not only create images but also expand them with other elements. By implementing them into the normal processes of life, we as a society can gain a lot. Of course, AI brings great challenges but also risks.

Keywords: *artificial intelligence, generative artificial intelligence, midjourney, dall-e.*

1. INTRODUCTION

Artificial intelligence is in development every day one step closer to perfection. Currently, we can talk more about machine learning, which with the help of algorithms, analysis of various data and processes, automates activities and thus facilitates (in some cases even completely replaces) the work of people. We are still a long way from a full-fledged artificial intelligence capable of autonomous and cognitive thinking in terms of development. „The history of AI is a history of fantasies, possibilities, demonstrations, and promise. Ever since Homer wrote of mechanical “tripods” waiting on the gods at dinner, imagined mechanical assistants have been a part of our culture. However, only in the last half century have we, the AI community, been able to build experimental machines that test hypotheses about the mechanisms of thought and intelligent behavior and thereby demonstrate mechanisms that formerly existed only as theoretical possibilities.” [1]

To establish the basic terminology, we begin with McCarthy's definition of AI. „AI is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable. “ [2]

McCarthy goes on to think about what intelligence is as such. „Intelligence is the computational part of the ability to achieve goals in the world. Varying kinds and degrees of intelligence occur in people, many animals and some machines.” [3]

AI also includes the so-called machine learning. It works on the principle of people learning. Through data analysis and algorithms, it learns how the individual processes work, which it learns and later tries to improve them. „Machine learning is an important component of the growing field of data science. Through the use of statistical methods, algorithms are trained to

make classifications or predictions, and to uncover key insights in data mining projects. These insights subsequently drive decision making within applications and businesses, ideally impacting key growth metrics. As big data continues to expand and grow, the market demand for data scientists will increase. They will be required to help identify the most relevant business questions and the data to answer them."[4]

As part of our study, in which we will later analyze new trends in the field of AI, we need to define the term generative artificial intelligence. Generative AI is a type of artificial intelligence that can create new content in the form of text, images, video, etc. „It is based on a class of machine learning models known as generative models, which can learn the underlying patterns and statistical properties of a dataset and use that information to create new examples."[5]

Generative AI has lot of type of application for example: game development, music generation, image generation, video generation, text generation, virtual assistants and other. In our article we will talk about one specific type of generative AI:

- *Image generation:* Creating images from scratch, as well as enhancing or modifying existing ones. [6]

Generative AI can generate content and other content such as music, text, video, 3D models, virtual reality and others. One example of generative AI is the Generative Adversarial Network (GAN). „Generative Models try to learn a probability density function from a training set and then generate new samples that are drawn from the same distribution. GANs generate new synthetic data that resembles real data by pitting two neural networks (the Generator and the Discriminator) against each other." [7]

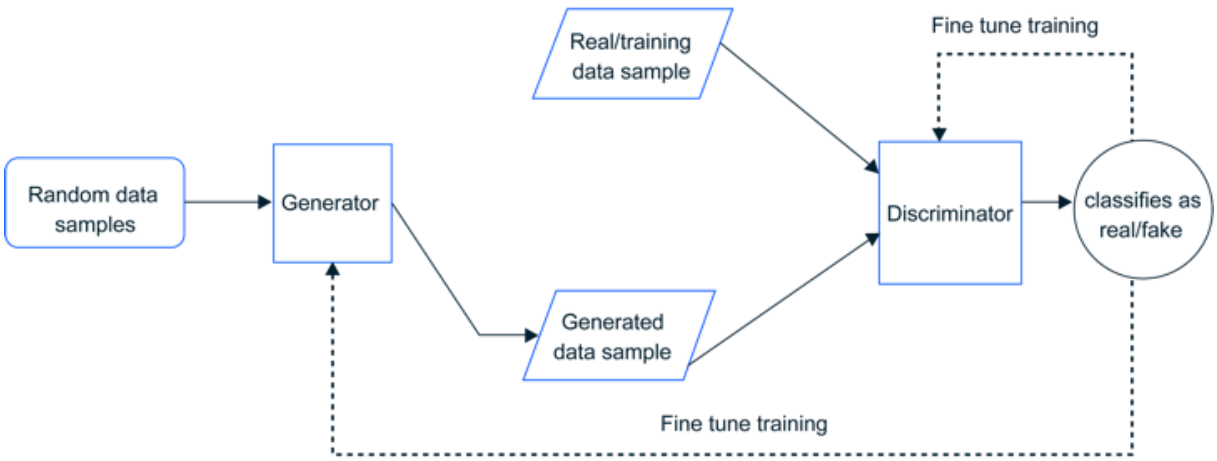

Figure 1: GAN model
Source: [8]

The Midjourney and DALL-E applications, which we analyze in the next part of the post, are based on this type of artificial intelligence.

2. METHODOLOGY

The main topic of the study is to determine the current state in the development of artificial intelligence. Specifically in generative AI in the field of text generation and image generation. Artificial intelligence is more accessible to ordinary users than before. Using, for example, DALL-E is easy and the possibilities of its use are wide. Artificial intelligence can create graphic content for, for example, social networks, which can partially and gradually replace the work of people in this area. Using artificial intelligence, it is easy to make an entire video clip or other audiovisual work. Generative AI has the potential to be used in a wide range of industries.

The aim of the contribution is to summarize knowledge on the current state of use of artificial intelligence on a theoretical level and later to analyze trends in the field of artificial intelligence, specifically Generative AI in the field of creating graphic content. The study brings current knowledge about commonly used artificial intelligences, which are available to a wide range of users.

We used several scientific methods to achieve the set goals in this contribution. In the theoretical part, we worked with available resources and used induction and deduction when classifying artificial intelligence and processing the current state in this area. In the following part focused on a specific generative AI project, we primarily used analysis. We supplemented it with examples of the functioning and way of working of artificial intelligence in the form of images.

The object of investigation is Generative AI, specifically The Midjourney and DALL-E, which are used in the field of creating graphic outputs.

3. ANALYSIS OF GENERATIVE ARTIFICIAL INTELLIGENCE

In this part of the study, we analyze Generative AI in the area of creating graphic content. We will analyze generative AI systems that can create images and other graphic elements after entering text. According to the entered string of words, artificial intelligence will generate an image within a few tens of seconds. In this category we will analyze the AI systems Midjourney and DALL-E. We tested both subjects with the same input of keywords in order to get an overview of what differences the AI system is able to create when understanding the entered text as part of its generation and transformation into a graphic form.

Creating works of art such as paintings has been the domain of humans until recently. In the development of AI, we have reached the point where generative AI systems can also create such graphic content.

3.1 Midjourney

There are currently several generative artificial intelligence (AI) projects that primarily provide the creation of graphical outputs based on a string of keywords. One of them is Midjourney - AI-generated art. “Midjourney is an independent research lab exploring new mediums of thought and expanding the imaginative powers of the human species.” [9]

Midjourney is still in development and is available in beta version available on the Discort communication platform. “The Midjourney V4 model is an codebase and AI architecture trained on the new Midjourney AI supercluster. The latest Midjourney model has more knowledge of creatures, places, objects, and more. It's much better at getting small details right and can handle complex prompts with multiple characters or objects. The Version 4

model supports advanced functionality like image prompting and multi-prompts. This model has very high Coherency and excels with Image Prompts." [10]

As we mentioned, Midjourney can be tried in the beta version on the Discort platform. After being added to the Midjourney group, which has almost 13 million members, you choose a room *(#newbies-44, #newbies-14, #newbies-74)* and can start interacting with the bot. The main command that needs to be entered to generate images is "/imagine prompt:". This is followed by a string of words or a sentence that Midjourney Bot will start generating an image by. Specifically, 4 versions of the image so you can choose the one that suits you best. If you are not satisfied with the images, the Bot will generate new ones. You can choose individual images or all images at once, which the bot will regenerate. As an extreme option, you write a new string of words to specify the task and Mijourney Bot will create a new foursome of images.

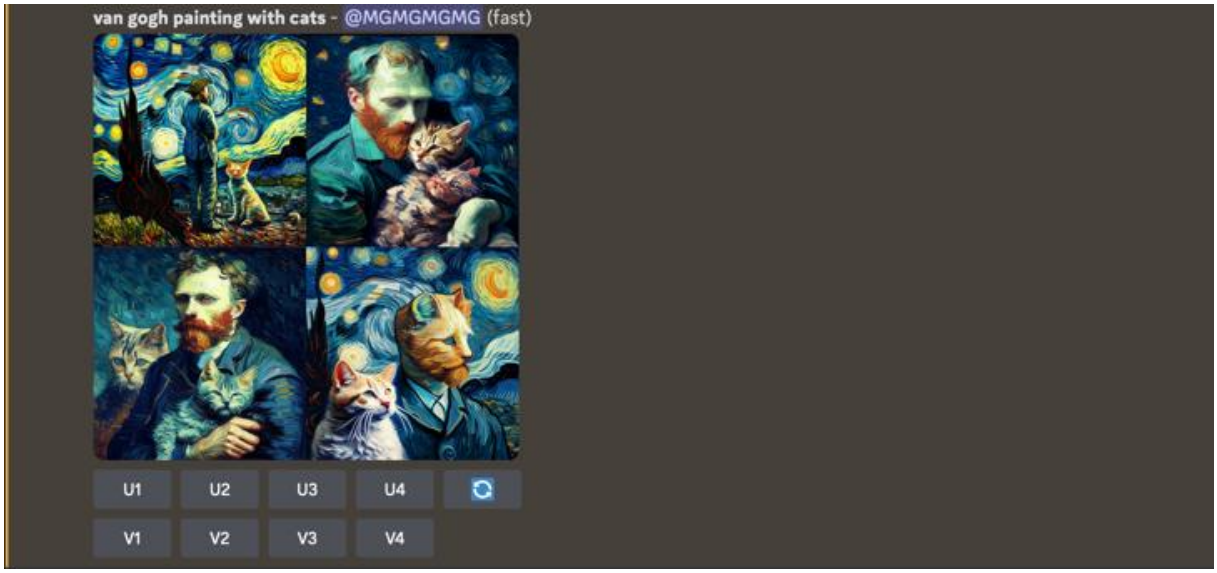

Figure 2: Midjourney Generative AI
Source: own processing, *Midjourney AI System*, 2023

Both the graphic processing and the result according to keywords is very satisfactory. Midjourne can work with widely known authors, their works and further modify them. The bot also generates graphic content of world-famous personalities such as Donald Tramp. And in different forms. In generative AI, which we will analyze later, the content policy prohibits such generation of exposed persons.

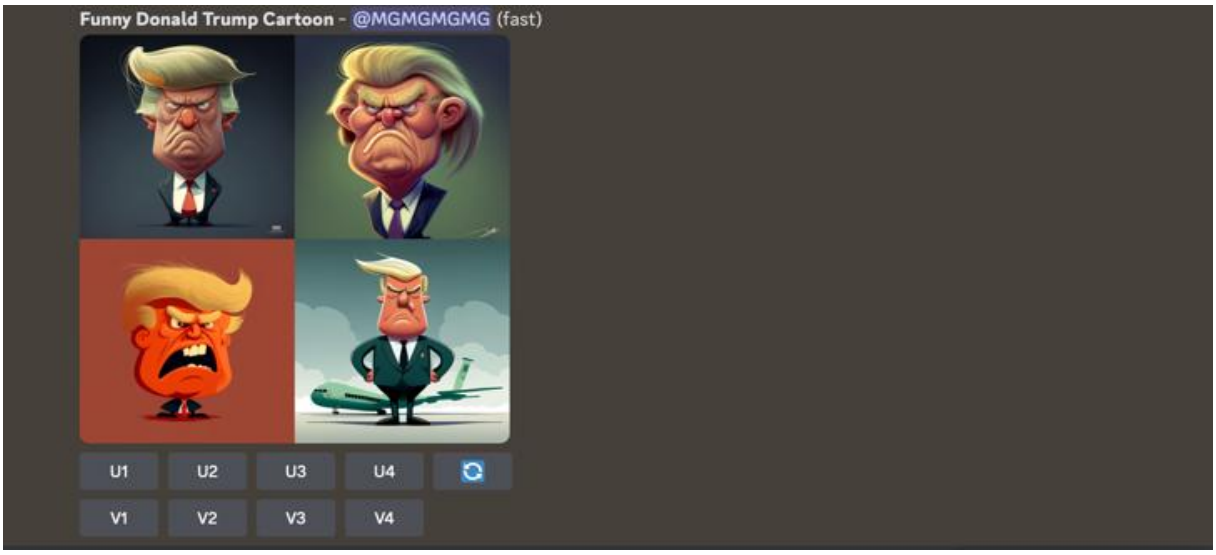

Figure 3: Midjourney Generative AI – Donald Trump
Source: own processing, *Midjourney AI System*, 2023

Midjourney isn't perfect and has a few flaws. One of them is the incorporation of texts within graphic outputs. After entering keywords, for example, for the AI system to create an image of a store with a specific inscription, Midjourney will generate the correct image in different variants, but with the wrong text.

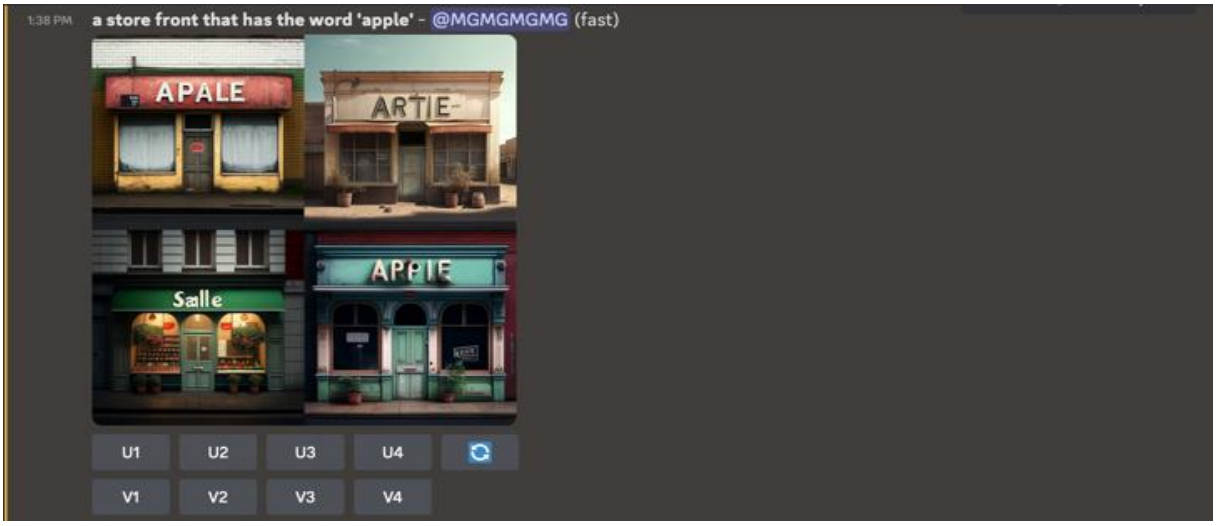

Figure 4: Midjourney Generative AI – Incorrect Text
Source: own processing, *Midjourney AI System*, 2023

In summary, Midjourney is a very useful tool that understands written text and generates graphical content relatively successfully. It helps make working time more efficient, creates content that is unique and freely available.

3.2 DALL-E

The second image generative AI that we analyze is DALL-E 2. It is a neural network system that can create realistic images from a text description in natural language. "DALL·E is a 12-billion parameter version of GPT-3 trained to generate images from text descriptions, using a

dataset of text–image pairs. We've found that it has a diverse set of capabilities, including creating anthropomorphized versions of animals and objects, combining unrelated concepts in plausible ways, rendering text, and applying transformations to existing images." [11]
DALL-E receives the text and the image as a single stream of data and is trained using maximum likelihood to generate all of the tokens (any symbols from a discrete vocabulary).

Unlike the previous tested system, DALL-E works through a web browser. The generation of graphic content takes place at *https://labs.openai.com*. After entering keywords, DALL-E will generate 4 image suggestions corresponding to the requested text string.

Figure 5: DALL-E Generative AI
Source: own processing, *DALL-E AI System*, 2023

The resulting images meet the required parameters resulting from the keywords. As with Midjourney, the result is a painting imitated exactly according to the typical features of Vincent Van Gogh's work. The difference is in the resulting interpretation of the text. While Midjourney created imitations of real paintings of Van Gogh and his likeness, it added cats to it. DALL-E interpreted the text by creating pictures of cats in the style of Van Gogh's paintings. Both results are unique.

When entering the keywords „Funny Donald Trump", the image did not generate. DALL-E has its own content policy and therefore has its own limits on what it can but cannot generate. Within the Content Policy, users can create, upload or share images that include: harassment, hate, violence, self-harm, sexual, shocking, illegal activity, deception, political, public and personal health, spam.

Figure 6: DALL-E Generative AI – Content Policy
Source: own processing, *DALL-E AI System*, 2023

In addition to generating images, DALL-E can also draw other parts of the image. This means that if we have, for example, a painting like in Figure 7, DALL-E can expand the background

in which it is located, in addition to the woman shown in the inserted painting. In our testing, the result was incomparably worse. The background extension only worked as a copy of graphic elements from the background of the image. Development is still progressing and the results may be stunning in a few years.

Figure 7: DALL-E Generative AI – Extended Image
Source: [12]

Just like Midjourney, DALL-E can't work properly with text in its generated images. The graphic design is at a high level, but the text does not contain the specified „apple“ string. The logo of the Apple company was created correctly, even if we did not think about this company, but rather about the correct writing of the text. In the near future, these bugs when inserting text into generated images should be fixed so that Generative AI can continue its development.

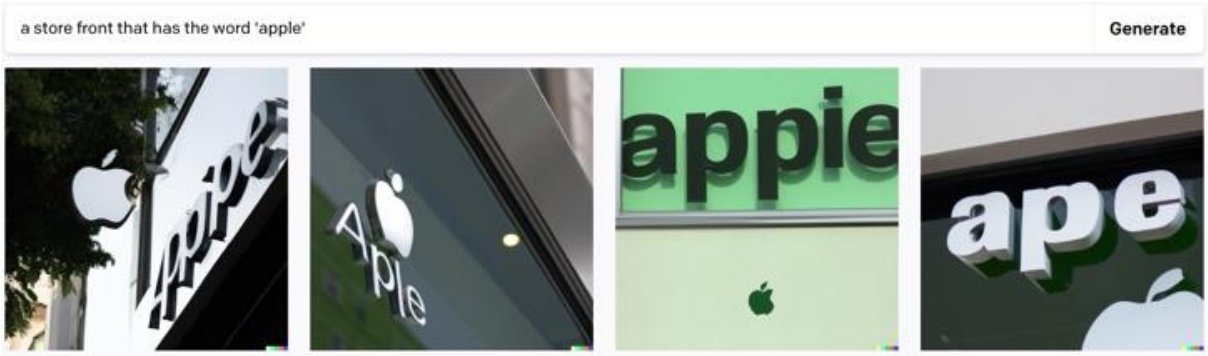

Figure 8: DALL-E Generative AI – Incorrect Text
Source: own processing, *DALL-E AI System*, 2023

4. CONCLUSION

Generative AI is a breakthrough system that can find application in various spheres of people's private and working life. It can make work more efficient and in some cases it can already replace it. Through machine learning, AI can analyze concrete work activities and automate them. The result is efficiency and time saving. On the other hand, we must always count on a certain percentage of error.

The Generative AIs we analyzed create graphical content. We have specified their current limits, which are mainly the generation and subsequent insertion of text into images. In most of the generated images tested, the text was written incorrectly in both analyzed AI systems. Generating images from user-entered text has very good results. If the resulting image does not meet the user's expectations, it is enough to specify the parameters in the entered text or, in the case of Midjourney, click on the image to be generated again. The user interface is more friendly and clear in the DALL-E AI system. It works through a website. Just type keywords into the text line and DALL-E will generate a series of images. Among other things, it also contains a content policy, which eliminates some attempts to abuse the system. The use of these AI systems in marketing is wide. For example, on social networks when creating your own content. Likewise, the use of authentic and specific graphic content in campaigns in the digital environment. The issue that has not yet been resolved is copyright. These are to be defined and unified within the European Union in the foreseeable future. The problem is who will own the rights from the created graphic output and how it can be further used. Another unsolved question is the data from which machine learning AI systems learn. Should the authors of outputs that AI analyzes and subsequently creates graphic and other content be entitled to a financial reward from copyright? And is the data from which the AI learns cleaned of hoaxes, misinformation and propaganda? Generative AI opens up new possibilities that will make our everyday life easier. On the other hand, we must not forget the risks that AI brings with it.

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CSREU: A NOVEL DATASET ABOUT CORPORATE SOCIAL RESPONSIBILITY AND PERFORMANCE INDICATORS

Erion Çano, Xhesilda Vogli

Abstract

Corporate Social Responsibility (CSR) has become an important topic that is gaining academic interest. This research paper presents CSREU, a new dataset with attributes of 115 European companies, which includes several performance indicators and the respective CSR disclosure scores computed using the Global Reporting Initiative (GRI) framework. We also examine the correlations between some of the financial indicators and the CSR disclosure scores of the companies. According to our results, these correlations are weak and deeper analysis is required to draw convincing conclusions about the potential impact of CSR disclosure on financial performance. We hope that the newly created data and our preliminary results will help and foster research in this field.

Keywords: *corporate social responsibility, global reporting initiative framework, research dataset, financial indicators, corporate sustainability disclosure score*

1 INTRODUCTION

There is recently a lot of research work addressing the value, relevance, social effect, and financial consequences of Corporate Social Responsibility (CSR) [1] [2] [3]. There are also studies like [4] that collect, process and provide research datasets about CSR. Despite the recent increase of interest in CSR, it is still unclear if it has an impact or if it is influenced by a company's financial success. For instance, several studies have confirmed a positive relationship between the CSR and financial variables [5] [6], whilst other studies have revealed a lack of association altogether or a negative correlation [7] [8]. The variations in study findings indicate the need for further research on CSR and financial success, as business leaders continue to strive for striking a balance between shareholder and stakeholder benefits. Current studies have been carried out in the United Kingdom [9], the United States [10], and other developed countries. This is due to the fact that these countries have adhered to CSR disclosure standards which are particularly useful for quantifying it. Additionally, the majority of studies have been focused on particular industries separately. For instance, at [11] and [12] they looked at the relationship between CSR and the financial advantages in the banking industry; at [13] and [14] they surveyed the manufacturing industry and at [15] and [16] they looked at communication services. In this work, we present CSREU,[1] a dataset which includes financial, economic, environmental and social metrics, as well as the CSR disclosure rates of 115 companies operating in Europe. These companies belong to various industry types environmental of analyze the relationship between CSR and financial performance in 115 European companies across the major industry types. We use the global reporting initiative framework as a standard to calculate the disclosure score, which serves as a comprehensive measure of CSR practices. By considering a diverse range of industry sectors and utilizing the widely recognized GRI framework, we try to find correlations between CSR and financial performance in the European context. According to our computations, some of the performance indicators like Revenue, Profit, Earnings per Share and Price to Earnings correlate weakly with the CSR disclosure.

1 Freely available at: https://zenodo.org/record/7977693

2 CSREU DATASET

The sources for constructing the CSREU were mostly collected from the public websites of 115 companies currently operating in the Europe. In some cases, public reports issued by those companies were also used. Each of the attributes is briefly described in the following sections.

2.1 Financial Performance Attributes

Country represents the country where a company's headquarters is located. It provides information about the geographical location or origin of the company's main office or central management. It allows for the categorization and analysis of companies based on their country of operation, enabling insights into regional trends, comparative studies, and country-specific impacts on various aspects of the dataset. The country distribution of the companies is shown in Table 1.

Table 1- Country distribution of companies in the dataset

Country	Count	Country	Count
Germany	15	Russia	3
UK	15	Norway	3
Czech Republic	14	Belgium	3
France	13	Portugal	2
Switzerland	9	Poland	2
Italy	7	Ireland	1
Netherlands	6	Hungary	1
Sweden	6	Turkey	1
Spain	4	Norway	1
Finland	4	Luxembourg	1
Denmark	4		

Company Name represents the designated and registered name under which the company conducts its business activities. It is saved as a text string.

Industry type represents the industry type of a given company based on the Global Industry Classification Standard (GICS) [17]. There are nine main industry types and the respective distribution is show in Table 2.

Table 2 -Industry distribution of companies in the dataset

Industry	Count
Consumer Staples	19
Consumer Discretionary	18
Financials	16
Information Technology	15
Energy Sector	14
Industrials	10
Health	9
Materials	8
Communication Services	6

Year represents a 5-year period from 2021 to 2017. It should be noted that the year 2022 was not included in the dataset. This exclusion is due to the fact that many companies publish their

sustainability reports retrospectively, and therefore, the data for the year 2022 was not yet available for analysis for many companies. [18]
Revenue (in billions) displays a company's overall revenue, which is normally expressed in billions of dollars. The income a business makes through its main operations, such as the selling of goods or services, is represented as revenue. [19]
Profit (in billions) displays a company's net profit or net income, often expressed in billions of dollars. Profit is what's left over after expenses, taxes, and other charges are subtracted from a company's income. [20]
Return on Equity (%) is a financial statistic that assesses a company's profitability and effectiveness in creating returns for its owners. Divide net income by shareholders' equity, then multiply the result by 100 to get the return on equity (ROE). [20]
Return on Assets (%) is a financial indicator that assesses a company's capacity to produce profits from its assets. Net income is divided by total assets, and the resulting number is multiplied by 100 to determine ROA.
Earnings Per Share (EPS) is a financial metric that displays the part of a company's profit allotted to each outstanding share of its common stock. The company's net income is divided by the total number of outstanding shares to arrive at the EPS.
Price to Earnings (P/E) shows the price-to-earnings ratio, a measure of a company's value that contrasts the stock's market price with its earnings per share. How much investors are ready to pay for each unit of profits is shown by the P/E ratio which is determined by dividing the market price per share by the earnings per share.

2.2 GRI Standard Attributes

The GRI standard template was developed as a reporting framework to assist firms in disclosing their sustainability performance. The rise in GRI reports confirms the need for more practical financial arrangements that place sustainability first [21]. The standard disclosures are organized into three categories: General Disclosures, Management Approach Disclosures, and Performance Indicators [22]. The template allows organizations to provide a comprehensive overview of their sustainability performance, management systems, and policies, while also enabling stakeholders to compare and evaluate the sustainability performance of different organizations. By following GRI standards, companies can identify and manage sustainability risks and opportunities, improve stakeholder engagement, and ultimately contribute to more sustainable and responsible business practices [23]. Additionally, GRI standards enable stakeholders, including investors, consumers, and civil society organizations, to make informed decisions based on consistent, reliable, and relevant sustainability information [24]. CSREU includes three main areas of the GRI standard, namely economic, environmental, and social dimensions. Specifically, within the economic dimension, the analysis focuses on three key parameters: *performance, market presence, and indirect economic impacts*. The environmental dimension encompasses various parameters such as *materials, energy, water, biodiversity, emissions, effluents and waste, products and services, and compliance*. Lastly, the social dimension of the dataset considers parameters related to *labor practices and decent work, human rights, society, and product responsibility*. These areas and parameters have been selected to provide a comprehensive understanding of the sustainability performance of the companies under investigation, aligning with the GRI framework [25] [26].

2.3 Negative Events and CSR Disclosure Score

Given that the majority of the companies included in the study have adhered to GRI standards, an additional column labeled "Negative Event" was incorporated. This column served the purpose of assessing whether each company had been involved in any

sustainability scandals during the corresponding 5-year period. To determine this, multiple reliable sources were thoroughly examined. If a company was found to have been associated with a sustainability scandal, the "score" column was marked with -1, reflecting the negative impact of such an event on the overall disclosure rate. This method allowed for a more nuanced analysis of the disclosure rates, taking into account the potential repercussions of sustainability scandals on the companies' reporting practices. Disclosure Score or Corporate Sustainability Disclosure Score (CSDS) is determined by summing up the scores of all GRI parameters considered for each company and then dividing it by the total count of GRI parameters:

$$\text{CSDS} = \frac{\sum GRIparameters}{countofGRIparameters}$$

We also computed the average CSDS of all the companies on each year, to have an overall view of the evolution of this parameter within European companies during the last years. The per-year average scores are presented in Table 3.

Table 3 - Average disclosure score for each year

Year	Disclosure Score
2017	0.892870
2018	0.916174
2019	0.929130
2020	0.919826
2021	0.908000

3 RESULTS

We computed the correlations of certain financial metrics with the CSR disclosure score for the 115 companies of the CSREU dataset. The results are presented in Table 4. As we can see, the correlation coefficient between the revenue and the CSR score is 0.0139, which indicates a very weak positive correlation. From this result, we can infer that there is little to no significant relationship between a company's revenue and its level of CSR disclosure. Next, we see that the profit and the CSR disclosure are negatively correlated, with a coefficient of -0.04. This also suggests that there is little to no significant relationship between a company's profit and its level of CSR disclosure. However, it is important to note that the correlation is weak and may not be practically significant. The earnings per share and CSR disclosure manifest a correlation of 0.0436 which is also weak. Again, it seems that there is little to no significant relationship between a company's earnings per share and its level of CSR disclosure. Finally, we obtained a correlation of 0.1239 between price to earnings ratio and CSR disclosure. This suggests that there might be a slight tendency for companies with higher price to earnings ratios to also have higher levels of CSR disclosure. However, the correlation is still relatively weak and should be interpreted with caution.

The findings in this study align with some previous research works that also report weak or insignificant relationships between financial performance measures and CSR disclosure rates. For example, Akhtar Ali and Imran Abbas Jadoon [27] conducted a similar study on a sample of multinational companies and reported a weak positive correlation between revenue and CSR disclosure, similar to the current finding. Additionally, Nguyen et al. [28] analyzed the relationship between profit and CSR disclosure in a different industry and found strong positive significant correlation. Similar results are also reported analyzing companies based in Southeast Asia [29]. On the other hand, there are studies that report opposite or contradictory

results. For example, in [30] and [31] they reject any correlation between CSR and financial performance. Furthermore, Cho et al. [32] examined the association between price to earnings and CSR disclosure in a Korean firms and report a moderate positive correlation, suggesting that higher price to earnings were associated with greater CSR disclosure. Similarly, Kim et al. [33] conducted a comprehensive analysis across various industries and identified a significant positive correlation between price to earnings ratio and CSR disclosure.
These contrasting findings highlight the complexity and context-dependence of the relationship between financial performance and CSR disclosure. It is important to consider industry-specific factors, company characteristics, and regional variations when interpreting the results. Further research should delve deeper into these relationships and explore potential mediating or moderating factors that may influence the observed correlations.

Table 4 - Correlations of certain metrics with CSR disclosure

Metric	Correlation
Revenue	0.0139
Profit	-0.0400
Earnings per share	0.0436
Price to earnings	0.1239

4 CONCLUSIONS

The recent academic interest in CSR has created incentives for creating research resources such as datasets that can be used in combination with data-driven methods for better understanding CSR and its relations with other factors. In this work, we presented CSREU, a freely available dataset which comprises several performance scores of 115 European companies, together with their CSR disclosure rate. This dataset can be used by the community, fostering future research about CSR. We also analyzed the CSREU data and observed the correlation coefficients between certain financial metrics and the respective CSR disclosure scores. Based on our findings, there is limited evidence to support a strong relationship between revenue, profit, earnings per share, price to earnings ratio, and CSR disclosure. The weak or insignificant correlations suggest that financial performance measures alone may not be reliable indicators of a company's level of CSR disclosure. Future studies should consider incorporating additional variables and exploring alternative methodologies to gain a more comprehensive understanding of the relationship between financial performance and CSR disclosure.

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KULTÚRNA CESTA TRANSROMANICA V NITRIANSKOM KRAJI AKO FORMA OBNOVY KULTÚRNEHO DEDIČSTVA A ROZVOJA UDRŽATEĽNÉHO KULTÚRNEHO CESTOVNÉHO RUCHU

CULTURAL ROUTE TRANSROMANICA IN THE NITRA REGION AS A FORM OF RENEWAL OF CULTURAL HERITAGE AND DEVELOPMENT OF SUSTAINABLE CULTURAL TOURISM

Viktória Bíziková

Abstrakt

Kultúrny cestovný ruch prispieva k poznaniu histórie vlastného a iných národov. Prostredníctvom neho sa oboznamujeme s kultúrnych dedičstvom. Dobrým príkladom praxe k trvalo udržateľnému využívaniu európskeho kultúrneho dedičstva je aj Program Kultúrnych ciest Rady Európy. V príspevku sa zameriavame na certifikovanú kultúrnu cestu Rady Európy TRANSROMANICA, ktorá spája románske kultúrne dedičstvo deviatich európskych krajín s akcentom na architektonické pamiatky a lokality na území Nitrianskeho kraja. Cieľom je analyzovať súčasný stav a identifikovať možnosti rozvoja kultúrnej cesty v Nitrianskom kraji na základe informácií z primárnych a sekundárnych zdrojov. Uplatňujeme metódu riadeného rozhovoru s vybranými aktérmi cestovného ruchu. Poukazujeme na využívanie zdrojov cestovného ruchu s ohľadom na udržateľný rozvoj kultúrneho cestovného ruchu.

Kľúčové slová: *kultúrna cesta, Transromanica, kultúrne dedičstvo, kultúrny cestovný ruch, udržateľnosť*

Abstract

Cultural tourism contributes to the knowledge of one's own and other peoples' history. Through it we learn about cultural heritage. The Cultural Routes Programme is a good example of a practice for the sustainable use of Europe's cultural heritage. In this paper we focus on the Council of Europe's certified cultural route TRANSROMANICA, which connects the Romanesque cultural heritage of nine European countries with an emphasis on architectural monuments and localities on the territory of the Nitra region. The aim is to analyse the current status and to identify the possibilities for the development of the cultural route in the Nitra region on the basis of information from primary and secondary sources. We apply the method of standardized interviews with selected tourism actors. We point out the use of tourism resources with regard to the sustainable development of cultural tourism.

Key words: *cultural route, Transromanica, cultural heritage, cultural tourism, sustainability*

1 ÚVOD DO PROBLEMATIKY

Kultúrny cestovný ruch prispieva k poznaniu histórie vlastného a iných národov. Prostredníctvom neho sa oboznamujeme s najvýznamnejšími kultúrnymi a historickými pamiatkami, s rozmanitými architektonickými, výtvarnými a umeleckými dielami, aj so súčasným priemyselnými stavbami a tvorivou aktivitou človeka (Gúčik, 2010). Je jedným z prostriedkov vzdelávania a výchovy k národnej hrdosti a kultúrnej identite. Kultúrny cestovný ruch vyžaduje špecifické podmienky pre svoj rozvoj a predpokladá najmä existenciu kultúrneho dedičstva. Výskyt kultúrneho dedičstva ako významného zdroja cestovného ruchu výrazne prispieva k atraktívnosti cieľového miesta. Kultúrne zdroje sa stávajú určujúcim

faktorom pri tvorbe produktov cestovného ruchu v destináciách a inovácií v cestovnom ruchu pri tvorbe balíkov služieb podnikov cestovného ruchu. Cestovný ruch, v prípade jeho správneho využitia, môže prispieť k zachovaniu kultúrneho dedičstva, k zvýrazneniu hodnoty kultúrnych statkov, k poznaniu návštevníkov cestovného ruchu a k hospodárskemu rozvoju cieľového miesta.
V príspevku sa zameriavanie na kultúrnu cestu TRANSROMANICA, ktorá je certifikovanou kultúrnou trasou Rady Európy od roku 2007. Spája spoločné románske kultúrne dedičstvo deviatich európskych krajín: Nemecka, Rakúska, Portugalska, Španielska, Francúzska, Talianska, Slovenska, Srbska a Rumunska. Slovensko prezentujú na riešenej kultúrnej trase tri lokality. Sú to románske stavby v Spišskej Kapitule v Prešovskom kraji a sakrálna architektúra v obciach Bíňa a Diakovce na území Nitrianskeho kraja. V príspevku skúmame súčasný stav a možnosti rozvoja kultúrnej trasy lokalizovanej v Nitrianskom kraji s ohľadom na trvalú udržateľnosť rozvoja kultúrneho cestovného ruchu. Našim zámerom je zároveň poukázať na význam kultúrnej trasy ako formy obnovy kultúrneho dedičstva románskeho umenia a architektúry európskych národov a rozvoja cestovného ruchu v Nitrianskom kraji tak, aby podporoval regionálny rozvoj so zreteľom udržateľnosť.

1.1 Kultúrny cestovný ruch a kultúrne trasy ako forma obnovy kultúrneho dedičstva

Kultúrny cestovný ruch predstavuje rozličné spôsoby uspokojovania duchovných potrieb ľudí, ako je vzdelávanie, poznávanie, poučenie, zábava, rozptýlenie a pod. Má veľa foriem a stupňov intenzity (Orieška, 2001). V praxi má podobu návštev múzeí, galérií, sakrálnych stavieb, kultúrnych pamätihodností, archeologických nálezísk, hudobných, divadelných a filmových festivalov, výstav, spoločenských a náboženských podujatí (Gúčik, 2010). Zdrojom primárnej ponuky kultúrneho cestovného ruchu je kultúra vyskytujúca sa v cieľovom mieste vo formách neživej kultúry, kultúry každodenného života a animovanej kultúry. Kultúrny cestovný ruch je v súčasnosti široký pojem, ktorý zahŕňa a vyvíja sa smerom od pasívneho pozorovania a poznávania kultúry k aktívnejšiemu a intenzívnejšiemu prežívaniu kultúry formou aktívneho zapájania sa návštevníka do kultúrnych aktivít. Potreba sebarealizácie je silným motívom účasti na kultúrnom cestovnom ruchu. Na základe motivácie a stupňa sebarealizácie kultúrnych návštevníkov rozlišujeme typy kultúrneho cestovného ruchu ako je cestovný ruch kultúrneho dedičstva, umelecký cestovný ruch, remeselný cestovný ruch a kreatívny cestovný ruch (Richards, 2011).
Významnou a dominantnou atraktivitou kultúrneho cestovného ruchu je kultúrne dedičstvo. Podľa Deklarácie Národnej rady Slovenskej republiky o ochrane kultúrneho dedičstva prijatej 28. februára 2001 (Zbierka Zákonov Slovenskej republiky č. 91/2001, čiastka 39 z 20. marca 2001) je kultúrne dedičstvo Slovenskej republiky súbor všetkých historických a kultúrnych hodnôt vytvorených predchádzajúcimi generáciami bez zreteľa na čas a miesto ich vzniku „nenahraditeľným bohatstvom štátu a jeho občanov, je dokladom vývoja spoločnosti, filozofie, náboženstva, vedy, techniky, umenia, dokumentom vzdelanostnej a kultúrnej úrovne slovenského národa, iných národov, národnostných menšín, etnických skupín a jednotlivcov, ktorí žijú alebo v minulosti žili na území Slovenska. Jednotlivé druhy a časti kultúrneho dedičstva sú rovnocenné a tvoria nedeliteľnú súčasť kultúrneho dedičstva Európy a celého ľudstva.”
Vzájomná interakcia kultúrneho cestovného ruchu a kultúrneho dedičstva prináša nielen pozitíva a generované ekonomické a mimoekonomické benefity, ale má aj svoje problematické aspekty. Kým oblasť kultúrneho dedičstva sa orientuje na ochranu kultúrnych hodnôt a napĺňanie spoločenskej požiadavky vo verejnom záujme, cestovný ruch presadzuje svoje komerčné ciele charakteristické pre súkromný sektor a vníma kultúrne zdroje ako “surovinu” vhodnú k exploatácii. Na základe tejto konfrontácie je uskutočňovanie trvalo udržateľného využívania kultúrneho dedičstva v cestovnom ruchu spôsob ako čiastočne riešiť

problém udržateľného rozvoja kultúrneho cestovného ruchu. Nadmerne a zle organizovaný cestovný ruch poškodzuje integritu a význam kultúrneho dedičstva.
V záujme zachovania kultúrno-historického potenciálu pre rozvoj kultúrneho cestovného ruchu bola na generálnej konferencii v Mexico City v roku 1999 prijatá organizáciou ICOMOS (International Council on Monuments and Sites) Charta o kultúrnom turizme, v ktorej členovia sformulovali pravidlá využívania kultúrneho dedičstva národov v záujme jeho zachovania. Touto chartou sa riadi aj Kultúrny výbor Rady Európy, ktorý predložil na schválenie rezolúciu o kultúrnych trasách Rady Európy, aby sa stanovili kritériá prispievajúce k trvalo udržateľnému užívaniu európskeho kultúrneho dedičstva. Pilotným projektom tejto aktivity bol v roku 1987 Program kultúrne cesty Rady Európy a Deklarácia zo Santiaga de Compostela s cieľom obnoviť historické pútnické cesty do Santiaga de Compostela (hrob sv. Jakuba apoštola). Význam tohto projektu vzrástol a rozšíril sa po prijatí Rezolúcie Rady Európy, ktorá stanovila kritériá pre výber tém a schvaľovanie sietí. Rezolúcia zároveň poverila Európsky inštitút kultúrnych trás v Luxemburgu zodpovednosťou za koordináciu sietí, poskytovanie odbornej pomoci, posudzovanie návrhov nových trás a budovanie výskumného a dokumentačného centra kultúrnych trás s cieľom prezentovať výsledky, ktoré program zaznamenal. Inštitút kultúrnych ciest bol založený v roku 1997 a sídli v Luxemburgu.
Kultúrne cesty Rady Európy sú pozvánkou na cestovanie a objavovanie bohatého a rozmanitého dedičstva Európy prostredníctvom spájania ľudí a miest do sietí spoločnej histórie a dedičstva. Uplatňujú hodnoty Rady Európy: ľudské práva, kultúrnu rozmanitosť, medzikultúrny dialóg a vzájomnú cezhraničnú výmenu. Program podporuje vytvorenie spoločného priestoru európskeho kultúrneho dedičstva a jeho základných hodnôt prostredníctvom cezhraničnej spolupráce a výmeny informácií medzi Európanmi (Council of Europe, 2023). O rastúcom význame kultúrnych ciest pre rozvoj turizmu svedčí aj ich začleňovanie do rozvojových stratégií Európskych makroregiónov, certifikovanie stále nových kultúrnych ciest Rady Európy a otvorenie samostatnej iniciatívy s názvom Routes4U (Slovenský dom Centrope, 2020). Úlohou kultúrnych európskych ciest je spoznávanie ciest, ktorými migrovali ľudia a idey, umelecké, filozofické, religiózne a mnohé ďalšie fenomény. Slovensko sa aktívne zapája a podieľa na budovaní, propagácií a prehlbovaní spolupráce v rámci Kultúrnych ciest Rady Európy (MK SR, 2023).

1.2 Kultúrne cesty na Slovensku

Kultúrne cesty, ktoré začala organizovať Rada Európy v roku 1987, ukazujú prostredníctvom cesty v priestore a čase, ako dedičstvo rôznych krajín a kultúr Európy prispieva k spoločnému a živému kultúrnemu dedičstvu. Viac ako 45 kultúrnych trás Rady Európy poskytuje bohaté možnosti trávenia voľného času a vzdelávania pre všetkých občanov v Európe i mimo nej a sú kľúčovým zdrojom zodpovedného cestovného ruchu a udržateľného rozvoja. Zahŕňajú celý rad rôznych tém, od architektúry a krajiny po náboženské vplyvy, od gastronómie a nehmotného dedičstva po významné osobnosti európskeho umenia, hudby a literatúry. Zvláštnu kategóriu tematických kultúrnych ciest predstavujú Európske kultúrne trasy certifikované Radou Európy. Certifikát "Kultúrna cesta Rady Európy" je zárukou kvality. Tento titul sa udeľuje tematickým kultúrnym trasám európskeho významu, ktoré spájajú aspoň tri krajiny v Európe. Siete realizujú inovatívne činnosti a projekty týkajúce sa piatich hlavných prioritných oblastí činnosti: spolupráca v oblasti výskumu a vývoja; posilňovanie pamäti, histórie a európskeho dedičstva; kultúrne a vzdelávacie výmeny pre mladých Európanov; súčasná kultúrna a umelecká prax; kultúrny turizmus a trvalo udržateľný kultúrny rozvoj.
Prostredníctvom svojho programu Rada Európy ponúka model nadnárodného riadenia kultúry a cestovného ruchu a umožňuje synergie medzi národnými, regionálnymi a miestnymi

orgánmi a širokou škálou združení a sociálno-ekonomických subjektov (Council of Europe, 2023).
Slovensko je v súčasnosti zapojené do viacerých certifikovaných európskych kultúrnych trás, pričom náš potenciál je omnoho vyšší. Aktuálny prehľad certifikovaných kultúrnych trás zachytáva tabuľka 1.

Tabuľka 1 Kultúrne cesty na Slovensku

Certifikované kultúrne cesty Rady Európy na Slovensku		
Slovenský názov	Anglický názov	Rok certifikácie
Cesta sv Martina z Tours	Saint Martin of Tours Route	2005
TRANSROMANICA	TRANSROMATICA	2007
Cesta železnej opony	Iron Curtain Trail – Eurovelo 13	2019
Cyrilo-Metodská cesta	Cyril and Methodius Route	2021
Cesta historických kaviarní	Historic Cafés Route	2022

Zdroj: vlastné spracovanie, 2023 (podľa Council of Europe)

1.3 Európska kultúrna cesta Transromanica v Nitrianskom kraji

Inštitucionálnu a programovú podporu európskej kultúrnej cesty TRANSROMANICA zabezpečuje Asociácia kultúrnej cesty TRANSROMANICA, ktorá má v súčasnosti svoje sídlo v nemeckom Magdeburgu. Zameriava sa na spoločné kultúrne dedičstvo románskeho umenia a architektúry v Európe, na sprístupňovanie pamiatok verejnosti, ich rozvoj a využívanie pamiatok na kultúrne a turistické účely. Združuje 13 členských regiónov v deviatich krajinách, ktoré tvoria sieť románskych trás a pamiatok. Je vedená ako medzinárodná organizácia na propagáciu a zhodnocovanie tohto dedičstva, a tým podporuje regionálny a hospodársky rozvoj (Asociácia Transromanica, 2023).
Kultúrnu cestu TRANSROMANICA tvoria románske pamiatky, z ktorých mnohé sú zapísané na zozname svetového dedičstva UNESCO a nachádzajú sa v krajinách Európy medzi Baltským a Stredozemným morom. Románsky štýl vznikol koncom 10. storočia ako nová forma architektúry a formoval podobu stredovekej Európy v priebehu nasledujúcich 300 rokov. Románsky štýl kombinuje orientálne, byzantské a rímske vplyvy. Typickou je skôr jednoduchosť ako výrazné zdobenie. Základnými architektonickými prvkami sú geometrické tvary, polkruhový oblúk, valené a krížové klenby bez rebier, stĺpy a portály (Slovenský dom Centrope, 2020).
Každý región na trase TRANSROMANICA ponúka jedinečné kultúrne pamiatky, kulinárske špeciality a množstvo kultúrnych podujatí. Spája veľkolepé katedrály, kláštory, kostoly a hrady, ktoré boli svedkami európskych stredovekých dejín. Cesta po románskych pamiatkach európskeho kultúrneho dedičstva zahŕňa aj putovanie po stopách významných historických osobností, ako boli Otto Veľký, Martin Luther, Matilda z Canossy, svätý Jakub z Compostely a mnohí ďalší cisári a duchovní vodcovia (Council of Europe, 2023).
Románska architektúra na území Slovenska čerpá z kultúrneho dedičstva Veľkej Moravy. Zo zachovaných pamiatok v románskom štýle na Slovensku sú tri z nich súčasťou kultúrnej cesty Rady Európy TRANSROMANICA: Kostol Panny Márie Nanebovzatej v Diakovciach okres Šaľa a Kostol Panny Márie v obci Bíňa okres Nové Zámky v Nitrianskom kraji. Románska pamiatka Katedrála sv. Martina v Spišskej Kapitule z 13. storočia sa nachádza na území Prešovského kraja. Od roku 1993 je zapísaná do Zoznamu svetového kultúrneho dedičstva UNESCO. Výber pamiatok pre kultúrnu cestu Rady Európy TRANSROMANICA vykonalo Ministerstvo kultúry SR, nakoľko v jeho kompetencii je ochrana pamiatkového fondu.
V prieskume súčasného stavu riešenej kultúrnej cesty Rady Európy sa sústreďujeme na objekty lokalizované na území Nitrianskeho samosprávneho kraja. Neskororománsky rímskokatolícky kláštorný Kostol Panny Márie Nanebovzatej v Diakovciach z roku 1228 patrí

k najpozoruhodnejším pamiatkam architektúry na Slovensku. Predstavuje románsku stavbu tzv. lombardného typu. Postavili ho benediktínski mnísi ako svoj kláštorný chrám. Najstarším objektom pripojeným ku kostolu je Kaplnka sv. Štefana ako typický ranorománsky objekt z pôvodného kostolíka z roku 1103. Kostol Nanebovzatej Panny Márie bol prvou tehlovou stavbou tohto typu v oblasti a stal sa vzorom pre mnohé ďalšie tehlové kostolíky južného Slovenska. Bližší opis tejto unikátnej pamiatky poskytuje digitálny nástroj vo forme videa dostupného na https://www.youtube.com/watch?v=IyJy-V4GOyE.
Románska bazilika v obci Bíňa zasvätená Panne Márii bola súčasťou premonštrátskeho kláštora. Dvojvežový kostol postavený pred rokom 1217 je kultúrno-historickou pamiatkou európskeho významu s množstvom zachovaných pôvodných románskych a gotických prvkov. Začiatkom 12. storočia tu postavili pôsobivú románsku rotundu – Rotundu dvanástich apoštolov. Spolu s areálom zaniknutého kláštora predstavujú jeden z najzaujímavejších súborov románskej architektúry na Slovensku. Obe sakrálne stavby stoja vo vnútornom areáli rozsiahleho zemného opevnenia z veľkomoravských čias, ktoré pôvodne tvorili tri valy. Každoročne sa tu na sviatok Nanebovzatia Panny Márie koná púť s dožinkami. Účastníci procesie sú oblečení v krojoch, nesú žatevný veniec a nový chlieb, ktorý požehnáva farár (Slovenský dom Centrope, 2020).
Kultúrna trasa medzi dvoma románskymi lokalitami v Nitrianskom kraji má dĺžku približne 85 km. Na tejto ceste môže návštevník spoznávať tajomstvá kultúrneho dedičstva stredoveku na dnešnom území Západného Slovenska. Vzhľadom na výnimočnosť lokalít európskeho významu má Transromanica potenciál pri tvorbe produktu cestovného ruchu pre domácich i zahraničných návštevníkov - milovníkov histórie a kultúry. Tomu predchádza cieľavedomá marketingová činnosť súvisiaca s tvorbou ponuky udržateľného kultúrneho cestovného ruchu v podobe produktu cestovného ruchu cieľového miesta. Nevyhnutná je spolupráca zainteresovaných aktérov cestovného ruchu, ktorí prostredníctvom efektívnej a cieľavedomej spolupráce dokážu ekonomicky zhodnotiť kultúrne zdroje Nitrianskeho kraja s ohľadom na udržateľnosť. Ide o realizáciu dlhodobých cieľov, na ktorých participujú predstavitelia súkromného a verejného sektora tak, aby románske kultúrne dedičstvo kultúrnej cesty Rady Európy Transromanica na území Nitrianskeho kraja sa stalo aktívnou súčasťou európskej kultúrnej cesty.

2 CIEĽ, MATERIÁL, METODIKA

Cieľom článku je analyzovať súčasný stav a identifikovať možnosti rozvoja kultúrnej trasy TRANSROMANICA lokalizovanej v Nitrianskom kraji s ohľadom na udržateľnosť rozvoja kultúrneho cestovného ruchu na základe informácií získaných z dostupných primárnych a sekundárnych zdrojov. Stanovené ciele možno dosiahnuť zodpovedaním dvoch výskumných otázok: Aké sú aktuálne podmienky uplatnenia a využitia románskych pamiatok ako atrakcie cestovného ruchu v rámci kultúrnej trasy TRANSROMANICA v Nitrianskom kraji? Aké príležitosti a prekážky považujú zainteresovaní aktéri CR za kľúčové v zintenzívnení udržateľného kultúrneho cestovného ruchu na kultúrnej trase TRANSROMANICA v Nitrianskom kraji? Východiskom skúmania je primárny zber výskumného materiálu v marci 2023 pomocou metódy štandardizovaného rozhovoru s predstaviteľmi farností ako oslovených osôb zodpovedajúcich cieľu tohto prieskumu. V kontexte uvedeného bol vypracovaný rozhovor, ktorý obsahoval 8 otázok. Ďalším osloveným aktérom cestovného ruchu v prieskume bol Úrad Nitrianskeho samosprávneho kraja, zastúpený odborom kultúry a cestovného ruchu, ktorého postoj ku kultúrnej ceste TRANSROMANICA sme analyzovali prostredníctvom neriadeného rozhovoru. Získané informácie z realizovaných rozhovorov sme vyhodnotili a interpretovali pomocou metódy obsahovej analýzy. Zo sekundárnych zdrojov využívame informácie z aktuálnych webových stránok inštitúcií, hlavne Ministerstva kultúry SR, Pamiatkového úradu SR, Slovenského

domu Centrope a Rady Európy (Council of Europe), ktoré majú osobitný záujem na rozvoji kultúrnych ciest. Webové stránky v anglickom jazyku sú voľné preložené do slovenského jazyka na základe vlastného prekladu.

3 VÝSLEDKY A DISKUSIA

Tematické kultúrne cesty sú v súčasnosti žiadaných nástrojom rozvoja rôznych foriem turizmu. Kultúrna trasa ponúka návštevníkom jedinečný príbeh s jednotnou témou a pozýva k spoznávaniu historických koreňov, významných udalostí a osobností, lokalít a pamiatok kultúrneho dedičstva. Spája poznanie, dobrodružstvo, relax a aktívne trávenie voľného času. Prínos kultúrnej cesty v cestovnom ruchu spočíva najmä v sieťovaní a spájaní lokalít do celku. Známe atrakcie môžu pritiahnuť pozornosť aj k tým menej známym lokalitám kultúrneho dedičstva a tak prispievať k rozvoju cestovného ruchu v regióne.

Návštevu románskych pamiatok na trase TRANSROMANICA v Nitrianskom kraji musí návštevník z praktického hľadiska vopred naplánovať a dohodnúť si termín kontaktovaním príslušnej farnosti. Kostol v Diakovciach je aktuálne možné navštíviť v rámci konaných bohoslužieb a formou prehliadky 30 minút pred začiatkom bohoslužby. Románsku pamiatku v obci Bíňa je možné spoznať iba na požiadanie, prípadne ako účastník bohoslužby.

V rámci analýzy súčasného stavu a identifikácie možností rozvoja kultúrnej cesty sme na základe rozhovoru zistili postoje oboch hlavných aktérov – farností, k využívaniu kultúrneho dedičstva. Oslovené osoby odpovedali na nasledujúce otázky štandardizovaného interview:

1. S kým spolupracuje/komunikuje Vaša farnosť vo veci sprístupnenia kostola návštevníkom? (napr. CK, CA, Nitriansky samosprávny kraj, Biskupský úrad v Nitre, OOCR, Ministerstvo kultúry SR, Ministerstvo dopravy a výstavby SR a pod.)
2. Akým spôsobom je sprístupnená románska sakrálna pamiatka pre návštevníkov mimo času konania svätých omší?
3. Ako často počas roka kontaktujú farnosť subjekty cestovného ruchu (cestovné kancelárie, úrady, hotely, organizácie cestovného ruchu) za účelom prehliadky kostola mimo sv. omší, za účelom spoznávania kultúrneho dedičstva Nitrianskeho kraja?
4. Má farnosť záujem o lepšie zviditeľnenie svojho kostola z hľadiska kultúrneho a pútnického cestovného ruchu?
5. Aké sú hlavné motívy farností pre zapojenie sa do rozvoja kultúrneho a pútnického cestovného ruchu v rámci kultúrnej cesty Rady Európy TRANSROMANICA na území Nitrianskeho samosprávneho kraja?
6. Aké opatrenia navrhujete, aby bol rozvoj kultúrneho a pútnického cestovného ruchu v rámci kultúrnej cesty Rady Európy TRANSROMANICA prospešný pre farnosť a obec?
7. Aké sú hlavné bariéry v rozvoji kultúrneho a pútnického cestovného ruchu v obci v rámci kultúrnej cesty Rady Európy TRANSROMANICA?
8. Ako vnímate doterajšie zapojenie románskej pamiatky do kultúrnej cesty Rady Európy TRANSROMANICA na území Nitrianskeho samosprávneho kraja? Pozitívne alebo negatívne? Prečo?

Zistili sme, že jednotlivé farnosti nespolupracujú a ani nekomunikujú vo veci sprístupnenia kostola návštevníkom. Absentuje akákoľvek kooperácia medzi zainteresovanými aktérmi cestovného ruchu v rámci súkromného a verejného sektora, ako sú napr. podniky cestovného ruchu – producenti či sprostredkovatelia služieb, orgány samosprávy a orgány štátnej správy na miestnej, regionálnej či národnej úrovni, organizácie cestovného ruchu a pod. Úspešnosť kultúrnej trasy je odrazom spolupráce predovšetkým v regióne až následne sa vytvoria predpoklady na spoluprácu v európskom prostredí založenej na spoločných hlbokých kultúrnych hodnotách a tradíciách. Prípadný záujem návštevníkov o prehliadku kostolov riešia farnosti na základe vlastných organizačných, personálnych a materiálnych možností.

Pamiatky nie sú súčasťou organizovaného cestovného ruchu prostredníctvom cestovných kancelárií či agentúr. Na individuálny dopyt návštevníkov reagujú farnosti s dobrých úmyslom poskytnúť výklad o kostole vo vlastnej réžii. Frekvencia dopytu je nízka vzhľadom na fakt, že kultúrne dedičstvo, ktoré zhmotňujú sakrálne objekty románskej architektúry má európsky význam. Farnosť Diakovce uvádza maximálne 30 dopytov ročne a farnosť Bíňa do 10 dopytov ročne. Je zrejmé, že zlyháva účinná marketingová a komunikačná stratégia, ktorá by pomohla formovať povedomie o značke „certifikovaná kultúra trasa Rady Európy" a zvýšiť návštevnosť v cestovnom ruchu. Oslovené farnosti vyjadrujú kladné stanovisko a záujem o zviditeľnenie svojho kostola z hľadiska kultúrneho a pútnického cestovného ruchu. Ako sme uviedli, kultúrne trasy majú potenciál rozvíjať rôzne druhy a formy cestovného ruchu. Svoju cieľovú skupinu návštevníkov vidia prevažne v domácej klientele, ale nevylučujú poskytovať prehliadky zahraničným návštevníkom. Predpokladom rozvoja zahraničného cestovného ruchu sú hlavne jazykové kompetencie. Vzhľadom na geografickú a kultúrnu blízkosť Maďarska na juhu Nitrianskeho kraja je pochopiteľná orientácia lokality Bíňa na návštevníkov prevažne z Maďarska. Hlavné motívy oslovených farností pre aktívne zapojenie sa do rozvoja cestovného ruchu v rámci kultúrnej cesty Rady Európy predstavujú hlavne možnosti prezentácie jedinečného kultúrneho dedičstva – románskej sakrálnej architektúry. Kultúrna cesta na území Nitrianskeho kraja je konkurenčnou výhodou v porovnaní s ostatnými destináciami Slovenska. Umožňuje sa jednoznačne odlíšiť od konkurencie pri perspektívnej tvorbe produktu cestovného ruchu tejto destinácie. Predstavuje autentickosť regiónu, jeho histórie a kultúry. Dôležitú úlohu v rozvoji kultúrneho cestovného ruchu má okrem kultúrneho dedičstva aj prírodné dedičstvo a prírodné atraktivity ako sú náučné chodníky, ojedinelé prírodné úkazy a pod. Súčasťou primárnej ponuky cestovného ruchu je taktiež spôsob života miestnych obyvateľov, ich zvyky, hodnoty, náboženstvo a každodenný život, práca. Prostredníctvom kultúrneho cestovného ruchu sa návštevník zúčastňuje aj na rôznych podujatiach. Účastníci kultúrneho cestovného ruchu sa oboznamujú nie len s históriou, kultúrou a náboženstvom, ale aj sociálnou a ekonomickou situáciu navštíveného cieľového miesta – Nitrianskeho kraja a štátu. Súčasťou kultúrneho cestovného ruchu je teda aj vzdelávanie v najširšom zmysle slova. Ako prostriedok zvyšovania spoločenskej, kultúrnej a vzdelanostnej úrovne návštevníkov cestovného ruchu plní tak kultúrny cestovný ruch významnú spoločenskú funkciu. Vo vzťahu k jednotlivcovi a spoločnosti plní zároveň výchovnú funkciu, keďže ich vedie k národnému a európskemu povedomiu, k úcte k histórii a ku kultúrnemu dedičstvu.

V rámci opatrení na prospešný rozvoj cestovného ruchu v rámci kultúrnej cesty Rady Európy TRANSROMANICA komunikuje v rozhovore farnosť Bíňa predovšetkým odkaz na duchovné dedičstvo a kresťanskú tradíciu. Možno z danej odpovede zároveň dedukovať oprávnenú obavu z tzv. absolútnej turistifikácie regiónu a spoločnosti, taktiež z masového cestovného ruchu. Tieto fenomény predstavujú prispôsobovanie sa konzumným požiadavkám turistov a ich „prázdninovej kultúry", ktoré negatívne ovplyvňujú poskytovanie služieb a miestnu kultúru ako celok. Opozitom je udržateľný kultúrny cestovný ruch, resp. zodpovedný cestovný ruch. Predstavuje takú platformu, ktorá zachováva v rovnováhe tri základné piliere. Environmentálny aspekt udržateľného kultúrneho cestovného ruchu chráni prírodné hodnoty a minimalizuje dopad na životné prostredie. Z ekonomického hľadiska odstraňuje chudobu a regionálne rozdiely, generuje príjmy, vytvára pracovné miesta, zvyšuje prosperitu a zlepšuje životnú situáciu miestneho obyvateľstva. Sociokultúrny pilier predstavuje pozitívne spoločenské javy ako interkultúrny dialóg, budovanie vzťahu miestneho obyvateľstva, návštevníkov a manažmentu destinácie. Patrí tu i výchova a vzdelávanie ku kultúrnemu dedičstvu a rozvoj miestnych tradícií.

Hlavnou bariérou v rozvoji cestovného ruchu podľa názoru farnosti v Bíni sú financie. Táto prekážka môže súvisieť s nedostatočným záujmom o kultúrne dedičstvo a prístupom ku

kultúre zo strany štátu, samosprávnych orgánov a ich inštitúcií, podnikateľov a verejnosti. Nedocenenie kultúrneho dedičstva a kultúry je nezlučiteľné s rozvojom kultúrneho cestovného ruchu. Ako uvádza Kesner (2005): „ak má kultúrna sféra, teda kultúrno-historické dedičstvo a rôzne formy kultúrnej produkcie, skutočne fungovať ako jeden zo základných zdrojov turizmu, musí byť adekvátne ošetrovaná a rozvíjaná.“
V poslednej odpovedí na otázku vyjadrili oba subjekty rozhovoru pozitívne stanovisko k zapojeniu farností a nimi spravovaných románskych pamiatok do kultúrnej cesty Rady Európy TRANSROMANICA na území Nitrianskeho kraja. Vnímajú zapojenie ako príležitosť na využívanie kultúrneho dedičstva s cieľom prispieť k regionálnemu rozvoju.

Tabuľka 2 Prehľad odpovedí štandardizovaného rozhovoru s aktérmi cestovného ruchu

Aktér CR / **Otázka**	**Farnosť Diakovce**	**Farnosť Bíňa**
1.	Osobné požiadanie záujemcov	S nikým
2.	na základe individuálnej požiadavky, výklad zabezpečujte farnosť	na základe individuálnej požiadavky, výklad zabezpečujte farnosť
3.	10 – 30 dopytov ročne	0 – 10 dopytov ročne
4.	Áno, pre domácich a zahraničných návštevníkov	Áno, hlavne pre domácich návštevníkov a turistov z Maďarska
5.	Ukázať starobylú pamiatku, v ktorej je čo obdivovať	Prezentovať kultúrne dedičstvo
6.	_____	Kultúrne dedičstvo nemá byť chápané iba materiálne, ale aj duchovne Návštevníci majú brať vážne kresťanskú tradíciu tunajších kresťanov
7.	Žiadne bariéry	Nedostatok financií
8.	Pozitívne	pozitívne

Zdroj: vlastné spracovanie, 2023

Nitriansky samosprávny kraj v spolupráci s partnerskými subjektmi územnej, miestnej a obecnej samosprávnymi, kultúrnymi, spoločenskými a cirkevnými organizáciami, záujmovými združeniami, resp. inými právnickými subjektmi sa zapojil do projektu budovania a rozvoja trás kultúrnych a pútnických ciest Rady Európy na území kraja. Ide o podporu aktivít, budovanie týchto trás a zabezpečenie trvalo udržateľného rozvoja v najvýznamnejších historických lokalitách kraja s cieľom podpory rozvoja cestovného ruchu a zachovania kultúrneho dedičstva. Úrad Nitrianskeho samosprávneho kraja rieši kultúrnu cestu Rady Európy TRANSROMANICA od roku 2018. Avšak jeho zapojenie do rozvoja tejto kultúrnej cesty Rady Európy je v súčasnosti pasívne. Kultúrna cesta TRANSROMANICA je ako produkt cestovného ruchu súčasťou produktového mixu cestovného ruchu Nitrianskeho kraja. Nachádza sa v produktovom rade pútnického/náboženského cestovného ruchu v rámci kultúrneho cestovného ruchu s ďalšími kultúrnymi cestami: Cesta židovského kultúrneho dedičstva, Stredoeurópska mariánska cesta, Svätojakubská cesta, Európska kultúrna cesta sv. Cyrila a Metoda. Tieto kultúrne cesty vrátane cesty TRANSROMANICA sú vnímané vo SWOT analýze ako silné stránky rozvoja cestovného ruchu (Úrad NSK, 2023).
Súčasný stav produktu TRANSROMANICA v nadväznosti na kľúčové druhy cestovného ruchu a prioritné oblasti rozvoja cestovného ruchu v Nitrianskom kraji si vyžaduje zainteresovanosť a efektívnu kooperáciu viacerých subjektov. Ako vyplýva z rozhovorov

s aktérmi cestovného ruchu, samotné farnosti priznávajú, že v rámci príležitostí, ktoré ponúka kultúrna trasa Rady Európy, nie sú zapojené do aktívnej tvorivej a cieľavedomej spolupráce. Zároveň je potrebné dodať, že rozvoj cestovného ruchu nie je hlavnou pracovnou náplňou duchovných vo farnostiach.

Súčasné vytvorené podmienky na uplatňovanie románskych pamiatok ako atrakcie cestovného ruchu v rámci kultúrnej trasy TRANSROMANICA v Nitrianskom kraji sú nepostačujúce a nevyhovujúce. Nie je využívaný potenciál primárnej a sekundárnej ponuky cestovného ruchu, ktorým kraj disponuje. Jeho pestrú ponuku atraktivít a zariadení cestovného ruchu je potrebné sieťovať v rámci spolupráce a reálne využiť v tvorbe tematického produktu cestovného ruchu TRANSROMANICA.

Kľúčovými aktérmi cestovného ruchu a zároveň iniciátormi kooperácie by mali byť odbor kultúry a cestovného ruchu Úradu Nitrianskeho samosprávneho kraja, ktorý má v kompetencii cestovný ruch na regionálnej úrovni. V súčinnosti s Krajskou organizáciou cestovného ruchu Nitriansky kraj a oblastnými organizáciami cestovného pôsobiacimi v rámci riešeného územia majú podporovať a vytvárať podmienky pre rozvoj cestovného ruchu, tvorbu produktov, marketing cestovného ruchu, organizovanie podujatí, zber a analýzu dát a prevádzku informačného systému. Plnia koordinačnú funkciu a úlohy destinačného manažmentu, avšak podporujú prioritne svojich členov v rámci partnerstva verejného a súkromného sektora. Zásadnou prekážkou podpory môže byť nečlenstvo v oblastnej organizácii cestovného ruchu podľa územnej pôsobnosti.

Kultúrna trasa Rady Európy TRASROMANICA ako forma obnovy kultúrneho dedičstva predstavuje príležitosť na rozvoj udržateľného kultúrneho cestovného ruchu. Tvorba tematického produktu s využitím kultúrneho dedičstva na kultúrnej trase TRANSROMANICA na území kraja zapadá do vízie rozvoja cestovného ruchu v Nitrianskom samosprávnom kraji podľa Koncepcie rozvoja cestovného ruchu na roky 2021 - 2027: „vytvoriť atraktívnu turistickú destináciu s jednotnou identitou, s cieľom zvýšiť konkurencieschopnosť kraja vo vzťahu s ostatnými regiónmi Slovenska. Víziou je kraj, v ktorom jednotliví aktéri cestovného ruchu spolupracujú, vzájomne sa podporujú a sledujú jednotný cieľ – trvalo udržateľný cestovný ruch využívajúci prírodné a kultúrno-historické danosti regiónu, regionálne ekonomiky a spoločné záujmy s cieľom budovania vzájomnej spolupráce a regionálnej identity“. Optimálnym prístupom k vývoju tematického produktu s využitím kultúrnej trasy TRANSROMANICA a jej kultúrnym dedičstvom je dosiahnutie troch základných požiadaviek: ekonomický prínos, ochranu životného prostredia a zachovanie sociálnej kohézie.

4 ZÁVER

Rozvoj kultúrneho cestovného ruchu v Nitrianskom kraji s využitím kultúrneho dedičstva kultúrnej trasy Rady Európy TRANSROMANICA si vyžaduje realizáciu spoločných projektov ako výsledok kooperácie súkromného a verejného sektora, tvorbu spoločnej ponuky a produktu cestovného ruchu s účinnou komunikačnou a mediálnou stratégiou.

Hlavným cieľom tvorby kultúrnych trás je rozvoj udržateľného kultúrneho cestovného ruchu. Rozumie sa taký spôsob využívania všetkých dostupných zdrojov, ktorý zabezpečí nielen uspokojovanie ekonomických, environmentálnych, sociálnych a estetických potrieb ľudí, ale aj zachovanie kultúrnej identity. Cieľom tohto rozvoja je minimalizovať konflikty vznikajúce medzi návštevníkmi a miestnym obyvateľstvom, medzi podnikateľskými aktivitami a potrebou zachovania zdrojov, medzi rozvojom cestovného ruchu a životným prostredím.

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THE BENEFITS OF USING ICT IN SPORT

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Abstract

Information and communication technologies contain software and hardware elements that record, transmit, store and process data in order to provide relevant information for the needs of sports organizations occurring at the national level for the purpose of planning, coordination and management. The use of ICT in the sports industry takes many forms. IoT technology is very helpful in this case as it enables communication between multiple devices and data transfer. Organizations should therefore pay close attention to trends in the information and communication technology environment in order to have a chance to gain at least a small competitive advantage. The aim of the article is to bring examples of the practical use of ICT in sports in specific applications and highlight their benefits for its expansion in the environment of sports management.

Key words: *strategic management, sports organizations, ICT, information and communication,*

1 INTRODUCTION

Sport is a part of everyday life and in today's modernized age it is becoming more and more important and technologically advanced. Information and communication technologies (ICT) offer a wide range of tools that can be used to improve and more effectively manage sports events, not only at the local but also at the national level. In this work, we will focus on clarifying the concept of ICT and sports management, the categorization of information and communication technologies and their connection with the sports industry. In the current digital age, which everyone is a part of, many things have been modernized and the sports industry is no exception. Digitization and development have also clearly marked sports, which are gradually experiencing modern technologies and influencing each other.

Humans are complex beings who have the skills and abilities to perform many activities, but they will never be able to perform one activity as efficiently as a machine that is designed precisely to perform one given activity. This is the reason why ICT, automation, digitization and many other technologies are increasingly complementing and replacing human work. In recent years, technology has greatly changed the way many sports are practiced, whether at the amateur or professional level. The use of ICT in the sports industry has many forms, whether it is the monitoring of the performance of athletes and teams, through the management of training units, analysis, horizontal communication between sports organizations or vertical communication towards superior authorities, to the organization of sports events and communication with fans. (Mataruna-Dos-Santos et. al., 2020; Blašková et al., 2022; Jankalová a Jankal, 2020)

One of the most important benefits of ICT is enabling the collection and analysis of performance data, whether it is individual or collective sports. This data can be historical in nature, when progress is evaluated through comparison, or it can be real-time data, thanks to which positive or negative deviations in performance can be identified in time. (Ráthonyi et al., 2018)

Information and communication technologies also play an important role in the organization and planning of sports events. In these contexts, the "Event management system" is often used, which significantly helps in many activities of clubs, national and multinational entities, or worldwide sports organizations that organize events. This system has many functions that

greatly automate several necessary processes, such as: registration of athletes, creation of schedules, accreditation, results service, and the like. (Swiss Timing, 2023)
Last but not least, especially communication technologies are an important tool when interacting with fans. Communication takes place mainly towards the fans, informing about various events, results, news through various applications, social networks and the like. Such applications often also allow the purchase of tickets to events, the application of discounts, participation in various competitions and other activities that deepen the relationship between the fan and the organization. (Abbah 2021, Bubelíny et al., 2020; Lendel et al., 2021)

2 USE OF ICT IN SPORTS

The global sports technology market is growing rapidly. In 2022, this market was valued at USD 21.9 billion, but according to research by MarketsandMarkets, it is estimated to grow to USD 41.8 billion in 2027, which represents an increase of about 90%. Behind this increase is the increasingly intensive use of data analytics, the rising impact of the use of IoT technologies and the large commercialization of sports. (MarketsandMarkets, 2022)
Fans are also interested in technology in the sports industry, 69% of whom said that new technologies significantly improved their experience of a sporting event. Among the technologies that affect the fan experience are high-speed wi-fi connection directly in the stadium, electronic tickets, headphones with live commentary. In addition to the technologies operating in the stadium, the overall experience is supported by applications that inform about statistics and provide various digital content. (Statistician, 2023)
According to PwC research conducted in 2019, up to 40% of sports organizations said that artificial intelligence technology will play a big role in the development of the sports industry in the next 5 years. Organizations see AI as a tool to increase the performance of athletes, thanks to complex data analysis, planning and optimization of training units and recovery. The use of AI can also be found in the field of interaction with fans. Currently, the NBA and NHL use a chatbot that answers a wide range of questions from fans. Thanks to Machine Learning, the chatbot can learn from its own mistakes, increasing the relevance of the answers over time. In the case of content, whether promotional or informative, AI is currently already finding its application. In the case of marketing, AI can generate continuous text together with infographics that can be used for advertising purposes. These tools significantly save time and costs in sports organizations, especially those in which income is limited. From the point of view of information content, AI can generate a comprehensive report that reports the progress of the match, important moments and statistics. (PwC, 2019)
The link between sports and ICT is clearly demonstrated by the long-term viewership of some sports events. Sports events are one of the most watched TV genres in the US. Sports events will also dominate in 2021 and 2022. Live broadcasts from events, especially the Super Bowl (final of the American football league), can suddenly attract more than 100 million viewers. But television is not the only medium through which viewers watch sports events, transmission via the Internet is becoming more and more popular. According to statistics, in 2021, an average of 57.5 million people watched a live broadcast of a sporting event. According to forecasts for the year 2025, the number of viewers should increase to the limit of 90 million. In the television environment, sport is clearly one of the most popular and profitable industries. (Statistician, 2023)
Weldon A el.al (2022), published an online survey focused on the use of technology in the environment of sports coaches. The total sample consisted of 156 coaches from different countries, different sports and different levels (amateur, semi-professional, professional). The questionnaire contained a set of questions that addressed the use of technology in training. A total of 40% of coaches wish to include more technology in their training programs, 30% of coaches think that ICT and technology in general determine the direction of the sports future.

The questionnaire, as well as the sample, were focused on sports: athletics, volleyball, golf, table tennis, football. The technologies used especially in training are monitoring in nature, which indicates the direction of development into IoT and ICT technologies.

2.1 Video assistant referee

Video assistant referee (VAR) technology is an ICT-based technology currently found in the best national football leagues and international tournaments. It is a technology that helps referees to make the correct sports decision in the sense of fair play. VAR has several forms and names, when in tennis it is referred to as Hawk-eye, in rugby TMO (television referee). In the case of football, it is a set of 42 video cameras located in several parts of the stadium. These cameras record the game from different angles. If a questionable situation arises in the match, the referee will stop the game for a short moment and check the situation through VAR, when he will repeatedly look at the situation from several angles and make a decision based on this information. (FIFA, 2022)

The Israel Football Association, in collaboration with the IPFL, implemented VAR technology in 2018 in the national football league Ligat ha'Al. When analyzing the first 212 matches played after the implementation of the VAR system, several findings were made. During these matches, a total of 89 critical errors were made by the on-field referees. However, thanks to the intervention of VAR technology, it was possible to correct up to 77.5% of bad decisions and 2.67% of decisions were wrong due to the error of VAR technology. Such a percentage of bad decisions due to the failure of the VAR system was influenced by the implementation (implementation) phase, lack of technical instructions, and several failures due to lack of experience working with the VAR system. When the VAR system was introduced in the Italian national league "Serie A", 210 matches were reviewed, while the error rate of the VAR system was at the level of only 1%. (Samuel RD et al., 2020)

2.2 Digital transformation of SFZ

Futbalnet is an internet portal for the publication of content about football events from the Slovak professional and amateur leagues. It provides results service, articles, provides live broadcasts, video archive, records of players, referees, tables and much more. In the past, this portal was managed by the Slovak Football Association (SFZ), but it could not handle the rush of users, many functions did not work and the portal had frequent outages. These negative phenomena were reflected in the attitude of the public, which strongly criticized the weak use of ICT by SFZ. In 2014, SFZ entered into cooperation with the company Bart, which created a new portal for the digitization of SFZ content. The web service collects data from external SFZ applications and contains a graphical environment for web management. Currently, the futbalnet portal can handle the rush of 5,000 active users at one time, is responsive and leaves a good impression on fans. Thanks to the correct use of ICT, fans can watch results, content, video archives from any smart device and do not have to rely on printed newspapers when they want to be informed about news from Slovak Football Association competitions. The portal also provides real-time match results at all league levels. (Hricišín, 2023)

The justification for the use of ICT in this case study of the futbalnet web portal, according to futbalnet director Michal Hricišín, is mainly in the connection between sports organizations and fans. Since it is a very competitive environment, it is important to adapt organizations to digitization both at the strategic and operational levels. Thanks to the soccer net, simple connection and interaction with fans is possible through ICT (specifically the web). Mr. Ján Leto, director of the IT department of the SFZ, commented on the launch of the website as follows: "We are launching a new Futbalnet and new services for clubs, associations and football fans will gradually come. We do it for you, so thank you for your support, but also

for comments and suggestions for improvement". The Slovak Football Association therefore plans to continue digitalization and continue to use ICT. (Hricišín, 2023)

2.3 The digital transformation of the NFL

The National Football League (NFL) has undergone a digital transformation on multiple levels with the help of SAP. The main purpose of the digital transformation was the use of digital technologies, making the fan experience more pleasant and moving the NFL to a higher level in terms of improving services and processes. Several software solutions from SAP have been implemented to achieve these goals:

- SAP HANA Cloud – integrates a large amount of data
- SAP Lumira Cloud - provides fans with real-time statistics and player overview via the Internet
- SuccessFactors – provides solutions in the field of HR, where it interacts all employees as a whole, for achieving set goals.

One of the goals was to increase traffic to nfl.com and make it a place where fans can be involved in the NFL environment. SAP transformed the website into a responsive one and developed an application that contains a database of players, enables the comparison of various statistics, the purchase of tickets, items and the like. Through the connection of SAP HANA Cloud and SAP Lumira Cloud, a huge amount of data can be integrated and analyzed in real time and personalized according to the needs of the fan. SuccessFactors software tool is designed for NFL personnel to set and manage league goals, track progress and performance toward goals. The results of the NFL's digital transformation:

- 70% of all NFL fans visit the website from a mobile device.
- The response time when viewing and comparing statistics is less than 1 second.
- 99.5% of NFL employees actively use the HR system (SAP & NFL, 2014)

2.4 LaLiga and AI chatbot

LaLiga is the Spanish national football league that has millions of fans around the world, interacts with them frequently and strives to provide entertainment and a quality football experience. LaLiga covers two Spanish football leagues, employs approximately 581 people and accounts for 1.37% of Spain's GDP. Since La Liga is watched annually by approximately 2.7 billion viewers and has several tens of millions of fans, it is necessary to satisfy their needs. For this purpose, a digital platform based on the Microsoft Azure product was developed. It is a digital assistant that has artificial intelligence and conducts a conversation with the fan. The fan asks a question and the assistant answers it via voice, text and also shows him audiovisual content relative to the given topic. The assistant has access to some internal data (statistics, knowledge...) from the laliga environment, but also has access to data from third parties (mainly laliga partners). The main data source is the Azure SQL database. This chatbot also records data that can be analyzed and valuable information can be extracted from them for Laliga, such as: areas of interest of fans, most frequently asked questions, popularity of topics and the like, which it can use to its advantage and thus gain a competitive advantage. According to the head of data analytics, Jose Carlos Franco, "I think it would be impossible for us to achieve multiple benefits with different products on the Microsoft Azure platform." He also adds that such innovations make La Liga a modern organization. Chatbot users reported that the responses were appropriate 72% of the time. Users also state that thanks to the chatbot they were able to get answers to questions relatively easily, and they evaluate such an innovation very positively. (Microsoft, 2019)

2.5 NBA and ApplePay partnership

Apple Pay is a simple and secure contactless payment method. It works on NFC technology, through which you only need to attach the smartphone to the terminal and the payment will be made automatically. The NBA, in collaboration with Apple, implemented this method of payment for NBA products and services, mainly in the area of retail and restaurant services. The NBA launched two promotions at Sacramento Kings games. The first encouraged fans to install this technology in their smartphones and actively use it. The second action consisted in the discounted purchase of mineral water for only USD 1. On the other hand, the NBA invited its retail partners to enable payment via Apple Pay, while the most efficient ones received various benefits. In addition to succeeding in gaining more ApplePay users and promoting cashless payment in general, this partnership has made it possible to make the fan experience more pleasant, thanks to easy and fast payment. ApplePay saw a 110.8% increase in payments, and overall sales revenue at the stadium increased by up to 18.5%. (NBA, 2019)

3 DISCUSSION

ICT tools have significantly influenced the sports industry, whether it concerns the performance of athletes, the management of sports events, interactions with fans, analytical activities, but also the overall functioning of sports organizations. In the case of sports performance, ICT devices perform the tracking, storage, analysis, feedback and evaluation of data that aid in performance enhancement. ICT has also caused the digitization of content, interaction with fans, organizational processes and much more.

3.1 Benefits of the referee decision support system

Decision support systems in the field of sports are technologies that aim to help in decision-making in various situations occurring during sports competition. Since referees often have to make decisions within a few seconds and can significantly influence the course of the match, it is appropriate if they have bonus information that will help them make decisions in terms of fair play. Decision support systems help increase the accuracy of decisions based on advanced sensors, cameras and software simulations. In the case of a video assistant referee or similar similar technology (hawk-eye ..), it is a great benefit for the referee if he can view the contested situation from different angles and at different speeds. This technology also provides the possibility of a quick decision, when it itself evaluates the situation and sends information to the referee to a smart device (watch). It is statistically proven that thanks to decision support systems, better decisions are made and an average of up to 70% of erroneous decisions are eliminated. (Samuel RD et al., 2020)

The VAR system has a place in the modern sports environment. Statistics from the 2018 FIFA World Cup show that if the decision support system was used, the accuracy of the referee's decisions was at the level of 99.35%. Unlike matches where VAR was not used, the accuracy is only at the level of 95.60%. The use of VAR also brought benefits in the leagues, where, according to studies, the accuracy of decision-making increased from 92.1% to 98.3%, which represents a fairly significant difference. (Zhang, 2022)

Hawk-Eye technology is a technology similar to the decision support system for referees in tennis. This technology is also based on sets of cameras and sensors, but also uses software simulation for more detailed outputs. Thus, the referee can replay a footage of a conflict situation, simulate the ball, lines and, based on the footage and simulation, can make a properly informed decision. (Bal, 2023)

3.2 Benefits of digital transformation

Digital transformation has the potential to change the way sports associations (clubs, associations...) manage and provide their services. Digitization makes it possible to improve

communication, thanks to newly created communication channels. Such communication can be effective towards association members, sponsors and fans and their higher engagement. Digital transformation can lead to a change in several business processes, such as, in particular, the sale of tickets for sports events and the sale of goods. If such a change is implemented, a great potential for obtaining benefits from sales opens up, as their products are provided online (they have a greater reach) and are not tied to sales at a physical location. Digitization opens up new opportunities that unions can benefit from. Marketing in the online environment allows collecting and analyzing data that can be the basis for improving marketing activities and campaigns. The benefit is also in the reduction of costs, due to the better targeting of the marketing campaign. Digital transformation can also concern the internal structures of unions, as it is possible to automate or optimize some routine processes, plan and manage short-term and long-term goals. (Santomier et al., 2023)

Digital transformation also includes a new way of targeting fans in the online environment. Through websites and applications, it is possible to digitize content, interact and inform fans about results, news and events associated with a particular organization. The applications also allow for fun activities from a fan's perspective. In the NBA fantasy application, it is possible to create a virtual team in which the user can create his own team, league, lineup and compete with friends, which creates added value for the fan. (Yanbo, 2021)

3.3 The benefits of AI in sports

AI technology carries a number of benefits that are applicable in several areas of sport. Interaction with a fan through a chatbot consists in conducting a dialogue. Currently, several organizations (LaLiga, NBA, NHL) use a virtual assistant who is able to answer fans' questions. The fan can thus obtain information about results, statistics, available tickets, parking and other information related to the activities of the organization. Journalism is also closely related to AI, when it is possible to generate informative articles about news, events or anything related to the organization's activities. The main benefit in this case is the reduction of time costs and the automation of information activities. (PwC 2019)

The analysis of sports performance and the setting of an individual training plan is another application of AI in these contexts in cooperation with IoT. Sensors of various types record several parameters during performance, which can then be analyzed and progress reflected. Such technology can also be used to analyze opponents, on the basis of which it is possible to prepare better and achieve better results. (Dataconomy, 2022)

3.4 Limitations

Cyber security is an IT field that deals with reducing the risk of cyber attacks. Cyber-attacks can take many forms and have different purposes, it can involve stealing sensitive data, intentionally disabling a website, programs and other applications. Given that ICT occurs in sports on the same principle as in any other industry, the issue of security concerns them in the same way. When managing risk, it is important to think about physical and software security. In the case of physical security, only authorized personnel should have access to critical hardware elements to prevent tampering, defacement or theft of devices. In the case of software security, it is a bit more complicated, but it is still possible to reduce the risk with some operations. Among them is authorization, which means that only authorized users have access to the data. A software update often includes security improvements. It is also important to be in contact with the supplier of the software and to communicate with him the issue of security. (Pandit, 2023) When sensitive data is stolen, a sports organization may face several unpleasant situations. High costs associated with data recovery, damage to reputation, outflow of fans or users, non-functionality of the services provided are some of the consequences that may occur due to poor security. (Kaspersky, 2023) In addition to these

risks, a sports organization may be at risk of losing a competitive advantage that was based on ICT.

Limiting the problematic implementation of ICT tools in sport refers to the unsuccessful and incorrect introduction of new technologies. This can happen if the sports association or organization does not adequately plan and secure the necessary resources for successful implementation. Problematic implementation can arise already at the beginning of the project, when the proposed ICT tools do not correspond to the needs and goals of the organization. If, despite this, ICT tools are implemented, it can lead to the deterioration of processes and ultimately to the deterioration of the organization's performance. Problems can also arise during the implementation phase, when ICT is incorrectly deployed and has to be repeatedly configured or repaired, this leads to increased costs. The application of ICT tools in organizations may not be met with the understanding of the personnel who are supposed to use the technologies, so there will be low user acceptance and the tools will become ineffective. To avoid these risks, it is necessary to pay sufficient attention to planning and verification already in the initiation phase of the project. (Soung-Bou, 2020)

4 CONCLUSION

Information and communication technologies have great potential in sports and their use is extremely broad. Currently, I perceive the greatest technological progress, especially in the field of smart devices for recording data on sports performance, when several aspects of performance can be analyzed through various sensors. IoT technology is very helpful in this case as it enables communication between multiple devices and data transfer. These devices are important not only for organizations, clubs, athletes, but also for the general population, for whom these devices are becoming more accessible in the form of smart watches, rings and other wearable devices. In the view of national organizations, the implementation of systems for the support of referees, which have small differences according to the sport for which they are intended, is a great progress. From the soccer environment, it is mainly the VAR technology that came with a huge delay compared to tennis, where the hawk-eye technology has been working for about 10 years longer.

Digitization is a big step forward, as it offers a large number of advantages. Ticketing systems greatly simplify the purchase process, as the necessary physical contact is eliminated and the viewer can buy a ticket in a matter of seconds. Smart stadiums, which provide information on parking spaces, traffic around the stadium, or the length of the line in front of fast food or toilets, are also a big step forward. Also, awareness is at a high-quality level due to various applications and websites that actively share content from the sports environment, provide real-time results and extended statistics.

Several information and communication technologies are not used at the national level. This is mainly due to a low financial budget on the part of the state, or poor management on the part of the unions. Apart from the most watched sports and organizations such as: football, hockey, tennis and the Olympic Committee, unions operating in other sports do not have much motivation to implement information and communication technologies. Since these sports are not the most lucrative in terms of earnings and sponsor attention, most unions and associations are dependent on state finances. These contributions are supposed to cover the basic running of the union and its activities, and thus there is no money left for technology innovation. The solution could be the creation of digitization projects with a subsidy either from the state or the European Union.

Technologies are always advancing and it is necessary to adapt to them. Organizations should therefore pay close attention to trends from the information and communication technology environment in order to have a chance to gain at least a small competitive advantage in a competitively tough sports environment. If organizations do not adapt to the current digital

age and trends, they will not be able to compete, they will start to stagnate and subsequently decline.

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TRANSFORMÁCIA PROPAGÁCIE KNÍH: OD KONVENČNÝCH PRÍSTUPOV K NETRADIČNÝM STRATÉGIÁM

TRANSFORMING BOOK PROMOTION: FROM CONVENTIONAL APPROACHES TO NON-TRADITIONAL STRATEGIES

Matej Somr, Petra Výbochová

Abstrakt

Príspevok sa zaoberá transformáciou propagácie kníh z konvenčných prístupov k netradičným stratégiám. V dnešnom konkurenčnom knižnom priemysle je nevyhnutné vyčnievať a prilákať pozornosť čitateľov. Súčasné vydavateľstvá, kníhkupectvá a iné relevantné subjekty sa uchyľujú k novým a inovatívnym spôsobom propagácie, ako je guerilla marketing. Príspevok preskúma koncept guerilla marketingu a jeho využitie na propagáciu kníh a podnietenie záujmu o čítanie. Okrem teoretického základu sa zameriame aj na konkrétne príklady úspešných kampaní, ktoré demonštrujú účinnosť netradičných stratégií. Získané poznatky poskytnú náhľad do súčasných trendov v propagácii kníh, ako zaujať a priblížiť sa čitateľovi.

Kľúčové slová: *knižný marketing, guerrilla marketing, kniha, knižný priemysel*

Abstract

This paper examines the transformation of book promotion from conventional approaches to non-traditional strategies. In today's competitive book industry, it is essential to stand out and attract readers' attention. Today's publishers, bookstores, and other relevant entities are resorting to new and innovative methods of promotion such as guerrilla marketing. This paper will explore the concept of guerrilla marketing and its use to promote books and stimulate interest in reading. In addition to the theoretical background, we will also focus on concrete examples of successful campaigns that demonstrate the effectiveness of non-traditional strategies. The knowledge gained will provide insight into current trends in book promotion to engage and connect with readers.

Key words: *book marketing, guerilla marketing, book, book industry*

1 KNIHA AKO PRIVILEGOVANÝ MEDIÁLNY PRODUKT A ZRKADLO SPOLOČNOSTI

V rámci historického kontinua knižnej kultúry je možné identifikovať dva významné medzníky, ktoré kniha prekonala od svojho vzniku až po súčasnosť. Prvým z nich je objavenie kníhtlače, činnosti, ktorá v európskom kontexte pripadá Johannesovi Gutenbergovi v 15. storočí. Od objavenia kníhtlače sa kniha stala kultúrnohistoricky najdôležitejším fenoménom sociálnej komunikácie a kvantitatívne najrozšírenejším artefaktom písomného dedičstva (Encyclopeadia Beliana, 2017).

Oxford Advanced Learner's Dictionary (2017) definuje knihu ako kompiláciu fyzických strán, ktoré sú viazané v obale tak, aby sa mohli otáčať a čítať. Ide o literárne dielo, ktoré je distribuované vo forme tlačenej alebo elektronickej publikácie. Podľa Nevesa a kol. (2012) je všeobecne uznávaná kultúrna povaha kníh a kultúrny význam, ktorý majú v rámci vydavateľskej činnosti. Nie je možné zredukovať hodnotu knihy na obyčajný tovar, pretože jej kultúrna hodnota je výrazne závislá na vzťahu k čítaniu, čo predstavuje významnú oporu najmä v prípade literatúry. Podľa Pitoňákovej (2021) sa kniha z hľadiska histórie považuje za

výnimočný a tradičný médiálny artefakt. Pôvodne bola vnímaná ako exkluzívne médium pre elitu, avšak táto perspektíva sa zmenila v období reformácie. Pomimo existencie alternatívnych hromadných komunikačných prostriedkov, kniha neustále odráža úroveň spoločnosti a jej pokrok vo vzťahu k duchovnej, kultúrnej a materiálnej dimenzii. Kniha je považovaná za médium so zvláštnym postavením, ktorá slúži ako privilegovaný nástroj na uchovávanie, prenos informácií a prezentáciu estetických a výtvarných preferencií spoločenstva, a zároveň vyjadruje jeho vzťah k reálnym hodnotám.

Knihy predstavujú archetypálny koncept dokumentu v rámci rozsiahlych a komplexných systémov publikovania, organizácie a prístupu (Majerová, 2008). V kontexte paradigmy mediálnych štúdií sú tieto médiá klasifikované ako tlačené médiá. Ich obsah je materiálne viazaný na papier a vytvárajú sa prostredníctvom rozmanitých tlačiarenských techník (Reifová a kol., 2004). McLuhan (2011) radí všetky tlačoviny, vrátane kníh, do studených médií. Prinášajú recipientovi nízkodefiničnú správu, čo značne vyžaduje mieru participácie pri pochopení prijímaného obsahu pomocou predstavivovosti, respektíve fantázie.

V procese remediácie, kniha prešla zo sekundárneho na kvartérne médium, ktorá sa prejavila v podobe e-knihy. Digitálny formát umožňuje dosiahnuť vyššiu interakciu s používateľmi a využitím hypertextuality sa dajú prepojiť rôzne časti v rámci knihy aj mimo nej (napríklad cez prelink na webovú stránku). Výskum Arizonskej univerzity (2018), zameraný na komparáciu digitálnych a printových kníh, odhalil, že e-knihy nedokážu poskytnúť rovnocenný zážitok v porovnaní so svojimi tradičnejšími prototypmi. Okrem toho, staršia generácia identifikuje viac výhod v digitálnych knihách ako mladšia generácia. Richter (2022) uvádza údaje z prieskumu Advertising & Media Outlook od spoločnosti Statista, kde poukazuje na výrazne nižšie globálne rozšírenie elektronických kníh v porovnaní s tlačenými knihami. Napríklad v Spojených štátoch, kde sú e-knihy veľmi populárne, si odhadom minulý rok e-knihu zakúpilo 23 % populácie, zatiaľ čo 45 % populácie si zakúpilo tlačenú knihu. Na kontinuitu tohoto trendu poukazuje Errera (2023), kde z amerického prieskumu v roku 2023 vyplynulo, že 32 % respondentov číta len tlačenú verziu knihy, pričom len 9 % má zastúpenie v čítaní elektronických kníh. Otvorené štatistiky Statista (2023) potvrdzujú túto skutočnosť aj v rámci slovenského knižného trhu.

2 KOMERČNÝ A KULTÚRNY ROZMER KNÍH: OBCHODNÝ VÝZNAM KNÍH V RÁMCI KULTÚRNEHO PRIEMYSLU

Aj napriek existencii mnohých ďalších dostupných médií si kniha udržuje v súčasnej dobe pevnú pozíciu na mediálnom a knižnom trhu (Pitoňáková, 2021). Riaditeľ Knižnice Juraja Fándlyho v Trnave Pavol Tomašovič tvrdí, že aktuálne postavenie knižníc a kníh má paradoxne ešte väčší význam než kedykoľvek predtým. Predstavujú zdroj poznatkov, slovnej zásoby a rozvoja kritického myslenia (TA3, 2023). Knihy sú významným faktorom kultúrneho života národa (Hjorth-Andersen, 2000) a tvoria súčasť kultúry, ktorá zohráva významnú úlohu v sociálnych vzťahoch v spoločnosti a jej postavenie je rovnocenné s hospodárskym, politickým a právnym systémom (Pitoňáková a Augustínová, 2022). Febvre a Martin (2000) pripisujú knihám aj obchodný význam v rámci komerčnej logiky, kde uznávajú, že vydavatelia a kníhkupci pôsobia v tejto oblasti s cieľom dosiahnuť ekonomický zisk.

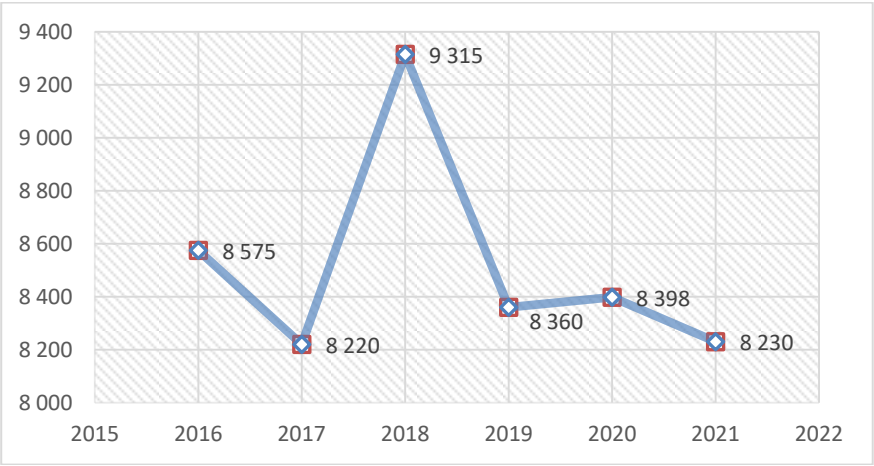
Umelecké výstupy v rámci kultúrneho a kreatívneho priemyslu, ako napríklad knihy, získali významný status ako hodnotná komodita, ktorá dokáže prispieť k rastu národného hospodárstva. Craiker (2022) tvrdí, že kniha je vnímaná ako produkt, pričom marketingové stratégie slúžia ako prostriedok na jej predaj a distribúciu. Knižný marketing predstavuje proces transformácie potenciálnych čitateľov na skutočných zákazníkov, ktorí si zakúpia knihy. V rámci komunikačného modelu podľa Schellmanna (2004) vstupujú do procesu nasledovné atribúty: Komunikátor (vydavateľstvo), autor – obsah (knihy pre mládež, beletria,

literatúra faktu... s rôznym tematickým zameraním) – distribúcia (kníhkupectvá, online predaj prostredníctvom e-shopov, predaj prostredníctvom knižných spolkov...) – recipienti (čitatelia kníh).

Knižný marketing sa oproti tradičnému predovšetkým zameriava na prezentáciu a predaj hodnoty produktu (Craiker, 2022). Skutočnou hodnotou v živote je čas a v snahe získať ucelený obraz o časových nárokoch na čítanie v krajinách Európskej únie bol uskutočnený prieskum v období od roku 2008 do roku 2015. Výsledky tohto prieskumu ukázali, že krajinou s najvyšším denným časom stráveným čítaním je Estónsko. Priemerne Estónci vo veku od 20 do 74 rokov venujú čítaniu približne 13 minút denne. Ďalšie krajiny, kde sa dosiahlo viac ako 10 minút denne venujúcich sa čítaniu, sú Fínsko, Poľsko a Maďarsko (Walfisz, 2023). Počas obdobia od roku 2020 do roku 2021 sa zistilo, že v priemere 12 % obyvateľov Slovenska číta aspoň jednu knihu týždenne. Okolo 17 % respondentov uviedlo, že prečíta viac kníh za mesiac. Naopak, až 44 % oslovených ľudí vyjadrilo, že menej ako jednu knihu prečíta mesačne. Tieto štatistiky odhaľujú rozdiely v čitateľskej aktivite a preferenciách medzi slovenskou populáciou počas daného obdobia (Maliková a Gajdoš, 2021). V roku 2021 za noviny, knihy a kancelárske potreby minuli najviac Slováci v rámci európskych krajín (Walfisz, 2023). V roku 2022 sa ukázalo, že viac ako 46 % obyvateľov v Českej republike pravidelne číta dve až tri knihy mesačne. Zároveň takmer štvrtina respondentov priznala, že za daný mesiac neprečítala žiadnu alebo iba jednu knihu. Naopak, len približne 5 % ľudí dokázalo v tom istom časovom horizonte prečítať osem alebo viac kníh. Tieto výsledky poukazujú na rôznu úroveň čitateľskej aktivity a záujmu o knižnú kultúru medzi obyvateľmi Česka (Statista, 2022).

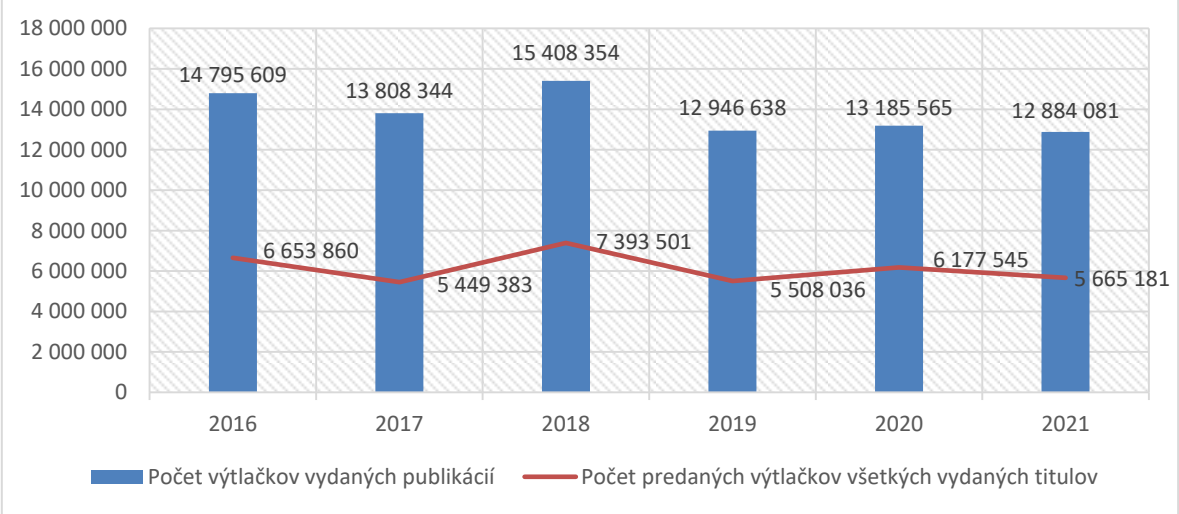
Štatistické údaje o štruktúre produkcie kníh na Slovensku sú získavané prostredníctvom štatistického zisťovania výkazov KULT 4-01, ktoré spadá pod pôsobnosť Ministerstva kultúry SR, Slovenskej národnej knižnice a Národného osvetového centra. Jednotkami spravodajského zisťovania v tejto oblasti sú vydavateľstvá, štátne inštitúcie, mestá a obce, mimovládne organizácie a fyzické osoby, ktoré pôsobia na slovenskom knižnom trhu a v danom roku vydali neperiodické publikácie. Tieto zdroje informácií umožňujú zhromažďovať relevantné štatistické údaje a analyzovať štruktúru a objem produkcie kníh na knižnom trhu (Malíková a Gajdoš, 2021).

V období od roku 2016 do 2021 sa priemerne vydalo 8 516 knižných titulov. V roku 2018 sme zaznamenali nárast o 1 095 titulov v porovnaní s predchádzajúcim obdobím. Avšak v roku 2019 sme zaznamenali pokles, a to až o 955 vydaných kníh. Tieto štatistiky naznačujú fluktuáciu v počte vydaných kníh počas daného obdobia.



Graf 1 Vydané knižné tituly v rokoch 2016 - 2021 (vlastné spracovanie)

Počas obdobia 2016 - 2021 sa viac ako polovica všetkých vydaných titulov predala. V priemere sa na Slovensku vydalo približne 13 838 098 výtlačkov, pričom priemerný predaj sa pohyboval okolo 6 141 251 výtlačkov. V rokoch 2017, 2019 a 2021 sme zaznamenali poklesy. Tieto štatistiky ilustrujú dynamiku predaja publikácií a vývoj na trhu s knihami počas daného obdobia.



Graf 2 Výtlačky vydaných všetkých titulov 2016 - 2021 (vlastné spracovanie)

3 ZA HRANICAMI KONVENČNEJ PROPAGÁCIE: GUERILLA MARKETING AKO NOVÁ CESTA K POPULARIZÁCII KNÍH

Kniha, podobne ako iné komodity, podlieha v oblasti obchodu rozsiahlej analýze, identifikácii potrieb zákazníkov, segmentácii trhu, pozicionovaniu na trhu, marketingovému mixu (zahŕňajúcemu produkt, cenu, distribučnú a propagačnú politiku), strategickému plánovaniu, analýze konkurencie a ďalším relevantným aspektom. V kontexte promovania kníh existuje rozmanitá paleta metód, ktoré možno využiť prostredníctvom tradičných či online marketingových techník. Carneiro (2005) tvrdí, že autori môžu zohrávať významnú úlohu pri propagácii svojich kníh.

Viaceré zdroje (Šebová, 2020; Stehlík, 2020; Craiker, 2022; Tucker, 2023) vyjadrujú presvedčenie, že nedostatočná úroveň marketingu v oblasti kníh bráni týmto dielam dosiahnuť svoje čitateľské publikum. Absencia efektívnej propagácie vedie k tomu, že knihy autorov sa stratia v záplave vydávaných titulov. Na základe toho odporúčajú nasledovné stratégie knižného marketingu, ktoré majú za cieľ zvýšiť povedomie o knižných tituloch:

- autorská webová stránka,
- content marketing (adekvátne využívanie kľúčových slov a tvorba relevantných kategórií),
- propagovať knihy prostredníctvom sociálnych sietí za pomoci influencerov (bookstagramov) a platených reklám,
- budovanie si komunít a vzťahov s čitateľmi (spätná väzba v podobe recenzií), nadväzovať kontakty s recenzentami kníh (knižní blogeri),
- e-mail marketing,
- tvorba cross-promotion,
- branding a pozicioning,…

Tucker (2023) prináša rozšírenú diskusiu o faktoroch, ktoré majú vplyv na proces propagácie kníh v oblasti knižného marketingu. Medzi tieto faktory patrí tvorba pútavého obalu (má za cieľ zaujať potenciálnych čitateľov), a detailný popis knihy (zdôrazňuje hodnotu prinášajúcu samotnému čitateľovi). Ďalším dôležitým prvkom je autorská fotografia (spolu s obalom a

popisom prispieva k vytvoreniu brandu). V rámci nákladu knihy je tiež vhodné uvádzať citáty autora alebo cieľového publika, ktoré poskytujú informácie o knihe a môžu zvýšiť záujem čitateľov o jej obsah.

3.1 Guerilla marketing: Netradičné a efektívne oslovenie cieľových skupín

Ako uvádza Klepek (2014), nízka úroveň zákazníckej lojality voči značke a pokles efektívnosti tradičných reklamných techník vyplýva z informačnej preťaženosti zákazníkov. V dnešnej dobe je spotrebiteľ denne vystavený tisíckam reklamných správ, čo ešte zhoršuje proces rozhodovania pod tlakom. Vzhľadom na globálne rozšírenie informačných technológií a mediálneho obchodu je ťažké nájsť priestor pre neovplyvnený dialóg s klientom.

Zákazník sa na základe vyššie spomenutého stáva čoraz náročnejším, a s tým súvisí nárast požiadaviek na efektívne oslovenie. Marketingoví manažéri sa však stretávajú aj s narastajúcou imunitou zákazníka voči určitým formám reklamy. Podľa Olšiakovej a Miklečinčovej (2011) reklamní odborníci sú stále viac angažovaní v hľadaní spôsobov, ako prejsť od neosobnej (nevyžiadanej) informácie k osobnej (vyžiadanej) informácii. Jedným z prístupov na „zosobnenie“ marketingovej komunikácie je zakladať ju na interakcii so zákazníkom. Skutočné porozumenie interaktívnej komunikácie umožňuje existujúcim médiám stať sa interaktívnymi a tak dosiahnuť omnoho väčšiu nákladovú efektivitu.

V dôsledku týchto faktorov je nevyhnutné neustále inovovať spôsoby oslovenia rôznych cieľových skupín a vytvárať tak nové a moderné formy marketingovej komunikácie. Levinson (2011), ako otec guerilla marketingu, priniesol v roku 1984 marketingový koncept založený na netradičnom spôsobe s využitím nízkeho rozpočtu. Výraz „guerilla“ odvodzujeme z etymologickej koreňovej formy slova „guerra“ zo španielskeho jazyka, ktorá nesie v sebe význam „partizánska vojna.“ Podľa Huttera a Hoffmana (2011) je guerilla marketing vnímaný ako komplexný koncept zahŕňajúci nekonvenčné reklamné kampane, ktorých primárnym zámerom je zaujať pozornosť veľkého počtu príjemcov reklamného posolstva prostredníctvom efektu prekvapenia a difúzneho efektu, pričom sa však snažia minimalizovať náklady. Mughari (2010) a La Counte (2017) nazerajú na guerilla marketing ako na mentalitu, keďže sa zakladá na myšlienkovom prístupe, ktorý sa vymyká bežným konvenciám. Jeho podstatou je premýšľanie o širokom spektre komunikačných problémov a hľadanie nekonvenčných riešení, namiesto obmedzovania sa na tradičné formy ako televízne reklamy. Agentúra Digitalman (2023) uvádza, že hoci v zahraničí je guerilla marketing etablovaným pojmom, na Slovensku predstavuje novinku. Slovenský trh je stále prevažne konzervatívny, avšak postupne sa otvára novým možnostiam aj v oblasti marketingu.

V rámci oblasti guerilla marketingu sa prezentuje celá plejáda rozmanitých typov. Medzi prominentné metódy, ktoré sa vyznačujú svojou všeobecnou známosťou a obľúbenosťou, možno zaradiť nasledovné postupy:

- Ambient marketing - zameriava sa na individuálne oslovenie zákazníka prostredníctvom miest, kde dochádza k interakcii. Umiestnenie ambientnej reklamy zahŕňa aplikácie na poklopy šácht, žeriavy, pizzacartony, bezplatné pohľadnice v baroch a ďalšie podobné neobvyklé prezentácie.
- Ambush marketing - spočíva v propagácii značky na veľkých podujatiach bez platenia sponzorského poplatku.
- Viral marketing - cieľom je dosiahnuť čo najväčšiu a najrýchlejšiu penetráciu reklamného posolstva. Tento cieľ sa dosahuje prostredníctvom ľudských multiplikátorov, ktorí sú motivovaní šíriť posolstvo bezplatne (Katke, 2016; Krejta, 2023).

3.2 Inovatívne využitie guerilla marketingu na podporu kníh a čítania: príklady z praxe

V kontexte Slovenska je možné identifikovať niekoľko príkladov, v ktorých sa využíva guerilla marketing na propagáciu kníh. Jeden z najdôležitejších príkladov je reprezentovaný konceptom knižných búdok, ktorý bol pravdepodobne importovaný zo zahraničia. Prvá knižná búdka sa objavila v roku 2009 v meste Hudson v štáte Washington vďaka angažovaniu neziskovej organizácie s názvom Little Free Library (BEEVAM, 2020). Na Slovensku môžeme tieto búdky vidieť takmer v každom väčšom meste, a to buď na sídliskách alebo v parkoch. Vďaka tejto nápaditej myšlienke je možné knihu prelistovať priamo na mieste alebo si ju odniesť domov. Na Slovensku sa vďaka iniciatíve „Ďakujem, sused“ objavilo niekoľko búdok, ktoré sú zaznamenané aj na ich webovej stránke v podobe interaktívnej mapy (METRO, 2023).

Knižné búdky získali na význame prostredníctvom nového aspektu, ktorý im pridali knižné lavičky, predstavujúce inovatívny príklad, ako napríklad dúhová lavička, umiestnená v lokalite Dolný Lopašov. Táto lavička bola vytvorená prostredníctvom spolupráce s mládežníckou organizáciou Lepší Dolný Lopašov a slávnostne pokrstenej na námestí Dolného Lopašova v roku 2015 za účasti miestnych školákov, ktorí slávnostne vypúšťali bublinky z bublifukov. Táto farebná lavička získala označenie „čitateľská“, keďže na nej sú umiestnené citáty z kníh. Jej vznik bol motivovaný absenciou knižných priestorov v obci, ktoré boli dostupné len na cintorínoch a zastávkach. Autorom tohto projektu je Jakub Tomiš, kým výroba lavičky bola zverená iba 17-ročnému Matejovi Machalovi, ktorého dielo následne pomaľovali Matej Slabý a Jozef Vrbovský. Projekt farebných lavičiek bol vypracovaný Jakubom Tomišom v rámci jeho štúdia na Sokratovom inštitúte (Tomiš, 2015).

V marci 2023 realizovalo kníhkupectvo Martinus zaujímavú kampaň s názvom Tajomné knižnice, ktorá sa vykonávala prostredníctvom webovej platformy. Táto kampaň, koncipovaná vo forme súťaže, nútila účastníkov analyzovať a identifikovať knižný charakter príslušnej knižnice. Za účelom získania správnej odpovede súťažiaci disponovali rozmanitými indíciami vrátane kníh, predmetov, architektonických prvkov knižnice a jej okolia. Účastníci mali neobmedzený počet pokusov na odhadnutie príslušnej literárnej postavy a taktiež mali k dispozícii rôznorodé bonusové úlohy (Martinus, 2023).

V roku 2017 sa kníhkupectvo Martinus angažovalo v realizácii kampane s názvom Knižná šifra. Hlavným zámerom tejto kampane bolo identifikovať správne knižné dielo na základe rôznych zašifrovaných obrazov. Pri výbere týchto kníh sa zohľadňovala ich dostatočná známosť, ako aj podobnosť alebo zhodné názvy v slovenskom a českom jazyku, aby ich bolo možné zobrazovať jedným obrázkom. Zároveň bola snaha vybrať knihy, ktoré sú známe na Slovensku a aspoň trochu známe aj v Česku, ak boli slovenské, a naopak. Ďalším dôležitým faktorom bolo, aby ilustrátor bol schopný a ochotný tieto knihy ilustrovať. V tomto roku sa do procesu výberu titulov zapojilo viacero odborníkov a ilustrátor Martin Bajaník vybral tie, ktoré následne zašifroval do obrazového formátu. V rámci tejto kampane sa zapojilo vyše 100-tisíc ľudí, ktorí sa snažili uhádnuť o akú knihu ide. Marketingový manažér Michal Brat taktiež podotýka, že táto kampaň tým, že bola netradičná, bola efektívnejšia než bežná reklamná kampaň (Ragáčová, 2017).

Vydavateľstvo IKAR sa zameriava aj na využívanie kreatívnych stratégií propagácie kníh, pričom jednou z nich bola kampaň s názvom Knižný kompas. V roku 2019 v rámci tejto kampane implementovalo prvýkrát aj umelú inteligenciu. S cieľom poskytnúť personalizované odporúčania kníh používateľom, vytvorili chatbota, ktorý prostredníctvom aplikácie Messenger navrhoval vhodné knihy na základe osobnostných charakteristík. Následne boli používatelia presmerovaní z facebookového profilu Knižný kompas priamo na e-shop, kde mohli zakúpiť knihu odporúčanú týmto chatbotom (Buno, 2019). Konverzácia s chatbotom nekončila len odporučenými knihami, ale používatelia sa mohli dozvedieť aj množstvo zaujímavosti o ich obľúbených autoroch. Databáza chatbota obsahovala viac ako 1

000 konverzačných scenárov a viac ako 300 mien autorov. Na podporu propagácie tohto chatbota sa využili aktívni spisovatelia na platforme Instagram, knižní influenceri a ďalšie osobnosti. Kampaň trvala mesiac a počas nej zaznamenali 11 198 diskusií s chatbotom, z ktorých bolo vyše 9 000 unikátnych používateľov. Chatbot vygeneroval počas tejto kampane cez 350-tisíc správ (PS:Digital, 2020).
Ďalším zaujímavým príkladom je Sisi knižný kútik umiestnený v priestoroch Bardejovských kúpeľov v hoteli Alžbeta. Jeho obsah je primárne zameraný na životné osudy cisárovnej Sisi. Okrem iných atrakcií sú k dispozícii aj náučné chodníky a muzeálny apartmán venovaný cisárskemu páru. Týmto spôsobom návštevníci majú možnosť dôkladnejšie sa oboznámiť s históriou cisárovnej Sisi prostredníctvom literatúry, ktorá je dostupná v danom knižnom kútiku (Bardejovské kúpele, 2023).

4 KAMPANE V ZAHRANIČÍ

V zahraničí je v oblasti propagácie kníh pomocou guerilla marketingu populárna strategická metóda. Vzniká tu široká škála projektov a kampaní, ktoré získavajú veľký úspech a následne sa rozširujú aj do ďalších krajín. Jedným z príkladov takéhoto úspechu je populárna koncepcia knižných búdok. Okrem týchto etablovaných foriem sa objavujú aj kampane, ktoré vynikajú svojou originalitou a jedinečnosťou. Tieto kampane inovatívnym spôsobom oslovujú čitateľskú komunitu a zapájajú ju do aktívnej interakcie s knihami a literárnym svetom. Práve originálne kampane prinášajú nové a inovatívne perspektívy v oblasti propagácie kníh pomocou guerilla marketingu.
Autor John Shors a autor Steve Berry využili netradičné metódy propagácie svojich kníh. Spoločne s fanúšikmi cestujú po rôznych krajinách, kde sú miesta, ktoré sú dôležité v ich literárnych dielach. John Shors organizuje 11-dňové cestovné zájazdy, ktoré stoja viac ako 6 000 dolárov na osobu. Táto aktivita mu prináša zisky nielen z predaja kníh, ale aj za účasť na týchto cestách. Spisovateľ thrillerov Steve Berry sa tiež rozhodol využiť podobnú taktiku a zorganizoval zájazd s 25 čitateľmi do miest ako Praha a Viedeň, kde diskutovali o jeho knihe „Aféra Kolumba“ (Alsever, 2014).
V roku 2014 vytvorila kolumbijská verejnoprospešná spoločnosť EMP inovatívny a environmentálne prospešný nápad nazvaný „Letter Tree“. Tento koncept zahŕňa bezdrôtovú sieť, ktorá sa nachádza na vybraných stromoch v rozsiahlych mestských parkoch v Medellíne. Jeho primárnym cieľom je podporovať čítanie bez negatívneho vplyvu na životné prostredie.
Systém umožňuje jednoduchý prístup k literatúre bez ohľadu na miesto čitateľa. Stačí si sadnúť pod strom, pripojiť sa k bezdrôtovej sieti prostredníctvom mobilného telefónu a získať bezplatný prístup k rôznym knihám. Výber kníh je dostupný na stromoch v parku, ktoré slúžia ako knižnice na stiahnutie. Hlavným účelom tohto projektu je podporiť kultúru čítania v Kolumbii, kde obyvatelia priemerne prečítajú dve knihy za rok. „Letter Tree“ predstavuje súčasť širšieho úsilia o zvýšenie literárnej gramotnosti a záujmu o literatúru medzi obyvateľmi tohto národa (YUVA, 2022).
Guerilla marketing pri propagácii svojich románov zvolila aj autorka M. J. Rose, ktorá si najala umelca z Etsy za 350 dolárov, aby vyrobil rovnaké náhrdelníky, ktoré sú uvedené na obálkach jej kníh „The Collector of Dying Breaths“ a „Seduction“. Taktiež požiadala newyorského parfuméra Fredericka Bouchardyho, aby vytvoril vôňu založenú na fiktívnej postave, ktorej parížska rodina bola výrobcami parfumov. Vďaka tejto taktike predala viac ako milión kníh (Alsever, 2014).
Jeden z pútavých konceptov je reprezentovaný záložkou Penguin, ktorá disponuje integrovaným časovačom, nano počítačom s WiFi modulom a svetelným senzorom. Tieto technologické prvky umožňujú presné zaznamenávanie času, keď je kniha otvorená. Záložka je schopná odoslať tweet obsahujúci podnecujúce slová od autora alebo správu, ktorá sa pridržiava štýlu jeho písania, čitateľom, ktorí svoju knihu ponechali nedotknutú príliš dlhú

dobu. Záložka predstavuje inovatívne využitie technológií na podporu čitateľskej angažovanosti a udržanie záujmu o literatúru (TREND HUNTER, 2014).

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DEFINITION OF MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES IN CONNECTION WITH MANAGEMENT AS A SCIENTIFIC DISCIPLINE

Patrik Boršoš, Gabriel Koman

Abstract

Modern information and communication technologies (ICT) have had a significant impact on society, affecting virtually every aspect of life. Its rapid development and diffusion bring new challenges and opportunities for various scientific disciplines, including management. The aim of this article is to define modern ICT based on clearly defined criteria In this article we analyse the main characteristics of modern ICT and their impact on management. The analysis is based on a literature search in the Web of Science (WOS) scientific database. The result of the research should help the scientific community in particular, but also the business environment to become aware of the importance of each technology in the future.

Keywords: *management, modern ICT, digitalisation*

1 INTRODUCTION

Modern information and communication technologies (ICT) have become a key element in the current digital age, affecting almost every aspect of our society. Its rapid development has also significantly affected the business environment. In this article, the authors discuss the definition of modern ICT and its relationship to management as a scientific discipline. The purpose of clearly defining them is to understand the importance of using these technologies in various business processes such as logistics, marketing, human resources, manufacturing, etc. Managers need to understand the benefits and limitations of modern ICT to integrate it effectively into their decision-making and management. Therefore, the aim of this research paper is to analyse the research articles and define modern ICT based on predefined criteria. At the same time, it is necessary to examine their relationship with management as a scientific discipline.

2 THEORETICAL BACKGROUND

Management is a body of knowledge about the specific functions of managers that are important for the effective achievement of the goals of the enterprise. It is a process that aims at achieving results through the most effective use of the available resources of the enterprise (Majtán et al., 2009, Hopp, 2004). It can be understood in four levels. Management as a process represents continuously recurring, interdependent activities that take place to achieve a predetermined goal. Management as a profession illustrates the work activities of managers in enterprises whose primary task is to achieve the objectives of the enterprise through the management of employees. Management as a scientific discipline has an interdisciplinary character, which means the interconnection of several scientific disciplines, such as economics, psychology, sociology, and law, as well as various natural or technical disciplines. Management as an art is primarily a Japanese type of management, where the aim is to place the right people in the right jobs within a company and at the right time. (Mikuláštík, 2015, Vodák, Kucharčíková, 2007) From an economic point of view, it is a process that focuses on the economic use of inputs to satisfy the requirements of customers, creditors, owners, and other stakeholders of the enterprise and thus achieve the strategic goals of the enterprise

(Hittmar, 1997). These inputs, which create the utility value of each enterprise, are called factors of production in the economic environment (Kucharčíková, Tokarčíková, 2006).
Information technology (IT) can be defined as the use of computers and other devices to generate, process, protect, or exchange any form of electronic data (Nelson, 2022). Information technology creates communication networks for companies, protects data and information, creates and manages databases, helps employees troubleshoot problems with their computers or mobile devices, or performs a variety of other work to ensure the efficiency and security of enterprise information systems (Gerhson, 2022). Communication technologies refer to a set of technical devices and software that provide for the exchange of data between devices and people, devices with each other, or people with each other (Hittmar et al., 2013). The combination of IT and KT gives rise to so-called ICTs, which are characterized by the fact that they provide data in any multimedia form (Šilerová, Hennyeyová, 2017). It is ICT that is nowadays an extremely important factor in providing inter-organizational relationships. Fuentes-Blasco et al. (2017) even talk about the necessity of ICT innovation to maintain business competitiveness. Modern ICT is also increasingly associated with the so-called sustainability of enterprises (Jones et al., 2017).

3 METHODS

Because of the development of this paper, the parameters of the search for secondary sources were defined. The basic parameter was keywords. However, after searching the first results, it became apparent that a very large number of resources were available based on these keywords, often unrelated to the problem being addressed. For this reason, it was necessary to define additional parameters. These were the year of publication of the resources, the availability of the full text of the resource, and the area of focus of the resources.

3.1 Keywords

In the process of searching for secondary sources, search keywords were defined, which were management and information and communication technology. The purpose of using keyword management was to adhere to the research area as ICT is used in almost all disciplines. On the other hand, the keyword information and communication technology needed to be expanded to include the frequently used abbreviation ICT.

3.2 Year of publication

In determining the minimum year of publication of secondary sources, it was first necessary to define the year of publication of these studies. More than 3,000 sources were searched based on keywords of areas of concern. However, most authors of scientific articles have only started to deal with the topic in recent years. The evolution of the number of publications depending on the year of publication can be seen in Figure 1.

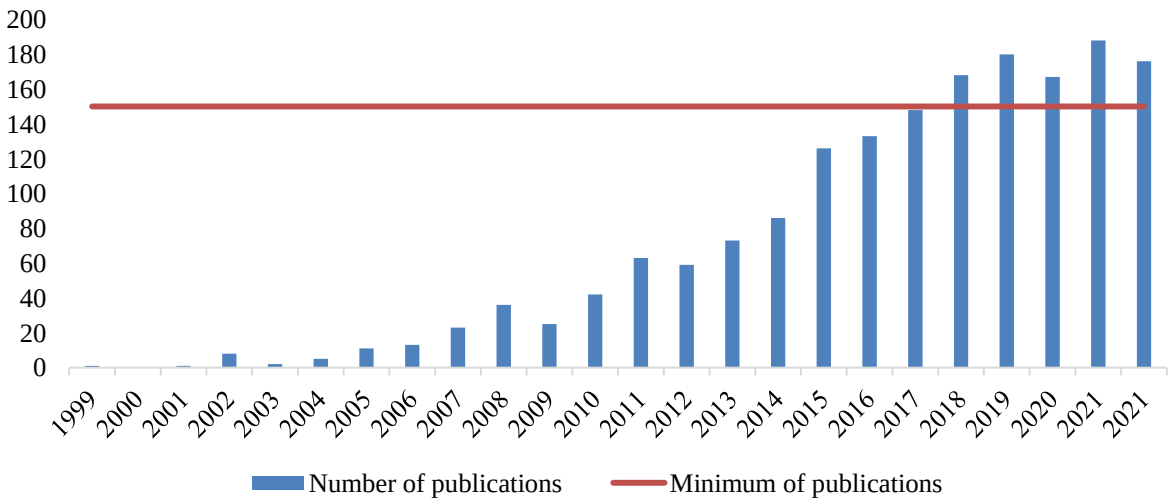


Figure 1: Number of publications in the WOS scientific database

To clearly define the minimum threshold for the number of publications, a value of 150 publications per year was chosen, based on the subjective decision of the authors. This threshold was exceeded for the first time in 2018. Based on this fact, it was determined that the minimum year of publication of secondary sources would be 2018.

3.3 Availability of the full text

Since a large number of sources were identified in the initial keyword search, it was possible to proceed to the definition of another parameter, which is the availability of the full text. Based on this parameter, it is therefore possible to work only with those sources that have the full text of the article publicly available. This is also important because when analysing these secondary sources, it is necessary to know their methodology and also the results.

3.4 Scientific orientation of the publication

In the initial screening of the sources, it was possible to trace their focus on different scientific areas. As there were always articles from outside management, it was necessary to filter out only those articles that had a direct link to this scientific field.

3.5 Procedure for the analytical part

As these are a wide range of sources, it was necessary to categorise them and determine their relevance based on certain parameters. The Grounded Theory Method (GTM) was chosen for such analysis. As stated by Glaser, the author of this method, each researcher can change the various parameters of this method as needed based on what is being researched and the depth of the research (Glaser, 2002). In the case of this analysis, the following procedure was followed:

1. Searching for articles in the Web of Science (WOS) database
2. Study the articles to identify a specific ICT
3. Open coding - dividing technologies into three groups (traditional, modern, and future). These were identified based on the following indicators:
    a. **trendiness** - it should be a current trend at the moment**,**
    b. **number of publications -** there is also interest in the technology in the academic environment (availability of scientific articles on the use of this technology in management)
    c. **sufficient development -** sufficiently developed technology that can be used today (it is not a description of a vision for the future)

d. **usability in the present** - used in current businesses, households, the state, etc.

4. Axial coding - a comparison of different modern technologies in terms of the number of cells
5. Evaluation and presentation of results

4 RESULTS

Based on a search of articles in the WOS database, technologies were identified (Figure 2), which are assigned to the time interval from 1999 to 2022.

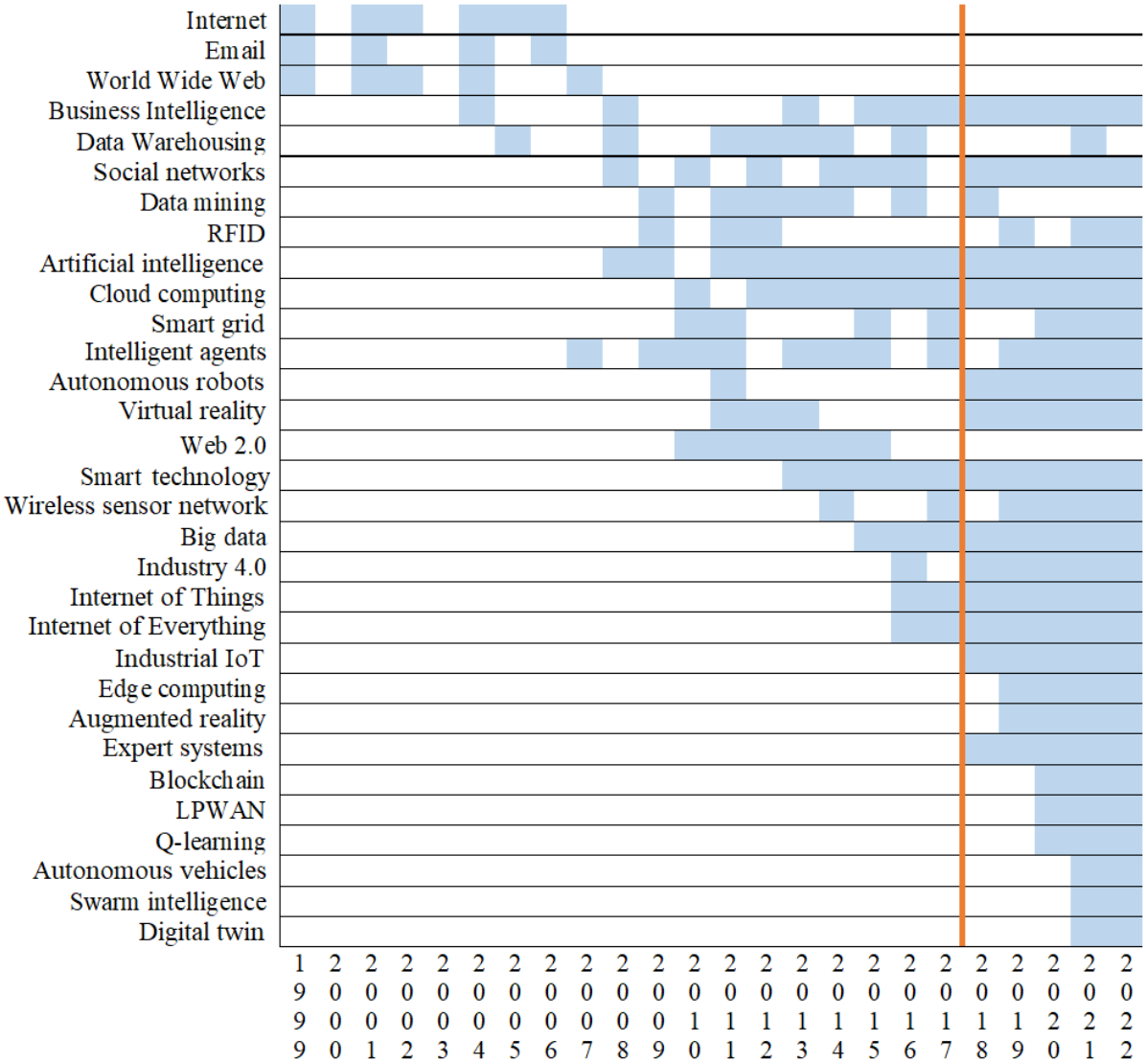


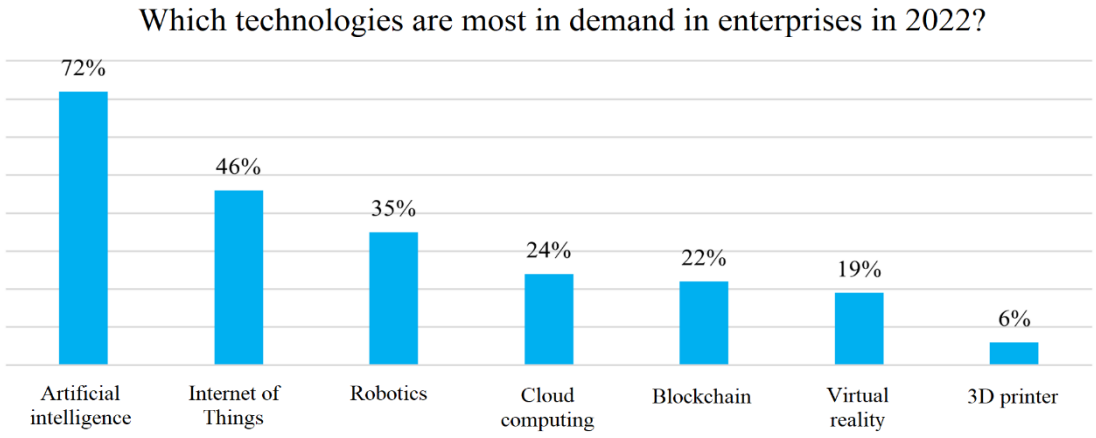
Figure 2: Overview of technologies 1999-2022

The figure shows a clear evolution of articles on ICT in the context of management as a discipline over the years. Around the year 2000, the most frequently published articles were related to the Internet, email communication, or the World Wide Web. Later, technologies such as business intelligence, social networks, but also artificial intelligence, and virtual reality started to appear more frequently. The latter two were also frequently mentioned in scientific articles around 2010, but still not in the form we know today. All of these technologies have subsequently been grouped into three categories: traditional, modern, and future (Table 1).

Table 1: Division of ICT into traditional, modern and future

Categories	Technologies
Traditional	Internet, Email, World Wide Web, Social networks, Web 2.0, Expert systems
Modern	Business Intelligence, Artificial Intelligence, Cloud computing, Virtual reality, Big data, Internet of Things, Blockchain
Future	Autonomous vehicles, RFID, Autonomous robots, Smart grid, Edge computing, Swarm intelligence, Digital twin, Internet of Everything

The assignment of these technologies is supported by a survey conducted by FinancesOnline in 2022. This is a survey focusing on the use of technology today and the assumption for the future (Figure 3).



Obrázok 1: Najžiadanejšie technológie v podnikoch za rok 2022
Zdroj: Spracované podľa Financesonline.com. 2022

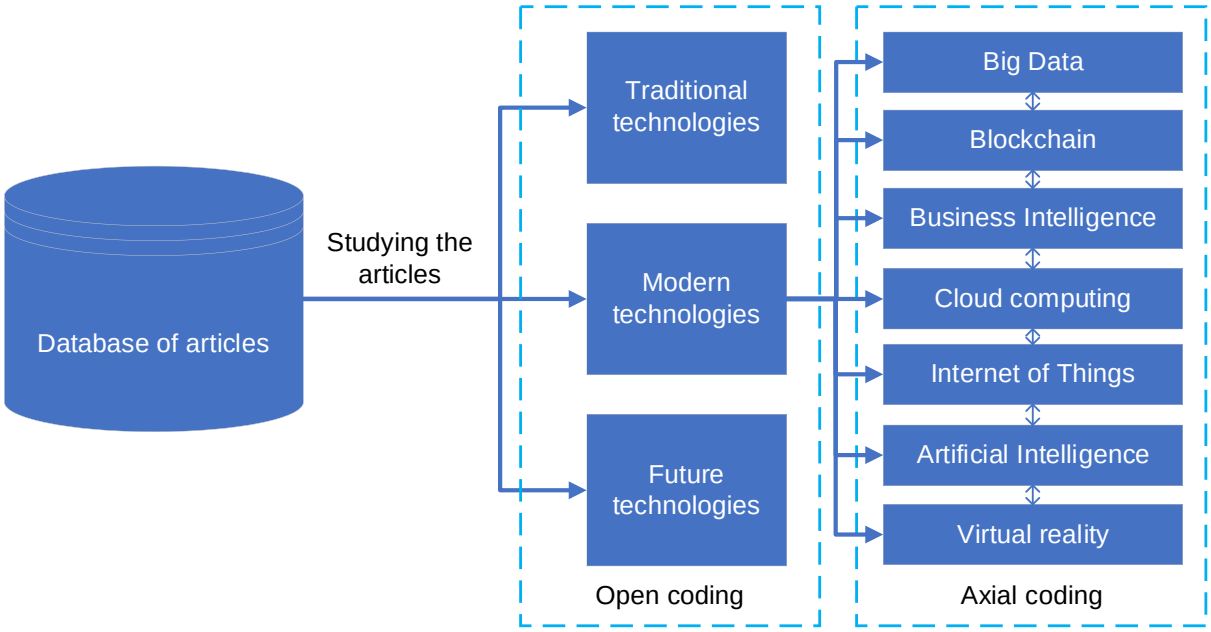
As can be seen, as many as five of the seven technologies defined as advanced by the authors ranked at the top. It can therefore be confirmed that modern ICTs have been correctly identified.
The following Table 2 shows the basic definitions of the identified advanced technologies.

Table 2: Definitions of modern ICTs

Technology	Definition
Business Intelligence (BI)	BI is a set of techniques and tools for acquiring, normalizing, analyzing, and presenting data that support management and help it identify and develop new strategic business opportunities (Bentley, 2017).
Artificial intelligence (AI)	AI can be defined as a set of information and communication technologies that mimic human intelligence to improve, streamline and simplify the work of humans (Olan, 2022).
Cloud computing (CC)	CC is a form of computing service that incorporates servers, storage, databases, networks, software, analytics, and intelligence over the Internet to offer innovative solutions for businesses (Microsoft, online).
Virtual reality (VR)	VR is a technology that attempts to render spatial models or scenes as realistically as possible in real-time (Gatial, online).
Big data	Big data is a rapidly emerging large amount of heterogeneous data that traditional software cannot process and which is often used for managerial decision-making in enterprises (Oracle, online).
Internet of Things (IoT)	IoT can be seen as a communication paradigm where a multitude of devices and objects come together that can collect, connect and exchange data with each other via networks or the Internet. (Mamdouh a kol., 2021).
Blockchain	Blockchain technology is a database mechanism whose purpose is to share information within a business network. A blockchain database stores individual data in blocks that are linked together (Amazon, online).

5 CONCLUSION AND DISCUSSION

The article defines modern ICT based on predefined parameters. The whole process can be summarized using the following diagram.



Modern ICTs used in the context of the management discipline include Big Data, Blockchain, Business Intelligence, Cloud Computing, the Internet of Things, Artificial Intelligence, and Virtual Reality technologies. In the future, it would be useful to compare these technologies based on selective coding and to identify the various relationships between them. It may then be possible to identify the one technology that makes the greatest contribution to taking digitalisation to a new higher level.

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SWARMVISE – NON-TRADITIONAL MANAGEMENT METHODS AND THEIR APPLICABILITY IN BUSINESS PRACTICE

Herbert Heissler, Jaromír Tichý

Abstract

In 2006, the Pirate Party was founded in Sweden under the leadership of Rick Falkving. The party was a great success and his pirate party spread, also successfully, around the world. For the purpose of leading people and teams properly, he published a book in 2015 titled: "Swarmwise - A Tactical Guide to Change the World". In the contribution, we will focus on a critical analysis of the mentioned publication and its possible applicability to business practice. Due to the drastic changes in our society, especially thanks to the rapid growth in the use of information technology, there is a need to find new ways of managing people and teams. If the pirate party has been successful and if its members are mainly young people, it can be assumed that this way of leadership can be applied in business practice under certain circumstances. The goal of the contribution is to indicate a way to implement the Swarmwise concept in business practice, especially in IT areas, and to point out possible risks.

Keywords: *management, leadership, organizing, Swarmwise, corporate practice, swarm principle*

INTRODUCTION

Rick Falkving published a book in 2015 titled: "Swarmwise - A Tactical Guide to Change the World" for the purpose of leading people and teams properly. This book has become a manual for emerging pirate parties, with results that declare the success of this publication. In politics, this method seems to have worked. Due to the drastic changes in our society, especially thanks to the rapid growth in the use of information technologies, it is necessary to look for new ways of leading people and teams. Furthermore, there has been a change in the approach of the management of people and teams as a result of covid measures, and last but not least, there are major changes in education, especially at primary schools. All of this produces a new perspective for people on how they want to work for someone, and employers need to take this into account.

Currently, no one is directly involved in the analysis and application of Swarmwise by Falkving, however, there are authors who are dedicated to the application of collective thinking in corporate practice. There are several authors who address the topic of Swarmwise and the application of swarm principles at different levels of the organization. Some of them are: Rick Falkving (2015) - founder of the Pirate Party in Sweden, who wrote the book "Swarmwise: The Tactical Manual for Changing the World". He focuses on ways to organize and mobilize groups of people using swarm principles in this book. Thomas Malone (2005) - Professor of Management at the MIT Sloan School of Management and co-author of "The Future of Work: How the New Order of Business Will Shape Your Organization, Your Management Style, and Your Life". Malone (2005) focuses on how the swarm functions within an organization and how it can be used to achieve company's goals. Eric Bonabeau - founder of Icosystem Corporation and author of "Swarm Intelligence: From Natural to Artificial Systems". In the book, Bonabeau (2001) focuses on the principles and applications of swarm intelligence in nature and in artificial systems. James Surowiecki (2004) - journalist and author of "The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations". Surowiecki focuses on the power of collective wisdom and how it can be effectively used in various fields. Kevin

Kelly (1995) - writer and author of "Out of Control: The New Biology of Machines, Social Systems, and the Economic World". Kelly's focus is on how the swarm functions in a variety of systems, including biological, technological, and social. The main ideas of these authors vary depending on the focus and the specific topic they are writing about. However, they all agree that swarm principles can be an effective tool for organizing and managing people, and that this method has the potential to be used in a variety of fields.
In the area of social networks and mass collaboration, let's mention: Watts, D. J., & Dodds, P. S. (2007). Influentials, networks, and public opinion formation. Journal of Consumer Research, 34(4), 441-458. Lazer, D., Pentland, A.S., Adamic, L., Aral, S., Barabási, A.L., Brewer, D., ... & Van Alstyne, M. (2009). Computational social science. Science, 323(5915), 721-723.
Methods of organization and management of collective groups are mainly dealt with by Malcolm Gladwell (2015) and his book The Tipping Point: How Little Things Can Make a Big Difference, Bod zlomu in Czech.
Most of the authors who address the concept of Swarmwise belong to the field of management and leadership. Their work focuses on the organization and management of people, using swarm principles and other management theories such as systemic thinking, game theory, consumer behavior and microeconomics. Some authors, such as Thomas Malone (2005), have a greater focus on the coordination of work in teams and on the internal dynamics of the organization's functioning. Others, such as Eric Bonabeau (2001) or Kevin Kelly (1995), focus on applications of swarm intelligence in artificial and natural systems. Among similar authors, we can mention, for example, Peter Drucker (2000), who became a key figure in the field of management and strategy. Other similar authors are, for example, Frederick Taylor, Edward Deming, Michael Porter, Abraham Maslow or Peter Senge, who addressed various aspects of management of organizations

1 SWARMWISE IN A CORPORATE ENVIRONMENT

Applying Swarmwise in an enterprise environment could have several potential benefits and uses. The approaches and principles described in Swarmwise, which focus on the use of collective thinking and group organization, could help corporate teams collaborate effectively and achieve their goals. Here are some factors that could play a role when applying Swarmwise in a corporate environment: Collective intelligence: Swarmwise emphasizes the involvement and use of all group members to find and implement innovative solutions. In a corporate environment, this could mean getting diverse perspectives and ideas from employees at different levels and improving the quality of decision-making. Collaboration and Coordination: The methods and tools for coordination and collaboration highlighted in Swarmwise can help business teams communicate and share information more effectively. This can lead to better coordination of projects, faster response to changes and increased overall productivity (Křivánek, 2019). Hierarchy and Decentralization: Swarmwise emphasizes minimizing hierarchy and trusting in the abilities of individuals. In a corporate environment, this could mean enhancing employee autonomy, which can lead to higher motivation, creativity and responsibility. Innovation and adaptability: Swarmwise emphasizes the ability to respond quickly to changes and innovate. In a rapidly changing corporate environment, the ability to adapt and thus innovate can be the key to success. Swarmwise could provide the framework and principles that support such agility and innovative approach. However, it should be considered that the specific application of Swarmwise in a corporate environment would depend on specific contextual factors such as the size of the company, the nature of its projects and the organizational culture. Some of the principles and techniques described in Swarmwise could be adapted or combined with already existing procedures and processes in a company.

In addition to management, we will also focus on game theory and its applicability in the case of using Swarmvise principles. Regarding the use of game theory in Swarmwise, it can be useful for optimizing swarm results and finding the right balance between individual and collective interests. Game theory can help in choosing the best swarm strategies and tactics and in minimizing risks. Game theory is a mathematical framework for the study of strategic decision-making, interactions, and outcomes in interdependent situations. (Heissler, Valenčík, 2011) Swarmwise, on the other hand, focuses on the organization of collective groups and their strategic management.

Connections between Swarmwise and game theory can exist in several areas:

- Cooperative Games: Game theory deals with cooperative games in which participants try to achieve a common goal. Swarmwise emphasizes the importance of cooperation and coordination in collective groups. Game theory can provide a framework for investigating optimal strategies and mechanisms that support cooperation and the use of collective intelligence in Swarmwise.
- Non-cooperative games: Game theory also examines non-cooperative games in which participants pursue their own interests and compete with each other. In the context of Swarmwise, non-cooperative games could represent situations in which different groups or individuals compete for resources or favor in furtherance of their own goals. Game theory could help analyze the strategies that could be used to achieve more effective coordination and competitiveness among these groups. Decision making under uncertain conditions: Game theory also addresses situations of uncertainty and risk. In a business environment, decisions may be influenced by uncertainty, for example in relation to market conditions, competitor behavior or technological innovation. (Heissler, 2011) Swarmwise could provide methods to effectively respond to uncertainty through collective group thinking and decision making. The link between Swarmwise and game theory could lead to the investigation of strategic aspects of group organization, decision making under uncertain conditions, and the conditions that lead to cooperation or competition between individuals or groups.

It is important to note that the application of game theory to Swarmwise would require specific modeling and empirical research focusing on specific aspects of organization and strategic interactions in firms. However, this combination could bring valuable insights into how Swarmwise can be effectively applied in a corporate environment and how strategic decisions and cooperation can influence each other. Therefore, in this work we will deal with the modeling of such situations. Unfortunately, empirically significant data are not available at this time.

1.1 Critical perspectives on Swarmwise application in a corporate environment

It is also important to consider the critical views and challenges that may apply to the application of Swarmwise in a corporate environment.

Some of these criticisms may include:

- Organizational culture: Swarmwise introduces a new approach to management and collaboration that may conflict with existing organizational culture. Adopting and implementing these new principles and methods may require changes in the mind set and values of employees and management.
- Management and control: Swarmwise is based on decentralized management and greater autonomy of individuals. This can present management and control challenges in a corporate environment where hierarchical structures and control mechanisms are usually in place.

- Efficiency and performance: There is a question whether Swarmwise really brings higher efficiency and performance compared to standard ways of managing and organizing people. A thorough evaluation and comparison needs to be done to determine whether Swarmwise really delivers benefits in a particular business environment.
- Implementation complexity: Implementing Swarmwise requires understanding and mastering specific principles and methods. Implementing these new practices can be time-consuming and require changes to company process and infrastructure. Taking into account these critical views is important to critically assess and evaluate the Swarmwise application in a corporate environment. Thorough research and analysis must be done to determine if the benefits of Swarmwise outweigh the potential challenges and limitations that may arise from its implementation.

2 METHOD OF SOLUTION

The solution is to focus on a more detailed understanding of how the swarm coordination method works and how it can be optimized in different areas of business practice. The contribution will deal with the area of relations between the Swarmwise system and the use of modern technologies, such as artificial intelligence (Russell, Norvig, 2020) or blockchain (Drescher, 2017). It will also address the issue of how Swarmwise contributes to more agile and innovative approach to organizational management with an impact on change and innovation management.

2.1 Design of the structure and content of the solution to the problem

The goal is to implement the Swarmwise concept in business practice, especially in IT areas, and to point out possible risks. The assumption is that under certain, precisely defined conditions, the Swarmwise method can be advantageous for solving partial projects, or in a very specific form (in start-ups), it must be implemented as a default method from the very beginning with clearly defined rules.

Sub-goal 1: To find out the possibility of connecting Swarmwise with artificial intelligence and to propose the use of artificial intelligence technology in Swarmwise, to propose the use of blockchain in the Swarmwise process. The use of new information technologies such as AI and blockchain can bring new positive possibilities in application of the Swarmwise method.

Sub-goal 2: To determine the degree of influence of contextual games on the functionality of Swarmwise with respect to the redistribution system. When applied inappropriately in an already established company, the Swarmwise method can cause difficulties, especially with regard to contextual games and the resulting black passengers.

2.2 Research methodology, theoretical foundations

We will use the following methods to define the concept of Swarmwise and and its anchoring in management:

1. Systematic literature review: We will conduct a thorough review of related literature regarding Swarmwise and its relationship to management. We will review academic articles, books, scientific reports and other relevant sources. We will focus on works that deal with the concepts of participatory management, collective intelligence and innovation.
2. Primary Source Analysis: We will examine the primary sources that describe the original ideas of Swarmwise founder Rick Falkvinge. We will analyze his definition of Swarmwise, its principles and goals.
3. Business Case Analysis: We will analyze specific case studies in which Swarmwise has been implemented in a management context. We will try to find organizations that

have used Swarmwise or similar approaches and then examine their experiences, results and implementation challenges, if any. The following next steps follow from this.

4. Questionnaire survey: We will design and conduct a questionnaire survey among managers and experts from various organizations. We will focus on their awareness of the Swarmwise concept, their perception of its value and contribution in management. We will also examine their attitude to participatory management and collective intelligence.
5. Qualitative interviews: We will conduct structured interviews with managers who have implemented or experienced Swarmwise. We will try to get an in-depth insight into their experiences, approaches and results. We will analyze their insights and statements and identify common themes and trends.
6. Data synthesis and analysis: We will evaluate and analyze the data obtained from the literature review, case studies, questionnaire survey and interviews. We will identify the main elements of Swarmwise and its links to management. We will compare results from different sources and form clear definitions and concepts resulting from this.

This combination of the method of literature review, analysis of case studies and collection of primary data will allow us to define the concept of Swarmwise and its anchoring in management based on existing theoretical approaches and real experiences of organizations.

2.3 Defining scientific methods for modeling of the Swarmwise application

The following approaches will be used to define the scientific methods for the theoretical basis for the modeling of Swarmwise and for the specific modeling of Swarmwise:

1. Literature review: We apply a systematic review of literature related to Swarmwise and related theoretical frameworks. We analyze the obtained theoretical background from the previous chapter and select key academic articles, books, scientific reports and other relevant sources that deal with collective decision-making, participatory management and innovation. We will identify the key theoretical concepts that can be applied to Swarmwise modeling.
2. Theoretical framework of collective intelligence: We will study the existing theoretical frameworks of collective intelligence and related areas such as collective action, social networks and group decision making. We will analyze how these theoretical concepts can be applied to Swarmwise modeling and its functionality.
3. Computational modeling: We will design and implement computational model/s that simulate processes and interactions within Swarmwise. We will use agent-oriented modeling, multi-agent systems or other methods of complex systems to model the behavior of individual participants, communication and coordination within Swarmwise. We will analyze the outputs of these models and their compliance with Swarmwise assumptions and principles.
4. Social network analysis: We will use social network analysis methods to study interactions and communication patterns between individual actors within Swarmwise. We will identify key nodes, influential groups, and network structures that can influence Swarmwise's effectiveness. We will analyze the interconnectedness and communication flows between actors and their relationship to achieve Swarmwise goals.
5. Game Modeling: We will use game theory and strategic decision-making methods to model interactions and strategic decisions within Swarmwise. We will identify

different scenarios and strategies that can be used within Swarmwise and analyze their impact on project outcomes and success.

6. Verification and validation of models: We will verify and validate the proposed models by comparing their outputs with real data from implemented Swarmwise projects, if available. We will evaluate the accuracy and relevance of the models and verify that they correspond to observed outcomes and real-world behavior.

This combination of methods – literature review, theoretical framework, computational modeling, social network analysis, game modeling, and verification/validation - will allow us to build a solid theoretical foundation for modeling the Swarmwise application and understand its principles and properties.

2.4 Research methodology, critical view within the final discussion

For a critical view at the results of the work so far, we will use the following approaches in the final discussion:

1. Reflection of the methodology: We will evaluate and discuss the appropriateness and effectiveness of the scientific methods used to achieve the goals of the contribution. We will focus on the strengths and limitations of each method and consider whether they were the best possible methods for investigating the topic at hand.
2. Discussion of the achieved results: And this in the context of the set goals and hypotheses of the contribution. We will consider whether all objectives have been met and whether the results achieved are in line with expectations. We will identify any shortcomings, limitations or unforeseen complications during the research.
3. Critical evaluation of the theoretical starting points: Discussion of the achieved depth and breadth of the theoretical starting points that were used for the work. We will evaluate whether the theoretical frameworks were comprehensive and relevant enough to investigate the Swarmwise application. We will identify possible gaps in existing theories and suggest possibilities for further development.
4. Discussion of benefits and limitations: Discussion of the benefits of the work for the area and the wider context. In particular, what new insights or perspectives was the contribution able to bring and how these results can be used in practice. At the same time, we will reflect on the limitations and limited generalizability of the results achieved.
5. Suggestions for future research: Based on the results and findings so far, we will suggest directions for further research in the field of Swarmwise application. We will identify questions that remain unanswered and present possibilities for further expansion and deepening of knowledge.

The final discussion should bring a critical and objective view of the results of the work so far, identify strengths and limitations and suggest directions for further research and development of the given topic.

2.5 Research methodology and concepts in the fields of business practice, artificial intelligence, blockchain and contextual games

The theoretical starting points for the chosen objectives and hypotheses will be based on existing theories and concepts in the fields of business practice, artificial intelligence, blockchain and contextual games:

1. Theory of organizational behavior and innovation: Analysis of theoretical concepts related to organization, innovation, participative management and collective intelligence. These theoretical backgrounds can provide a basis for understanding the

benefits of Swarmwise in business practice and its application in start-ups, especially in the IT field.

2. Theory of artificial intelligence and machine learning: Review of the theoretical foundations of artificial intelligence, machine learning and their use in a business environment. This will make it possible to understand the possibilities of connecting Swarmwise with artificial intelligence and propose ways to use this technology in Swarmwise.
3. Blockchain Theory and Decentralization: A study of blockchain concepts and its use in a business environment. This will make it possible to propose how blockchain can be incorporated into the Swarmwise process and what benefits and risks this may bring.
4. Game and Strategy Theory: Reviewing the theoretical aspects of contextual games and strategies in Swarmwise.

These theoretical backgrounds can help to understand the influence of contextual games on the functionality of Swarmwise and its redistribution system.

3 CONCLUSION

The output of the solution should be an objective evaluation of the implementation of the Swarmwise concept in business practice, especially in IT areas, and point out possible implementation risks. It can be assumed that the Swarmwise management method can be applicable in business practice under certain circumstances. Under certain, precisely defined conditions, the Swarmwise method can be advantageous for solving partial projects, or in a very specific form (in start-ups), it must be implemented as a default method from the very beginning with clearly defined rules.

A more detailed understanding of how the swarm coordination method works and how it can be optimized in different areas of business practice can contribute to a more agile and innovative approach in the management of the organization with an impact on the management of change and innovation using modern technologies such as artificial intelligence or blockchain.

As for the application of the Swarmwise system to IT management, the concept could help optimize processes within developer teams, coordinate their work and achieve greater efficiency. Swarmwise can also help manage projects and improve communication between teams.

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DETERMINANTS OF AGGRESSIVE BEHAVIOUR IN THE ONLINE ENVIRONMENT AND ITS IMPACT ON THE SPREAD OF GROUNDSWELL COMMUNICATION

Simona Ščepková

Abstract

The prevalence of online aggression in the digital age poses substantial challenges to groundswell communication, exerting negative influences on public opinion, social movements, and the facilitation of constructive dialogue. This article delves into the determinants of online aggression and investigates its impact on groundswell communication as well as key factors, including anonymity, disinhibition, deindividuation, and cultural norms, that contribute to the manifestation of aggressive behavior in online environments. This paper aims to comprehensively analyze relevant theoretical insights concerning the subject matter and present a comprehensive set of recommendations to effectively address and reduce online aggressive behavior.

Keywords: *aggressive behaviour, online aggressive behaviour, online communication, groundswell communication.*

1 INTRODUCTION

The widespread presence of online aggression has become a significant concern in the digital era due to the massive usage of social media, online forums, and digital platforms. It encompasses various forms of hostile, threatening, or harmful behaviour exhibited by individuals within the online environment (Patchin and Hinduja, 2018). Examples of such aggressive behaviour include cyberbullying, trolling, hate speech, and other negative online interactions. Simultaneously, the concept of groundswell communication has gained prominence, referring to the collective actions and behaviors of individuals within online communities, often driven by social media platforms (Li and Bernoff, 2011). Groundswell communication has the potential to shape public opinions, mobilize movements, and facilitate social change. Nevertheless, the presence of aggressive behavior within these online communities significantly influences the dynamics and outcomes of such groundswell communication.

The objective of our paper is to explore the factors that contribute to aggressive behaviour in the online environment and assess its impact on the spread of groundswell communication. Understanding the fundamental determinants of online aggression and its consequences for online discussion can help develop strategies and interventions to promote healthier and more constructive digital interaction. Given the growing reliance on digital platforms for communication and information sharing, the prevalence of online aggression presents substantial challenges to individuals, communities, and society at large (Kowalski et al., 2014). Online aggression not only affects the targeted individuals but also has broader societal implications, such as the propagation of misinformation, polarization of opinions, and the erosion of constructive dialogue. Furthermore, investigating the impact of online aggression on groundswell communication is crucial for comprehending how it affects the effectiveness and integrity of collective online actions and social movements.

2 DEFINITION AND FORMS OF AGGRESSIVE BEHAVIOUR IN THE ONLINE ENVIRONMENT

Online aggression in the digital environment pertains to a spectrum of hostile, menacing, or injurious behaviors displayed by individuals within virtual platforms. This means deliberately causing distress, harm or unrest to others through various online channels such as social media, virtual forums, comments sections or gaming communities. Aggression can manifest in diverse forms, ranging from comparatively mild instances of rudeness or sarcasm to more severe and targeted occurrences of cyberbullying or hate speech. The online environment offers a distinctive space for the flourishing of aggressive behavior, attributable to factors such as anonymity, diminished social cues, and a sense of detachment from immediate consequences (Tokunaga, 2010). Online perpetrators often exploit the perceived distance and disinhibition associated with digital interactions to engage in conduct they might refrain from in face-to-face encounters (Zhang et al., 2022). This phenomenon of digital disinhibition can contribute to an escalation of aggression, as individuals perceive reduced accountability for their actions.

As previously mentioned, several forms of online aggression can be identified, including:

- Cyberbullying: Cyberbullying encompasses the utilization of digital platforms to repeatedly harass, intimidate, or target individuals. It includes activities such as sending threatening messages, disseminating rumors, sharing humiliating photos or videos, or creating fake profiles to defame or humiliate the victim (Patchin and Hinduja, 2018). Cyberbullying can exert severe psychological and emotional repercussions on its victims, leading to heightened vulnerability, depression, and even self-harm.
- Trolling: Trolling denotes the deliberate act of provoking or antagonizing others online for personal amusement or to elicit strong emotional responses. Trolls commonly engage in disruptive behaviors such as posting offensive or inflammatory comments, derailing discussions, or deliberately disseminating misinformation (Buckels et al., 2014). Their primary objective is to disrupt online communities and elicit emotional reactions from others. It is noteworthy to mention that in certain communities, trolls may engage in such activities as a form of humor, without intending harm. However, others within these communities often perceive these actions differently.
- Hate Speech: Hate speech involves the use of online platforms to express discriminatory or derogatory language aimed at individuals or groups based on attributes such as race, ethnicity, religion, gender, sexual orientation, disability, or other characteristics. Its purpose is to degrade, marginalize, or incite harm toward specific communities (Dunn et al., 2019). Hate speech not only boosts a hostile online environment but can also contribute to consequences in the real world, including discrimination, harassment, and violence. Today we can meet with hate speech literally every day if we are active online, especially in the context of groundswell communication. Certain communities deliberately post hate comments on platforms like Facebook or Instagram to criticize posts that do not align with their beliefs. It is not uncommon for hate speech to be written with the intention of offending the targeted individual in any possible manner without any visible reason for that.
- Doxing: Doxing involves publicly disclosing and sharing private or personal information about an individual without their consent. Such information may include addresses, phone numbers, email accounts, or anything else that may be used against the victim, making the targeted person vulnerable to harassment, stalking, or even identity theft. There may be many reasons for doxing. According to Phillips (2015) it is frequently employed as a mean for retribution, intimidation, or silencing. It is

important to note that doxing poses potential harm to the safety of the individual, both within the online environment and in real life, since this data may be used in a very bad way by random people.

3 DETERMINANTS OF AGGRESSIVE BEHAVIOUR IN THE ONLINE ENVIRONMENT

Anonymity emerges as a significant determinant of aggressive behavior in the online environment. The ability to remain unidentified or use pseudonyms in digital spaces greatly influences individuals' actions. It eliminates the fear of immediate social consequences, enabling individuals to freely express themselves and engage in aggressive acts that they may avoid in face-to-face interactions (Kim et al., 2023). The absence of accountability due to perceived anonymity leads to a higher propensity for aggression, as individuals feel shielded from the repercussions of their actions (Mueller-Coyne et al., 2004). Research demonstrates that online aggression is more prevalent when individuals are anonymous compared to situations where they are identifiable (Graf et al., 2022). The dissociation from one's offline identity and the reduced risk of identification or accountability creates an environment conducive to aggressive behavior. It should be noted that some social media platforms such as Facebook have implemented measures to reduce aggressive behaviour by requiring users to register under their own identities, theoretically increasing the sense of accountability when posting aggressive messages.

In the digital realm, individuals perceive greater disinhibition compared to face-to-face interactions. This perception of disinhibition stems from the belief that online interactions are less constrained by social norms and consequences (Macaulay et al., 2022). The absence of immediate social cues, such as facial expressions and body language, diminishes empathy and self-regulation (Tokunaga, 2010). The perceived disinhibition in the digital realm leads individuals to behave differently from how they would in offline situations. The absence of non-verbal cues and the spatial distance in the online environment blur boundaries and amplify aggression. Individuals feel more liberated to express anger, hostility, or aggression in online communications, perceiving minimal real-world consequences for their actions. This sense of "disconnection" from reality and its consequences plays a pivotal role in facilitating aggressive communication online.

Deindividuation constitutes another crucial determinant of aggressive behaviour in the online environment. It refers to a state in which individuals experience reduced personal identity and accountability when part of a larger group or crowd. In the online context, factors such as anonymity, diminished self-awareness, and a sense of merging with the collective identity of the online community contribute to deindividuation (Perfumi et al., 2019). Consequently, individuals may engage in more aggressive acts, believing their actions are justified or endorsed by the collective identity of the online community. Conformity to these norms arises from a desire for social acceptance, fitting in, or maintaining a sense of belonging. In certain cases, these norms may encourage and reinforce aggression, further escalating the level of aggression within the online environment.

The influence of norms and culture within online communities constitutes a crucial factor in shaping the prevalence and acceptance of aggressive behavior. Online platforms often give rise to distinct subcultures, each with its own norms, values, and shared beliefs. These norms can either discourage or promote aggression, depending on the specific online community and its cultural context. In some online communities, aggression may be tolerated, celebrated, or even rewarded. Such communities develop a normative culture that normalizes and encourages aggression as a means of gaining status or asserting dominance (Gruchel et al., 2022). Individuals within these communities feel validated and supported in their aggressive actions. Conversely, online communities that actively promote prosocial norms and positive

interactions serve as protective factors against aggression (Geržičáková et al., 2023). These communities foster a culture of respect, empathy, and inclusivity, where aggression is discouraged, and constructive dialogue is encouraged. In such environments, individuals are more likely to adopt prosocial behaviors and engage in healthy online interactions.

When examining online aggression, the influence of culture should also be considered. Cultural factors, such as collectivism versus individualism, tolerance for conflict, and attitudes towards authority, shape the prevalence and acceptance of aggressive behavior in online communities (Li and Bernoff, 2011). Understanding the influence of norms and culture within online communities is essential for developing effective interventions that address online aggression. By promoting positive norms, encouraging digital citizenship, and fostering a culture of respect and empathy, online platforms can create environments that discourage aggression and cultivate healthier online interactions.

4 IMPACT OF AGGRESSIVE BEHAVIOUR ON GROUNDSWELL COMMUNICATION

Aggressive behavior within the online environment has a harmful impact on the quality of constructive dialogue in groundswell communication. Constructive dialogue encompasses the exchange of diverse perspectives, ideas, and opinions in a respectful and open manner. Online aggression, manifesting as personal attacks, insults, hate speech, or inappropriate language, engenders a hostile atmosphere that dissuades individuals from engaging in such dialogues. The fear of becoming targets of verbal abuse restrains individuals, hindering their willingness to express their opinions and consequently restricting the range of voices and ideas within groundswell communication. As aggressive behavior becomes pervasive, individuals may develop skepticism regarding the intentions and credibility of others, resulting in a breakdown of trust (Cai et al., 2023). The reduction in trust prevents open and honest communication and further impedes the exchange of ideas and knowledge within the groundswell. This unfortunate trend often perpetuates aggressive communication online, not only discouraging healthy discourse but also creating the perception that the majority of communicators endorse such aggressive opinions.

Aggressive behavior in the online domain also disrupts the flow of information within groundswell communication and contributes to the spread of misinformation. Individuals engaged in aggressive acts may resort to disseminating false or misleading information to promote their own agenda or to provoke others. (Vosoughi et al., 2018). The dissemination of misinformation not only undermines the integrity of groundswell communication but also poses risks to individuals and society as a whole. It can result in misguided decision-making, erode public trust in reliable sources of information, and exacerbate social divisions (Lewandowsky et al., 2017). Consequently, the impact of groundswell communication on societal issues may be compromised when aggressive behavior facilitates the dissemination of misinformation.

4.1 Echo Chambers

Aggressive conduct in the online environment contributes to the phenomenon of polarization and the establishment of echo chambers within groundswell communication. Echo chambers represent virtual spaces where individuals are surrounded by like-minded peers who validate and fortify their existing beliefs and perspectives, while discrediting or attacking opposite viewpoints (Sunstein, 2017). Aggressive behavior amplifies this polarization and reinforces the echo chambers present in online communities. When aggression becomes pervasive, individuals are inclined to associate themselves with others who share similar aggressive tendencies and ideological convictions (Abdill and Blekhman, 2019). This selective exposure to like-minded individuals bolsters preexisting opinions, reinforces cognitive biases, and

curtails exposure to diverse perspectives. Consequently, groundswell communication becomes fragmented, with limited opportunities for meaningful engagement between disparate ideological or perspective-based groups.

The emergence of echo chambers perpetuates a cycle of self-perpetuating aggression and hostility, as individuals in these chambers mutually reinforce the aggressive behaviour of others and reject alternative points of view (Del Vicario et al., 2016). This not only impedes the potential for constructive dialogue but also intensifies polarization and societal divisions. Consequently, the impact of groundswell communication in fostering comprehension and promoting collective action may be undermined by the reinforcing influences of aggressive behavior within echo chambers.

4.2 Psychological Impact of Aggressive Behaviour on Groundswell Communication

Aggressive conduct within the online realm exerts a notable psychological influence on bystanders and passive participants in the context of groundswell communication. The observation or exposure to aggressive acts can elicit adverse emotional responses, heighten stress levels, and engender a hostile digital environment (Tomasseli and Tomasseli, 2022). Bystanders may undergo feelings of fear, anxiety, or distress, which can impede their active involvement in groundswell communication. Similarly, passive participants, individuals who observe but refrain from actively participating in aggressive exchanges, can be affected by the antagonistic atmosphere. They may feel disinclined to join the conversation or express their viewpoints due to the apprehension of becoming targets of aggression themselves (Slonje & Smith, 2008). This passive engagement or withdrawal from discourse diminishes the diversity of perspectives and undermines the potential for an inclusive and comprehensive groundswell communication. Furthermore, the psychological ramifications of aggressive behavior extend beyond the immediate online setting. Research indicates that exposure to online aggression and hostility can yield long-term consequences, such as heightened stress, diminished psychological well-being, and a negative perception of online interactions (Kowalski et al., 2014). These adverse psychological effects impede active engagement in groundswell communication and contribute to a less dynamic and all-encompassing digital environment.

A multitude of scholarly investigations has been undertaken to explore the prevalence and ramifications of online aggression within the domain of groundswell communication, yielding insightful observations regarding the dynamics of this phenomenon. In this part of our paper, we provide an overview of selected studies that have furnished noteworthy findings in recent years. A notable inquiry conducted by the Pew Research Center (2017) employed a survey methodology among adults in the United States and showed that 41 % of respondents had personally encountered instances of online harassment and 66 % saw such actions being directed at others. The investigation particularly illuminated that women faced an elevated risk of experiencing severe forms of harassment, including sexual harassment and stalking. These outcomes underscore the pervasiveness and grave implications of online aggression within the context of groundswell communication. The study's focus on gender disparities further accentuates the significance of fostering secure and inclusive spaces for all participants in groundswell communication. Moreover, it should be acknowledged that since the study was conducted in 2017, the results could be even more disconcerting at present, given the global events that have transpired subsequently, primarily the COVID-19 pandemic and the war in Ukraine.

In summary, aggressive behavior within the online milieu significantly impacts groundswell communication by eroding constructive dialogue, disrupting information flow, fostering the formation of echo chambers, and compromising the psychological well-being of bystanders and passive participants. Acknowledging and addressing the ramifications of aggressive

behavior is imperative for cultivating a robust and efficacious groundswell communication environment.

5 STRATEGIES FOR ADDRESSING ONLINE AGGRESSION AND PROMOTING RESPONSIBLE COMMUNICATION

Given the pervasiveness of online aggression within the groundswell communication milieu, the imperative arises to devise and execute efficacious strategies that can effectively tackle this issue. This section shows possible strategies that can help to cope with online aggression and foster accountable communication.

5.1 Community Guidelines and Moderation Systems

Establishing clear guidelines and implementing robust moderation systems are essential measures for creating a secure and respectful online space. Moderation systems play an essential role in ensuring the maintenance of community guidelines by monitoring user behaviour, identifying incidents of aggression and taking appropriate measures. Effective moderation systems entail the connection of automated tools and human moderators, thereby ensuring a comprehensive and timely response to occurrences of online aggression. Platforms should invest in the training and support of moderators, enabling them to make judicious decisions that strike a balance between the preservation of freedom of expression and the safeguarding of users against harm (West, 2021). Community guidelines furnish users with a framework delineating anticipated conduct and the corresponding repercussions for violations. These guidelines can explicitly proscribe aggressive behaviour, hate speech, and harassment, thereby setting the tone for respectful interactions within the realm of groundswell communication.

5.2 Digital Literacy Programs and Education Initiatives

Collaborative efforts among educational institutions, community organizations, and online platforms are crucial for the development and implementation of digital literacy programs that effectively address the unique challenges inherent in groundswell communication. These initiatives should prioritize the enhancement of users' comprehension of online norms, the cultivation of media literacy, and the promotion of empathy toward diverse perspectives. By endowing individuals with the necessary tools to navigate the online landscape in a responsible manner, digital literacy programs have the potential to contribute to the reduction of instances of online aggression (Livingstone, 2020). Digital literacy programs and educational endeavors assume a pivotal role in equipping users with the requisite skills and knowledge to responsibly navigate the online realm. These programs are designed to educate users about the potential ramifications of online aggression, foster critical thinking abilities, and provide strategies for engaging in respectful and constructive discourse.

5.3 Collaborative Efforts Between Platform Providers, Users, and Policymakers

Effectively addressing online aggression necessitates a collaborative endeavor involving platform providers, users, and policymakers. Platform providers should adopt a proactive stance by continuously evaluating and enhancing their policies, moderation systems, and reporting mechanisms. Transparent communication with users, soliciting feedback, and involving them in decision-making processes pertaining to platform guidelines are essential (Citron, 2016). Policymakers assume a critical role in establishing legal frameworks that govern online conduct and safeguard users from online aggression. Close collaboration with platform providers, experts, and civil society organizations is imperative for the development of comprehensive legislation that effectively tackles online aggression. This entails defining

legal responsibilities, establishing reporting mechanisms, and implementing measures to hold aggressors accountable (Gillespie, 2018).

Users themselves wield significant influence in shaping online culture. Actively reporting instances of online aggression, promoting positive interactions, and advocating for a respectful and inclusive online environment are pivotal roles for users to undertake. Constructive engagement with platform providers and policymakers enables users to provide valuable insights and perspectives, thereby guiding the development of effective strategies.

The comprehensive resolution of online aggression within groundswell communication demands a multifaceted approach encompassing community guidelines, moderation systems, digital literacy programs, and collaborative efforts involving platform providers, users, and policymakers. By implementing these strategies, it is possible to cultivate a responsible and inclusive online culture that fosters constructive dialogue and alleviates the adverse impact of online aggression.

6 FUTURE DIRECTIONS AND CONCLUSION

Despite notable advancements in comprehending and tackling online aggression within the realm of groundswell communication, there remain several areas that necessitate further investigation and exploration. In further research, we find it necessary to focus on the topics of:

- Long-term ramifications: There is a lack of longitudinal studies that assess the enduring repercussions of online aggression on individuals' mental well-being, social bonds, and overall quality of life. A comprehensive understanding of the persistent effects can inform the development of interventions and support systems. Given the unpredictable and protracted outcomes of groundswell communication, especially in terms of aggressive behavior, it is imperative to explore the long-term consequences in both online and offline domains.
- Algorithmic influence: It is essential to study the role of algorithms and recommendation systems in perpetuating or reducing online aggression. An examination of how content visibility and personalized suggestions contribute to the proliferation of aggressive behavior can provide insights for platform design and moderation strategies. The impact of algorithms on information promotion and exposure to potentially provocative content warrants further investigation. For instance, it is relevant to explore whether individuals engaging in aggressive behavior are presented with more similar posts that further encourage their aggressive tendencies or whether those who have engaged in disputes with aggressors are exposed to similar content.

- Understanding and addressing online aggression is pivotal for fostering constructive groundswell communication. As the digital landscape continues to evolve, establishing a secure and inclusive online environment that facilitates meaningful dialogue, collaboration, and the exchange of diverse perspectives is essential. By identifying the determinants of online aggression and its ramifications on groundswell communication, we can devise effective strategies and interventions to mitigate its detrimental effects. Promoting responsible online conduct, enhancing digital literacy, cultivating empathy, and fostering respect are crucial steps toward nurturing a culture of healthy online interactions. Furthermore, collaborative efforts among platform providers, users, and policymakers are indispensable for formulating well-defined guidelines, implementing efficacious moderation systems, and enforcing regulations that discourage and address online aggression.

- In conclusion, through proactive measures to tackle online aggression, we can foster an environment that cultivates positive groundswell communication, nurtures meaningful connections, and harnesses the collective potential of online communities. It is through our collective endeavors and ongoing research that we can continue to advance in our comprehension and mitigation of online aggression, ensuring a safer and more inclusive digital future.

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BEYOND POINTS AND DISCOUNTS: THE ANALYSIS OF TIERED LOYALTY PROGRAMS

Andrii Kushnarevych

Abstract

The field of loyalty programs has been on the rise in recent years, which led to its diversification and the struggle of brands to somehow differentiate on the market. One of the trends that has established itself is tiered loyalty programs. The progressive nature of tiered programs appeals to customers, who find gratification and a sense of achievement in ascending through various tiers. In our article, we aim to describe what tiered loyalty programs are, including information about the basic models they are based on and the principle and rewards they are operating on. We find it necessary to describe those programs from the customer's perspective and try to evaluate their effectiveness. We also aim to describe a real example of a functioning tiered loyalty program in our article, as well as recommendations for brands who want to start using one in their business.

Keywords: *loyalty programs, tiered loyalty programs, customer loyalty, Lancome my rewards*.

1 INTRODUCTION

Loyalty programs hold a pivotal position within the contemporary business landscape as they make noteworthy contributions to customer retention and the establishment of enduring customer relationships. A study conducted by Merkle company indicates that loyal customers exhibit tendencies to engage in greater spending, make frequent purchases, and are more inclined to advocate for a brand to others (Cripps, 2017). Moreover, maintaining existing customers is often more economically advantageous than acquiring new ones, underscoring the significance of loyalty programs as a crucial instrument for ensuring sustainable business growth (Reinartz and Kumar, 2002). Although traditional loyalty programs typically adopt a standardized approach by offering uniform rewards or discounts to all customers, businesses are increasingly embracing a more sophisticated strategy referred to as tiered loyalty programs. In a tiered loyalty program, customers are segmented into several tiers or levels based on their level of engagement, expenditure patterns or other events. Each tier confers distinct benefits, with higher tiers usually affording more exclusive and valuable rewards.

Tiered loyalty programs transcend the simplicity of basic point systems or discounts by instilling a sense of accomplishment and progression within customers. By providing a hierarchical structure of rewards, businesses can motivate customers to actively participate in the program and strive for higher tiers. This approach capitalizes on customers' inherent aspiration for elevated status and acknowledgment, thereby fostering a heightened emotional connection between the customer and the brand. The primary objective of this article is to undertake an analysis of the fundaments of tiered loyalty programs as a strategic approach to fortify customer retention. Through an examination of various constituents of tiered loyalty programs, such as tier progression, personalized rewards, and exclusivity, our aim is to provide valuable insights into how businesses can optimize their loyalty programs to drive customer engagement and cultivate long-term loyalty. Furthermore, this article will include real-world example of successful tiered loyalty program, thereby illustrating best practices and extracting key lessons.

2 THEORETICAL FRAMEWORK AND MODELS

In the design of loyalty programs, businesses frequently draw upon theoretical frameworks from the domains of marketing and consumer behaviour to comprehend and influence customer loyalty. One notable theory is the Expectancy-Value Model, which posits that consumers evaluate the anticipated benefits they expect to receive from a loyalty program in relation to the perceived effort required to attain those benefits (Gustafsson et al., 2005). This model underscores the significance of perceived value and its impact on customer loyalty. Another influential framework is the Social Exchange Theory, which accentuates the reciprocal relationship between customers and businesses. According to this theory, customers engage in loyalty programs based on the benefits they perceive they will receive and their expectations of favorable treatment in return (Blau, 1986). The Social Exchange Theory highlights the necessity for businesses to provide rewards and incentives that are perceived as valuable by customers to sustain their loyalty.

Tiered loyalty programs are well-aligned with these theoretical frameworks as they address customer expectations and provide differentiated benefits based on their level of engagement. The Expectancy-Value Model suggests that customers assess the expected benefits of a loyalty program, and tiered programs provide the opportunity to enhance those benefits as customers ascend to higher tiers. As customers progress through the tiers, they anticipate greater rewards and exclusive privileges, thereby bolstering their motivation to engage further with the brand. Likewise, the Social Exchange Theory is manifested in tiered loyalty programs through the principle of reciprocity. As customers demonstrate their loyalty by attaining higher tiers, they expect to receive additional rewards and recognition in return. This reciprocal relationship reinforces customer engagement and nurtures a sense of loyalty and commitment to the brand.

Tiered loyalty program models offer various strengths that contribute to their efficacy. Firstly, tiered programs cultivate a sense of exclusivity and status among customers, catering to their desire for recognition and achievement. This, in turn, can lead to heightened brand loyalty and customer advocacy (Homburg et al., 2009). Additionally, tiered programs enable businesses to segment their customer base, enabling personalized rewards and targeted marketing endeavors. Nevertheless, tiered loyalty programs are not without limitations. One challenge lies in maintaining transparency and fairness in the criteria for tier progression, as customers may perceive the program as arbitrary or inequitable if the requirements are unclear to attain. This concern also applies to instances of "unfair" tiered loyalty programs where users receive minimal benefits until a certain tier is reached. Furthermore, there is a risk of engendering a "glass ceiling" effect, whereby customers who are unable to advance to higher tiers may experience discouragement or neglect (Lemon and Verhoef, 2016). Careful attention must be paid to striking a balance between the benefits and requirements across tiers to ensure a positive customer experience. Only when such a program is designed equitably for all users, regardless of their tier, can the program reach its fullest potential.

3 ENHANCED BENEFITS AND EXPERIENCES OF TIERED LOYALTY PROGRAMS

Conventional loyalty programs commonly rely on point systems and discounts as primary incentives; however, tiered loyalty programs aim to broaden the spectrum of benefits bestowed upon customers. These expanded benefits seek to establish a more captivating and gratifying encounter, surpassing mere monetary rewards. A prevalent alternative incentive found in tiered programs is the provision of exclusive products or services. By exclusively offering limited editions or distinctive offerings to higher-tier customers, businesses cultivate a sense of exclusivity and incentivize customers to strive for elevated tiers (Hu et al., 2022). Non-monetary rewards assume a significant role in cultivating customer loyalty within tiered

loyalty programs. By providing unique experiences that transcend conventional rewards, businesses instill a sense of anticipation and emotional attachment, fortifying the connection between customers and the brand. These rewards manifest in diverse forms, including access to exclusive events, early product releases, or access to new categories ahead of time.

The incorporation of enriched benefits and experiences in tiered loyalty programs profoundly impacts customer loyalty and engagement. Through the provision of exclusive products, services, and experiences, businesses establish a perception of scarcity and distinctiveness that engage customers to actively participate in the program and strive for higher tiers. This heightened engagement engenders augmented customer loyalty and a greater likelihood of repeat purchases and positive word-of-mouth recommendations (Zeng et al., 2022). Furthermore, the personalization of rewards and services reinforces the emotional bond between customers and the brand. When customers perceive that their needs and preferences are comprehended and catered to, a sense of loyalty and attachment develops. Consequently, this cause heightened levels of customer satisfaction, loyalty, and advocacy (Gaetjens et al., 2023). Nonetheless, it is imperative to achieve a delicate balance when offering enhanced benefits. Businesses must diligently manage the cost implications associated with providing exclusive experiences and personalized services to higher-tier customers to ensure the program's sustainability. Additionally, it is crucial to avert the creation of an exclusivity perception that isolates lower-tier customers, as inclusivity and fairness constitute pivotal elements of prosperous loyalty programs (Drèze and Nunes, 2009). As we already mentioned, if the program only offers valuable awards for a tier that has a high ceiling to achieve, many customers may perceive tiered loyalty program as obsolete or profitable only for the brand.

4 CUSTOMER PERSPECTIVES ON TIERED LOYALTY PROGRAMS

Gaining an understanding of customer perspectives is imperative for assessing the efficacy of tiered loyalty programs. Empirical investigations have yielded valuable insights into how customers perceive and respond to such programs. For instance, several studies has indicated that customers hold a positive view of tiered programs, perceiving them as a means to attain superior benefits and recognition (Nishio and Hoshino, 2022). Similarly, the study conducted by Liao, Pang and Dong (2023) has demonstrated that customers perceive tiered programs as equitable and appreciate the sense of advancement and accomplishment associated with ascending the tiers. Tiered loyalty programs exert a substantial influence on customer behaviour and decision-making processes. The prospect of accessing rewards and benefits offered at higher tiers serves as a potent motivator for customers to engage with the program and engage in repeat purchases (Yoo and Singh, 2016). Customers are motivated by the aspiration to attain elevated status and enjoy the exclusive advantages tied to the advanced tiers. Consequently, they tend to exhibit heightened levels of loyalty, spending, and engagement with the brand.

Tiered loyalty programs leverage various psychological and emotional factors that impact customer behavior. One such factor is the psychological principle of gamification, where customers derive motivation from a sense of achievement and progression as they ascend through the tiers (Huotari and Hamari, 2017). This gamified experience engenders a feeling of excitement and engagement, evoking positive emotions and reinforcing loyalty. Furthermore, tiered loyalty programs address customers' need for social identity and a sense of belonging. Elevated-tier status endows customers with a perception of exclusivity and membership in an esteemed group (Dwivedi et al., 2019). This facet of social identity fosters an emotional attachment to the brand and encourages customers to maintain their loyalty, driven by the desire to preserve their status and the associated benefits. Additionally, the provision of personalized rewards and experiences within tiered loyalty programs caters to customers' yearning for individuality and acknowledgment (Verhoef et al., 2015). By tailoring offerings

based on customer preferences and behaviors, businesses fortify the emotional bond between the customer and the brand, resulting in heightened levels of loyalty and satisfaction.

5 EFFECTIVENESS OF TIERED LOYALTY PROGRAMS

Tiered loyalty programs have exhibited their efficacy in stimulating customer retention and increasing profitability for enterprises. Scholarly investigations consistently reveal that participants in tiered programs display higher levels of loyalty and engagement compared to non-participants (Lin and Bowman, 2022). The tiered structure serves as an incentive for customers to augment their expenditures and involvement with the brand in order to ascend to higher tiers and unlock augmented benefits. This heightened customer activity results in amplified rates of customer retention, as well as elevated average transaction values and lifetime customer value (Fornell et al., 2016). Tiered loyalty programs contribute to enhanced profitability by fostering a perception of exclusivity and distinctiveness. Customers occupying higher tiers commonly manifest heightened levels of brand advocacy and word-of-mouth referrals, thereby enticing new customers and propelling revenue growth (Fook and Dastane, 2021). The augmented benefits and personalized experiences bestowed upon higher-tier customers also create opportunities for upselling and cross-selling, further bolstering profitability.

Evaluating return on investment (ROI) and cost-benefit considerations assumes paramount importance during the implementation of tiered loyalty programs. Although tiered programs necessitate additional resources and investment in comparison to traditional single-tier programs, they can yield substantial returns when executed with finesse. One pivotal consideration is the potential escalation in customer spending and revenue generated as customers strive to attain higher tiers (Kim and Ahn, 2017). The incremental revenue arising from these engaged and loyal customers can outweigh the costs associated with program implementation. Furthermore, tiered programs confer the advantage of customer segmentation and targeting, enabling enterprises to allocate resources with greater efficiency. By tailoring benefits and rewards based on customer tiers, enterprises can optimize resource allocation and ensure a judicious balance between the costs associated with providing augmented benefits and the potential revenue generated (Hidalgo, 2023). This targeted approach serves to heighten the cost-effectiveness and efficiency of the loyalty program. Also, on a psychological level user that gets more valuable rewards is more likely to bond with the brand and repeat purchase in the future.

Comparative analysis of tiered loyalty programs and traditional single-tier programs reveals the superior performance of the former in terms of customer engagement and profitability. The tiered structure engenders a sense of accomplishment and advancement among customers, impelling them to actively participate and strive for higher tiers. Conversely, single-tier programs may lack the incentive for customers to consistently engage and escalate their loyalty. Additionally, the personalized benefits and experiences tendered in tiered programs foster a perception of exclusivity and distinctiveness, qualities often lacking in single-tier programs. This exclusivity engenders higher levels of customer satisfaction, augmented emotional attachment to the brand, and fortified loyalty. Nevertheless, it is noteworthy that the performance of loyalty programs can vary depending on the specific industry, customer base, and program design. Different enterprises may encounter varying degrees of success with tiered programs, and the suitability of adopting a tiered approach ought to be assessed in consonance with the specific context and objectives of the enterprise. It is also possible, that for certain fields are not suitable for tiered loyalty programs. This may apply, for example, when the brand sells only few products or their variations, or some unique, one-of-a-kind goods.

6 MY LANCÔME REWARDS – AN EXAMPLE OF A TIERED LOYALTY PROGRAM

The majority of tiered loyalty programs employ a scaling mechanism based on customer expenditure or product quantity purchased within a specified time frame. To further support the information presented in earlier sections of this paper, we will examine an operational example of a tiered loyalty program: "MY LANCÔME REWARDS" implemented by LANCÔME in Australia, a renowned French perfumery. This program features three tiers: Rose, Gold, and Platinum. It is worth noting that the naming of these tiers adheres to the brand's stylistic conventions and serves to reinforce the premium perception it seeks to evoke. Figure 1 displays the tier division as presented on the brand's official website.

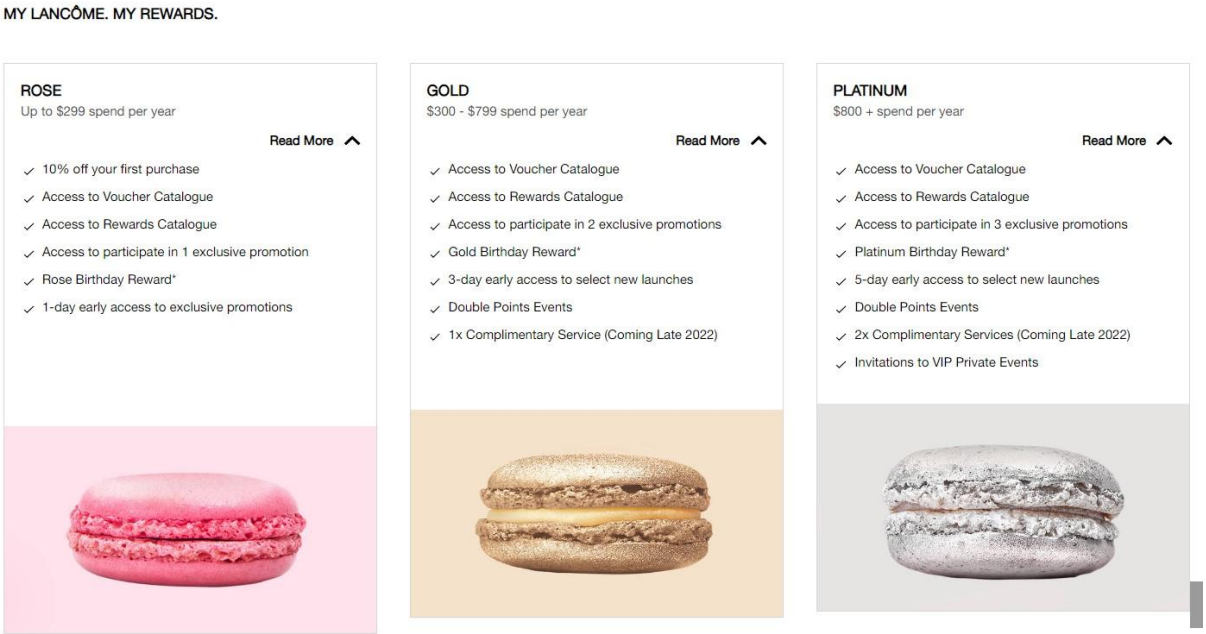

Figure 1 “MY LANCÔME REWARDS” tier levels
Source: *WELCOME TO MY LANCÔME REWARDS!* [online]. [2023-06-12]. Available at: <https://www.lancome.com.au/on/demandware.store/Sites-lancome-au-ng-Site/en_AU/Loyalty-Overview>.

The division onto levels is simple:

- The "Rose" tier of the Lancôme loyalty program is accessible to all users upon registration and remains valid as long as the customer spends less than 299 Australian dollars (approximately 204 US dollars) annually. This entry-level tier provides access to several features, including voucher and discount catalogues, a discount on the first purchase, access to one exclusive promotion, a "rose" birthday award, and 1-day early access to exclusive promotions.
- Upon reaching an annual expenditure of 300 Australian dollars, customers are automatically elevated to the "Gold" tier. In addition to retaining all the previous benefits, the "Gold" level offers access to one additional exclusive promotion, a birthday reward of the "gold" level, 3-day early access to select new launches, double points events, and one complimentary service.
- The final tier, "Platinum," requires a minimum annual spending of 800 Australian dollars (approximately 544 US dollars). Alongside the benefits provided in the previous tiers, "Platinum" members gain participation in another exclusive promotion, a "platinum" birthday reward, 5-day early access to select new launches, two complimentary services, and invitations to VIP Private Events (Lancôme, 2022).

The tier division exemplified by Lancôme demonstrates a balanced approach, ensuring that even the basic "Rose" level offers users access to a majority of the benefits, but with some limitations in terms of duration or frequency. The higher tiers introduce new and exclusive benefits without making the basic tier obsolete. In the "Gold" tier, the only entirely new benefits are the double points events and the complimentary service, whereas the other offerings provide extended durations or greater quantities of available promotions. Although these additional benefits are undoubtedly enticing, individuals who do not actively pursue higher tier levels can still access the majority of benefits by paying attention to the limitations imposed. The highest tier, "Platinum," grants exclusive invitations to VIP Private Events. In the realm of tiered loyalty programs, it is reasonable to provide significant advantages that serve as motivators for users to aspire to the highest tier. In Lancôme's case, if a customer spends over 800 Australian dollars per year on a single brand, the individual is likely deeply interested in or loyal to the brand. Consequently, there is a greater likelihood that they would also express interest in the brand's VIP Private Events.

Another noteworthy aspect is the points system employed in the program. Two out of the three tiers offer double points events, as previously mentioned. The basic accumulation of points for all registered users operates on a simple principle: for every dollar spent, one point is earned. These points can later be redeemed for vouchers at a rate of 20 dollars for 400 points, 30 dollars for 600 points, and 40 dollars for 800 points (Lancôme, 2022). However, Lancôme also provides a rewards catalogue, enabling users to exchange their points for specific products or discounts. This approach grants customers the flexibility to obtain rewards with smaller point amounts rather than having to accumulate at least 400 points. An interesting aspect of the program is the various methods through which customers can acquire points. While a welcome bonus of 50 points is a common practice, Lancôme also periodically offers points for other activities, such as subscribing to the brand's social media pages, sharing products on one's profile or completing questionnaires. For example, the brand recognizes that certain customers may only join the loyalty program to benefit from welcome rewards. Instead of disregarding such individuals, Lancôme strives to engage them by requesting their participation in questionnaires, which can earn them a certain number of points, as depicted in Figure 2 (Nemeth, 2019). This approach not only provides an opportunity for the brand to entice the customer to make another purchase, even at a discounted rate, but also yields valuable insights through the questionnaire responses. Since these questionnaires are completed by existing users, the brand already possesses some information about the individual, enabling them to establish connections based on specific answers, thus allowing for personalization and segmentation.

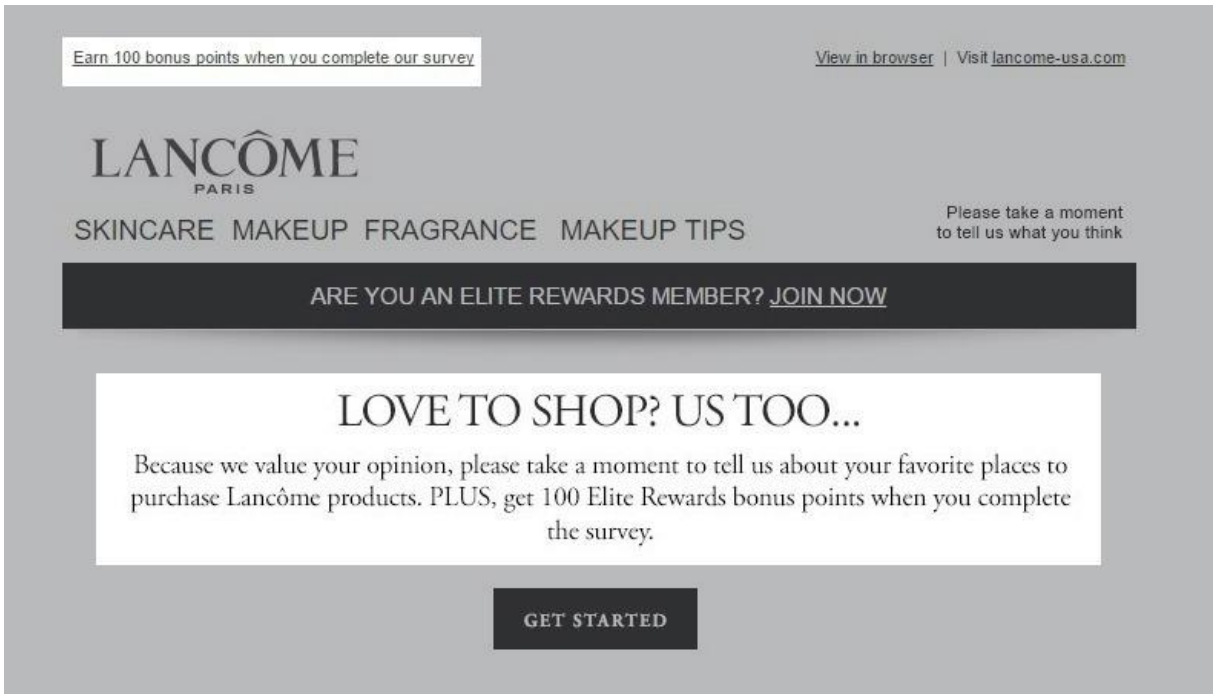

Figure 2 Lancôme e-mail communication
Source: NEMETH, K. *Lancôme Loyalty Program: Preventing Customers From Getting Bored*. [online]. [2023-06-12]. Available at: <https://antavo.com/blog/lancome-loyalty-program/>.

In conclusion, Lancôme adeptly integrates conventional and contemporary strategies within its loyalty program. While points retain their significance, the inclusion of VIP Private Events exclusively for the highest tier participants exemplifies a fusion of traditional and modern elements. This approach ensures program relevance and alignment with the brand's distinctive tone, thereby distinguishing it from competitors.

6 BEST PRACTICES AND RECOMMENDATIONS

Developing and executing tiered loyalty programs necessitates meticulous planning and strategic deliberation. Based on the information obtained in previous parts of our paper, we want to provide a list of recommendations brands may use while implementing tiered loyalty program.

- **Establishing well-defined tiers and benefits**: Clearly defined tiers and associated benefits create a sense of progression and motivation among customers. These benefits should be desirable, pertinent, and aligned with customer preferences. The basic tier should not be useless, but rather a simplified version of the more expensive ones.
- **Communicating tier prerequisites**: It is important to transparently communicate the requirements and criteria for advancing through the tiers, ensuring that customers comprehend the path to accessing enhanced benefits. Such transparency fosters trust and encourages customer engagement. If the program is not transparent, the customer may lose interest in the program or even in the brand, since the clear goal is not being set.
- **Personalizing rewards and experiences**: Customizing offerings enhance the perceived value and fortifies the emotional connection between customers and the brand.
- **Incorporating gamification elements**: Tiered loyalty programs may seem like a gamified element itself, however, this experience can be enhanced, for example by infusing the program with gamification features to heighten customer engagement and

enjoyment. Implementation of progress indicators, badges, and challenges imbues a sense of achievement and provides incentives for sustained participation.

7 CONCLUSION

In conclusion, the examination of tiered loyalty programs elucidates several significant findings and insights. Firstly, we may say that tiered loyalty programs exhibit a potent strategic approach for bolstering customer retention and augmenting profitability. The tiered structure motivates customers to engage more actively with the brand, engendering heightened loyalty, increased expenditure, and enhanced customer satisfaction. Beyond the conventional elements of points and discounts, tiered programs proffer enriched benefits and experiences that transcend monetary rewards. Non-monetary incentives, exclusive experiences, and personalized services contribute to elevated customer loyalty and engagement. These facets tap into customers` psychological and emotional dimensions, fostering a sense of accomplishment, social identity, and individuality.

Secondly, customers harbor positive perceptions of tiered loyalty programs and value the sense of progression and recognition associated with ascending through the tiers. The gamified nature of tiered programs generates enthusiasm and impels customers to actively partake. Tiered loyalty programs outperform traditional single-tier programs, manifesting superior efficacy. The tiered structure confers exclusivity, differentiation, and a well-defined trajectory for customers to unlock higher-tier benefits, resulting in heightened levels of customer engagement, satisfaction, and profitability.

Although many research has been conducted on tiered loyalty programs, we acknowledge the limitations of our paper and want to mention several avenues for further research:

- **Cross-industry comparisons**: Undertaking comparative investigations across diverse sectors to identify industry-specific factors that impact the success of tiered loyalty programs may help understand how distinctive industry characteristics shape program design, customer perceptions, and outcomes.
- **Long-term loyalty and program fatigue**: By examining potential issues of program fatigue, wherein customers may exhibit disengagement or diminished motivation to sustain participation in tiered programs over time we may get valuable insights on the structure and long-term strategy tiered loyalty program should have.
- **Sustainability and social responsibility**: Investigating the integration of sustainability and social responsibility within tiered loyalty programs can evaluate the impact of environmentally conscious initiatives, ethical practices, and corporate social responsibility on customer loyalty and program efficacy. This topic should also be thoroughly researched in connection with groundswell communication.

To conclude, tiered loyalty programs offer a strategic approach that transcends conventional points and discounts, furnishing customers with enhanced benefits and experiences. Given their potential to propel customer retention, boost profitability, and tap into psychological and emotional dimensions, tiered programs have emerged as a valuable instrument for businesses. As the field of loyalty programs continues to evolve, further research and innovation will contribute to the ongoing refinement and optimization of tiered loyalty programs, ultimately benefiting both, businesses and customers.

Acknowledgements

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COMPARISON OF CSR OF TWO CHOSEN COMPANIES AS PART OF THEIR CORPORATE IDENTITY IN THE INTERNATIONAL ENVIRONMENT

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Abstract

Activities falling into the category of corporate social responsibility (CSR) are one of the many indicators of corporate identity, specifically corporate image and corporate culture. The aim of the paper was to analyse such activities of two American companies IBM and Dell on the Slovak market. The survey used the method of interviews with representatives of both companies in Slovakia and an analysis of the websites of Slovak subsidiaries. By comparing these activities in American parent companies with their Slovak subsidiaries, it was found that CSR activities in Slovakia are still not given as much attention compared to Germany, the UK or the USA. This has a negative effect on building a positive corporate image, whether these companies are market leaders or have several strong competitors.

Keywords: *Corporate identity, corporate culture, corporate communication, corporate image, corporate social responsibility (CSR), transnational corporation (TNC)*

1 INTRODUCTION

Over the last ten years, the business environment has been affected not only by the economic crisis of 2007, but has also been characterized by a constant change, a long process of globalization, turbulent fluctuations in stock markets, or alternating positive and negative economic developments. Since Corporate Identity (CI) is a strategic tool for companies to build them, it must represent specific characteristics, capabilities, strengths and personality of the company. The environment influences, shapes and causes changes in the strategies of all market players.

The phenomenon of social and corporate responsibility of companies began to appear on the Slovak market together with the arrival of foreign companies, and in the ethical codes of transnational corporations (hereinafter only TNCs) operating in Slovakia, it is often mentioned under its original English name – i.e. Corporate Social Responsibility (CSR). It is defined very broadly and diversely, and within CI it also falls under corporate image (CIm), or under corporate culture (CC). The Slovak term is not rigidly established, and it is therefore possible to meet several other equivalents in various professional texts, such as and socially responsible business.

The main reason for the emergence of the idea of socially responsible business was the question of how to do business well, or so that the widest possible range of people benefit from the results process. The aim of the research was to analyse the activities of social and corporate responsibility (CSR) in two American TNCs – IBM and Dell. The research used interview methods with representatives of both companies in Slovakia, as well as analysis of websites and annual reports of both Slovak subsidiaries. We were more interested in the websites because we wanted to find out if companies consciously use CSR activities to build their CIm and CI.

2 THEORETICAL BASES AND IMPORTANCE OF BUILDING CORPORATE IDENTITY (CI) FOR THE SUCCESSFUL POSITIONING OF THE COMPANY ON THE MARKET

The aim of this chapter is to identify and characterize the current development of the global business environment, summarize the theoretical knowledge of the concept of corporate

identity – English Corporate Identity (CI) as a strategic tool used by companies in the market and point out the importance of this concept and its place in strategic management. Another goal of this chapter is to identify the individual dimensions of CI, the so-called CI mix (Corporate Culture – CC, Corporate Communication – CCom, Corporate Network – CN, Corporate Design – CD and Corporate Image – CIm). The term CI (as well as all its elements) is used in the Slovak scientific literature mostly in English, and its literal translation, which would be corporate identity, corporate identity or corporate identity, has not yet been unified. The article uses the term CI in English – in its abbreviated form CI, as well as terms related to the individual elements of CI - CC, CCom, CN, CD and CIm.

CI includes all tangible objects and manifestations of the company's behaviour, with which the company presents itself externally. According to Zorkóciová, CI is a manifestation of the company's personality, which is reflected not only in CC but also in CIm. However, theoretically defining the term CI is very complicated, because the professional public is not uniform in specifying this phenomenon. This is mainly due to the fact that CI is a multidimensional and interdisciplinary phenomenon and is subject to change not only in space but also in time. According to CI, the company can be clearly identified and clearly distinguished from other competitors in the market. CI should include not only the history, philosophy and vision of the company, but also a comprehensive view of its employees and the ethical and moral values that the company professes (Zorkóciová, 2007).

Within CI, Pérez and Rodríguez del Bosque distinguish the following five dominant attributes: identity as a personality of society, identity as an image of society, identity as a visual image, identity as a set of ways of expression by CCom and identity as an integrative concept. CI is also perceived as a set of corporate resources that are characteristic of a given company (Pérez – Rodríguez del Bosque, 1985). Melevar summarizes them in a model that contains 21 internal factors grouped into seven categories (Melevar, 2003).

Melevar and Karaosmanoglu also examined the interrelationships created by CI, and they concluded that CC, based on the company's history, founder, country of origin, subcultures and containing the company's mission, vision and values, influences corporate strategy as well as CB (i.e. behaviour company, management and employees). The corporate strategy follows the corporate structure for the brand structure and organizational structure, which directly influence the manifestations of the CD (slogan, architecture, office layout, website, location). Corporate strategy, CC and CB together create CCom (marketing, management, communication in the company) which together with CD create CI (Karaosmanoglu – Melevar, 2006). The contrast between CI and CC is analysed by Ramanantsoa and Reitter, who pointed out that symbolic products (i.e. the visible part of society) have the function of communicating the so-called "Organizational imaginaire" (i.e. a hidden part of society). These two levels complement each other and allow you to understand the essence of society and its functioning (Ramanantsoa – Reitter, 1985).

3 BASIC CHARACTERISTICS OF AMERICAN COMPANIES IBM AND DELL

IBM (International Business Machines) is an American international technology company headquartered in Armonk, New York, United States. Today, the company operates in more than 170 countries around the world. The corporation developed from CTR (CTR = Computing – Tabulating – Recording) and was renamed IBM only in 1924. IBM manufactures and markets computer hardware, software (and middleware), including hosting and consulting services in a wide range of fields from computers to nanotechnology. The company is also engaged in extensive research, for which it also holds the development record for the highest number of patents in 25 years. Some of the inventions produced by IBM are, for example: ATMs, personal computers, diskettes, hard drives, credit cards,

Relational database, SQL programming language, bar code or DRAM memory. In the 60s and 70s of the last century, IBM mainframes, such as System / 360, were dominant.[1]
IBM has adjusted its activities several times according to changes in the dynamically functioning market, focusing on more profitable areas. These changes were related, for example, to the participation in the production of printers with Lexmark in 1991, the sale of the ThinkPad computer brand and the x86 server to Lenovo, and the purchase of companies such as PwC Consulting (2002), SPSS (2009) and the Weather Company (2016). Along with the above, the company announced in 2014 that it would continue its journey in semiconductor design, but at the same time step back from production for Global Foundries. With the nickname "Big Blue" (from the English "Big Blue"), IBM is one of the 30 companies listed in the Dow Jones Industrial Standard (sometimes also referred to by the abbreviation DJIA) as one of the world's largest companies with almost 380,000 employees. Some of them, under the auspices of the IBM company name, have received awards of world importance such as: 5 Nobel Prizes, 6 Turing Prizes, 10 National Medals in the Technology Field and 5 National Medals in Science. In 2023, IBM ranked 49th in the Forbes 500 ranking, in comparison with the 38th place from 2019.[2]
Dell, Inc. is an American multinational computer company based in Round Rock, Texas, USA, and is virtually IBM's main competitor, not only on the American and Slovak markets, but also on the world market. The company develops, sells and supports computers and related products and services. Named after its founder Michael Dell, the company is one of the largest technology companies in the world with more than 103,300 employees. In 2009, the company sold personal computers, servers, recording media, network switches, software, and computer peripherals, and by 2014 it was already the third largest computer manufacturer after HP and Lenovo. Dell also sells HDTVs, cameras, printers, MP3 players and other electronics made by other manufacturers. The company is known for its innovations in supply chain management and e-commerce. According to Fortune magazine, Dell is the sixth largest company in the state of Texas, USA by total revenue. It is also the second largest non-oil company in Texas after AT&T, and is the largest company in the Austin, Texas area. Dell ranked 31st in the Forbes 500 in 2023, in comparison with the 34th place from 2019. All in all, Dell now ranks 18 places higher than IBM, in comparison with 2019 when it only ranked 4 places higher.[3]

4 CORPORATE SOCIAL RESPONSIBILITY OF THE AMERICAN COMPANIES IBM AND DELL AND ITS INFLUENCE ON THEIR CORPORATE IMAGE

Corporate Social Responsibility (CSR) is usually classified under CIm within CI, or alternatively under CC. It is a relatively new approach that arose in the middle of the last century. The method is based on the fact that the success of the company depends on ethical attitudes between employees and employers. There are several Slovak translations, the most common being the phrase "corporate social responsibility". One of the first definitions of the philosophy of social responsibility reads: "The commitment of entrepreneurs to pursue such strategies, make such decisions or carry out such activities that are desirable from the point of view of the goals and values of our society". The European Union understands this term as follows: „Voluntary efforts by companies that go beyond the normal framework of legal compliance. It is about achieving social and environmental goals within the company's daily activities.”

[1] Official website of IBM company. DOI: https://www.ibm.com/ibm/sk/sk/?lnk=fab_sksk
[2] Fortune Magazine – Global 500 List (2023). DOI: http://fortune.com/fortune500/ibm/
[3] Fortune Magazine – Global 500 List (2023). DOI: http://fortune.com/fortune500/dell/

The basic principles of the concept of social responsibility are given by social ethics. Thus, social ethics postulates three basic principles that guide and coordinate social negotiations. These principles cannot be understood in isolation because they are intrinsically related. They are the principles of solidarity, subsidiarity and general welfare.

The principle of solidarity regulates the relationship between individual members of society, in such a way that each individual is jointly responsible for the welfare of society – we are all in the same boat – one for all, all for one. Group solidarity is important, but it is only one side of the coin, it refers to only one sub-aspect. When respecting it, a person must not think about himself and aim for the well-being of all.

The principle of subsidiarity regulates the relationship of the social whole to the individual or to individual social groups. The principle contains two levels: 1. level of self-help (self-help). This means the right and obligation of an individual person and a smaller community to be independently responsible for their activities. 2nd level - the right and obligation of the larger community (ultimately the state) to provide assistance where self-help is insufficient.

The principle of the common good is based on the premise that the general welfare is the sum of the conditions of social life through which people can more easily achieve their perfection. In doing so, it is important to preserve the rights and obligations of the human person. This principle includes a value dimension (rights and obligations of the individual) as well as an institutional dimension (summary of conditions), by which the welfare state is legitimized, but also limited.

5 CONCLUSION

Corporate identity (CI) is of strategic importance for the company, and therefore it is included in strategic decisions that belong to the decision-making authority of top management. According to the division of society into hierarchical levels, the concept of CI is located at the level of the corporation, therefore this type of work deals with the highest level, and thus the corporate one.

At the same time, the company must monitor external influences and react to them, because real and potential customers react to these signals. A little inattention is all it takes, and the long-term CIm will be destroyed within a few days or hours. The monitoring of all signals and messages from the external as well as the internal environment is especially important in times of economic crisis or during the current Covid-19 pandemic. It can be concluded that threats are becoming stronger than opportunities on the market and the company often faces a decrease in sales or a deterioration in CIm. He must have developed not only strategic but also crisis plans, which he reaches for in cases such as the current situation in the international business environment.

Realizing the importance and role of the concept of corporate identity (CI) in corporate strategy is the key to the success and competitiveness of companies operating in a dynamic international business environment marked by significant turbulence and other cyclical and structural changes. Companies are based on the vision and mission that shape CI and on which CI is built. Just as the vision and mission are created at the beginning of building a company, so CI is formed from the first mention of the company. CI provides the basis for a clear and lasting image, on the basis of which the company is clearly recognizable and distinguishable from other companies within the industry and within world trade.

The need to develop CSR activities (either towards employees and their families, or directly as events for existing customers) is increasingly urgent, and compared to the activities that both TNKs spend directly in Germany, their presentation in Slovakia is incomparable. The main finding was that, compared to the USA and Western Europe, CSR activities in Slovakia are not given the same amount of attention, or their promotion on the websites of Slovak subsidiaries is minimal. This fact has a negative impact on building a positive corporate

image, regardless of whether these companies are market leaders or have several strong competitors. In addition, such a targeted presentation of the company has a huge potential to reach potential customers who, through the environment of CC, CC and CI of a new competing company, may feel the need to become part of CSR activities and take full advantage of its benefits.

As it is difficult to define CSR activities within CI, for comparison purposes we decided to leave them within the CIm element, as companies build their image in the eyes of existing or potential customers and consumers through these activities (however altruistic their thinking is). In the mutual comparison of these two American IT companies, Dell clearly prevails. CSR activities are diverse and the Slovak branches are in no way behind the activities of the American parent company. Employees proudly report on CSR activities and claim that these activities are fulfilling for them. The activities of CH are consequently extensive in direct proportion to CSR activities. Dell provides employees with so many employee benefits, personal opportunities, and leisure activities (even during work hours) that they compensate for the pay gap compared to competing firms. The only deficit behind the other TNCs is in the content page of the CSR section of their official Slovak websites, where there is an absolute minimum of information compared to the American TNCs.

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COMPARISON OF CORPORATE HOSPITALITY OF TWO CHOSEN COMPANIES AS PART OF THEIR CORPORATE IDENTITY IN THE INTERNATIONAL ENVIRONMENT

Sonia Krajčík Danišová

Abstract

Corporate hospitality activities are one of many indicators of corporate identity of companies, specifically corporate image and corporate culture. The aim of the paper was to analyse the corporate hospitality activities of two German companies – Lidl and Wilo. The survey used the method of interviews with representatives of both companies in Slovakia and analysis of the websites of Slovak subsidiaries. The main finding was that the corporate hospitality activities in Slovakia in comparison with Germany are not given much attention, and that their promotion on the websites of Slovak subsidiaries is minimal. This fact negatively affects the building of a positive corporate image, regardless of whether these companies are one of the market leaders or have several powerful competitors.

Key words: *corporate identity, corporate culture, corporate communication, corporate image, corporate (client) hospitality, transnational corporation (TNC)*

1 INTRODUCTION

Over the last ten years, the business environment has been affected not only by the economic crisis of 2007, but has also been characterized by a constant change, a long process of globalization, turbulent fluctuations in stock markets, or alternating positive and negative economic developments. Since Corporate Identity (CI) is a strategic tool for companies to build them, it must represent specific characteristics, capabilities, strengths and personality of the company. The environment influences, shapes and causes changes in the strategies of all market players.

The phenomenon of corporate hospitality of companies began to appear on the Slovak market along with the arrival of foreign companies. Corporate hospitality is often mentioned in the codes of ethics of transnational corporations (hereinafter referred to as TNCs) and is often abbreviated as CH. It is defined very broadly and variously and within CI also falls under the corporate image (CIm), or under the corporate culture (CC). It is any entertainment event organized by the company for either its employees or clients (or potential clients) or interested other parties in such a way that all costs are borne by the company itself. The goal is to strengthen relationships with clients, motivate employees and gain the trust of all stakeholders. As a specific example of CH, we can mention, for example, horse racing, fashion shows, benefit concerts, rugby matches, golf tournaments and the like, often associated with the auction associated with charitable activities.

The different types of events organized by the company (as part of corporate hospitality) are: inaugural events – with a specific topic or intention, to attract attention, multi-course meals like brunch/lunch/dinner – suitable for longer talks or negotiations, awards ceremony – to support guests with a vision to cooperate in future, charity events – often supplemented by an auction linked to charitable activities. The aim of the paper is to analyse the corporate hospitality (CH) activities of two German TNCs – Lidl and Wilo. The survey used interview methods with representatives of both companies in Slovakia and an analysis of the websites of Slovak subsidiaries.

2 THE IMPORTANCE OF BUILDING CORPORATE IDENTITY (CI) FOR THE SUCCESSFUL MARKET POSITION OF THE COMPANY AND AN OVERVIEW OF ITS THEORETICAL DEFINITION

This chapter is aimed to identify and characterize the current development of the global business environment, summarize the theoretical knowledge of the concept of corporate identity – English Corporate Identity (CI) as a strategic tool used by companies in the market and point out the importance of this concept and its place in strategic management. Another goal of this chapter is to identify the individual dimensions of CI, the so-called CI mix (Corporate Culture – CC, Corporate Communication – CCom, Corporate Network – CN, Corporate Design – CD and Corporate Image – CIm). The term CI (as well as all its elements) is used in the Slovak scientific literature mostly in English, and its literal translation, which would be corporate identity, corporate identity or corporate identity, has not yet been unified. The article uses the term CI in English – in its abbreviated form CI, as well as terms related to the individual elements of CI – CC, CCom, CN, CD and CIm.

According to Balmer, CI can also be understood as a coordinated and integrated activity (i.e. a strategy), within which CI should meet the criteria of multidimensionality, multispectral addressability and synergy. Just clearly defined corporate strategy can guarantee a functioning corporate communication, security and trust and overall uniformity in the company (Balmer – Greyser, 2002). According to the pair of American authors Kimberly and Bouchikhi, the company's CI should then be integrated into the company's product, pricing, marketing, communication and distribution strategies, so that all target groups can perceive the company equally. In addition to business entities, other market entities can also develop the CI concept. (e.g. states, world organizations, political parties or universities) that want to communicate clearly and distinctly with the external and internal environment and thus strategically build self-awareness (Bouchikhi – Kimberly, 2008).

The historical development of theoretical insights into the concept and formation of CI dates back to the 19th century, when CI was understood as a manifestation of the character of the person of the company's founder, who defined the company's strategy and the company's values. During this period, the visual side was not cared for at all, and this period lasted until the end of the First World War. The twenties and forties of the twentieth century were the so-called brand-technical, which means that the brand was important only from the technical and product sphere, and the products at that time were practically equivalent in quality and price. As mass media methods of communication were absent in the interwar period, CI could not yet be communicated to the public. In the 1960s and 1970s, CI began to gain in importance. The most important element of CI was the CD, logos were developed and they distinguished companies from their competitors. The customer orientation was supplemented by the opposite view and companies began to follow the attitudes and feelings of customers towards the company. Management of employee behaviour and motivational strategies came to the fore. By the end of the eighties, the CI phenomenon began to be understood as a strategic management tool. With the advent of globalization in the 1990s, large American and European TNCs began to take shape, entering different markets and business areas. The CI phenomenon gained global dimensions during this period, and thanks to informatization and the development of the Internet, online CI strategies have also developed (Pelsmacker – Geuns – Bergh, 2010).

3 LIDL AND WILO'S CORPORATE HOSPITALITY AS PART OF THEIR CORPORATE IMAGE

The analysis of the corporate hospitality activities of Lidl and Wilo is preceded by a brief description of both transnational companies with a focus on their corporate identity. The choice of companies was intentional, as the degree of penetration into the company was

relatively high, mainly due to external cooperation of both companies with Bratislava Business School partner (now part of the Lifelong Learning Centre of the University of Economics in Bratislava). Both researched companies are introduced in more detail in the following section of the paper.

3.1 Wilo

The German company Wilo Group is one of the world's leading manufacturers of pumps and pump systems for water supply and air conditioning. Wilo is part of the Wilo–Salmson Group, and Wilo´s headquarters are in Dortmund, Germany, where it was founded in 1872. In 1928, the company introduced heating circulation pumps to the market. The entry of a new segment into the Slovak market was made possible by the concern Wilo AG (Dortmund), which took over the company Emu (Unterwasserpumpen Hof/Saale) on January 1, 2003 in order to strengthen its position on the world market in the field of pumping technology. The company Wilo Slovakia, Ltd., Bratislava, became the exclusive importer and distributor of the products of the world manufacturer of pumps and machinery for municipal and industrial supply in the Slovak Republic, which is the German company Emu from 1 April 2003. Wilo and Emu products complement each other without competing with each other. The Slovak Wilo branch is organizational component of the Czech daughter company. [1]

As part of its corporate hospitality activities, Wilo is known for its spectacular Christmas parties for employees and their family members. In 2010, the company´s headquarters in Dortmund managed to collect more than 6,000 euros for the Association of Parents of Children with Leukaemia and Cancer. The company had an exceptionally positive course of business activities thanks to the full commitment of the entire team at all levels. In addition, five Carrera car tracks were dedicated to the K1 station of the Clinic for Child and Adolescent Medicine at the Dortmund Clinic, as well as to families in need. The Slovak branch of Wilo SK has the possibility of training courses in foreign languages (English and German) as part of employee benefits, but these were significantly reduced after the 2007 crisis only for selected employees. Among other CH activities in Wilo SK, several common examples of corporate hospitality initiatives are customer events, factory tours, product launches, sponsorships, VIP hospitality and other activities which are under their CSR initiatives.

In comparison with the Slovak and Czech subsidiary of Wilo, the German mother company organizes customer events such as seminars, workshops, or conferences where they provide industry insights, product demonstrations, and networking opportunities for their clients. Regarding the guided tours, this would be more common in Germany and bigger branches, not as much in Slovakia or Czechia. Wilo may offer guided tours of their manufacturing facilities to customers, business partners, and stakeholders, which allows them to showcase their production processes, technologies, and quality standards.

Whenever Wilo introduces new products or services, they may host an official product launch events for key customers and partners, providing an opportunity to present and demonstrate the latest innovations and discuss their benefits. Wilo Group may engage in sponsorship activities related to industry conferences, trade shows, or charitable events, which helps them enhance their brand visibility, build relationships, and support causes aligned with their corporate values. However, these activities have been slightly declining since 2020 as a side-effect of the Covid-19 pandemic. The same effect has been observed during major industry events or trade shows, organizing VIP hospitality suites or lounges where they can entertain their high-profile clients and business partners. These exclusive areas provide a comfortable and personalized experience for important guests. When it comes to CSR activities, these involve hospitality elements, such as supporting local communities, organizing charity events,

[1] Official website of Wilo company. DOI: https://wilo.com/sk/sk/

or participating in environmental and sustainability projects. The CSR initiatives of Wilo Group demonstrate their commitment to social responsibility and may involve engaging stakeholders through various activities.[2]

3.2 Lidl

Lidl is a German chain of discount stores that operates in several European countries. It deals mainly with the sales of food and consumer goods. With its dynamic expansion, it is growing throughout Europe, where it is the largest discount store chain (and the second largest in the world after the Aldi chain). In Slovakia, Lidl is one of the first three largest retail chains, together with Tesco and Kaufland, which is also part of the same financial group Schwarz-Gruppe. Lidl Stiftung & Co. KG was officially founded in 1973 in the German city of Neckarsulm, where it is still based today. The founder, Dieter Schwarz, is the son of Josef Schwarz, who had been in the grocery business since 1930. In 1973, Schwarz bought the rights to the Lidl name for 1,000 German marks from his father's then-retired partner, Ludwig Lidl, and opened the first discount store in the German city of Ludwigshafen. which had only three employees and stocked around 500 product lines. By 1979, they had opened six more stores, making a total of 30 stores. In the 1980s, they opened 300 stores across Germany, with each store employing an average of seven people and stocking around 900 product lines. At the beginning of the 90s of the 20th century, they already started to engage outside the borders of Germany and opened stores in France.

Currently, the Lidl chain has more than 10,000 stores in thirty European countries and is also expanding to America.[3] In Slovakia, the group established itself in 2004 (as Lidl Slovakia (SK), PLC) by opening its first 14 stores (in the Czech Republic only a year earlier), and their number increased to 39 by the end of the year. In 2018, Lidl in Slovakia had 131 stores that are supplied from three logistics centres in Sereď[4], Nemšová and Záborské near Prešov. By 2014, Lidl had reinvested €420 million in Slovakia.[5] The company is one of the largest employers in Slovakia, when it employed 3,600 workers in September 2014[6] and 4,000 in February 2016[7]. Lidl´s central management for the Slovak and Czech markets was initially located in Prague. Since 2011, the Slovak head office has been located in Bratislava and more than 190 employees work there in areas such as sales, purchasing, administration, logistics, central services and expansion.

Lidl SK distributes leaflets every week and this activity is one of the most important marketing activities of the company. They are thematic and, in addition to food and drug products, they also inform about a special offer of other consumer goods – e.g. clothes, shoes, sports equipment, garden tools, etc.[8] In marketing, the company uses a number of private brands that at first glance have nothing to do with the Lidl brand[9] – Bluedino cheese brands,

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[2] Official website of Wilo company. DOI: https:// wilo.com/gb/en/Local-Information/Engagement-and-cooperation/

[3] About us. [online]. lidl.sk, [cit. 2018-12-02]. DOI: https://www.lidl.sk/sk/o-nas.htm

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DOI: https://www.trend.sk/gal/biznis/lidl-stavia-seredi-obri-sklad-zone-cakaju-aj-dalsich-investorov/1

[5] Lidl competes for the top spot with Tesco, Pravda, [cit. 2014-09-05].
DOI: https://ekonomika.pravda.sk/ludia/clanok/328959-lidl-superi-o-prvenstvo-s-tescom/

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DOI: https://www.google.com/search?client=firefox-b-d&q=google+translate+slovak+to+english

[7] Annual report of Lidl Slovak Republic, Plc. for the business year 2021.
DOI: https://finstat.sk/35793783/zavierka

[8] Lidl current flyer with the next week´s flyer from Monday 6/26/2023 [cit. 2026-06-19].
DOI: https://www.letakomat.sk/lidl/

[9] The phenomenon of retailers´ own brands. Ladislav Zdúta, Jandl. Conference Slovak Retail Summit – Intraco 2011, hn-online 2011-08-09 [cit. 2019-06-21].
DOI: https://www.konferencie.sk/d-39609/slovak-retail-summit-konferencia-hotel-gate-one-bratislava

Dulano and Pikok meat products, Saguaro mineral waters and lemonades, Pilos and Fruit Jumbo dairy products, Cien cosmetics, Formil detergents, W5 cleaning agents, Silvercrest electronics, Crivit sports utensils, Parkside tools, Lupilu, Esmara and Livergy fashion brands, Florabest garden supplies and many others.[10]

In spite of the after-fall of the Covid-19 pandemic, since September 2021, Lidl SK has implemented several corporate hospitality initiatives to enhance customer experiences and engage with various stakeholders, like supplier events, customer appreciation days, community engagement, employee recognition programmes, and business partner engagements. Lidl organizes supplier events and gatherings, providing a platform for Lidl to foster relationships with its suppliers, share information, and discuss business strategies. Lidl SK also occasionally hosts customer appreciation days at its stores. During these events, customers are treated to special offers, discounts, product samples, and sometimes even entertainment. It serves as an opportunity for Lidl to show gratitude to its customers and create a positive shopping experience.

Lidl SK actively engages with local communities through various initiatives, sponsoring local events, support charitable organizations, or participate in community projects. These activities demonstrate Lidl's commitment to being a responsible corporate citizen and foster goodwill within the communities they serve. Lidl SK also recognizes and rewards the achievements of its employees through various initiatives, which may include employee appreciation events, incentive programmes, or recognition schemes. By celebrating their employees' contributions, Lidl SK aims to boost employee morale and create a positive work environment. Lidl SK may regularly host events and get-togethers for its business partners, such as financial institutions, industry associations, or consultants, providing a platform for Lidl to collaborate with its partners, share insights, and build mutually beneficial relationships.

4 CONCLUSION

Corporate identity (CI) is of strategic importance for the company, and therefore it is included in strategic decisions that fall within the decision-making power of top management. According to the division of society into hierarchical levels, the concept of CI is at the level of the corporation, so this work deals with the highest level, and therefore corporate. At the same time, the company must monitor and respond to external influences, because it is these signals that both real and potential customers respond to. Just a little inattention and the long-term built CIm will be destroyed within a few days or. hours. It is especially important to monitor all signals and messages from external as well as internal environment during the economic crisis or during the current pandemic of Covid-19. It can be said that threats become stronger than market opportunities and the company often faces declining sales or deteriorating CIm. It must have developed not only strategic but also contingency plans, which it will reach in cases such as the current situation in the international business environment.

Awareness of the importance and role of the concept of corporate identity (CI) in corporate strategy is the key to the success and competitiveness of companies operating in a dynamic international business environment marked by significant turbulence and other cyclical and structural changes. Companies are based on the vision and mission that shape CI and on which CI is built. As the vision and mission are created at the beginning of building the company, so the CI is formed from the first mention of the company. CI provides the basis for a clear and lasting idea, on the basis of which the company is clearly identifiable and distinguishable from other companies in the industry and in world trade.

[10] Lidl Stiftung & Co. KG Trademarks, [cit. 2019-05-29].
DOI: https://www.trademarkia.com/trademark-by-company-search.aspx?search=lidl

The need to develop corporate hospitality activities (either towards employees and their families in the form of so-called Family Days, or directly as events for existing customers) is increasingly urgent and in conjunction with the activities that both TNCs spend directly in Germany, their presentation on Slovakia almost insignificant. The main finding was that the activities of corporate hospitality in Slovakia in comparison with Germany is not given as much attention, respectively. their promotion on the websites of Slovak subsidiaries is minimal. This has a negative impact on building a positive corporate image, regardless of whether these companies are market leaders or have several strong competitors. In addition, such a targeted presentation of the company has a huge potential to reach potential customers who, through CCom, CC and CIm of a new competitor, may feel the need to become part of the company's hospitality activities and take full advantage of it. As it is difficult to define CH activities within CI, for comparison purposes we decided to leave them within the CIm element, as companies build their image in the eyes of existing or potential customers and consumers through these activities (however altruistic their thinking is).

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COMPARATIVE ANALYSIS OF TWO CHOSEN MULTINATIONALS WITH THE FOCUS ON THEIR INTERNATIONAL MARKETING AND THEIR COMPETITIVENESS

Otília Zorkóciová

Abstract

Cultural factors have always significantly influenced both the communication and success potential of competition in conducting international business. Cultural awareness shapes how business firms behave in cross-culturally reflected international markets. It is broadly recognized that certain cultural factors act as invisible barriers in international marketing communications. Understanding cultural differences is one of the most significant skills for firms to develop in order to have a competitive advantage in international business. This paper compares two competing transnational corporations through their corporate image, corporate culture and CSR activities, and their impact on international marketing communication and competitiveness.

Key words: *international marketing, social responsibility, corporate identity, corporate image, corporate culture, transnational corporation (TNC), logo, branding, positioning, market strategy, brand recognition, advertising and promotion*

1 INTRODUCTION

The globalization of the economic world has made it important for marketing managers to understand how to do business in different cultures, hence the culture has an impact on marketing communication. The ability of marketers and consumers to communicate cross-culturally is critical for success. Marketing communication is a two-way interactive communication where the marketers deliver information to the market they gather, collect, interpret, and put this information to use. Failure to do so may lead to a loss of business, which be witnessed also in the telecommunications industry – this has witnessed significant growth and transformation in recent years, driven by advancements in technology and globalization. This comparative analysis focuses on two major players in the industry: Orange and O_2. The analysis will delve into their international marketing strategies, highlighting their company profiles, international presence, market strategies, branding, positioning, customer experience, and service. (Tian, 2000).

Both French Orange and Spanish O_2 are prominent telecommunications companies operating in multiple countries. Their corporate identity (CI) and international marketing strategies play a crucial role in their success and market penetration.

2 THEORETICAL BASES AND IMPORTANCE OF BUILDING CORPORATE IDENTITY (CI) FOR THE SUCCESSFUL POSITIONING OF THE COMPANY ON THE MARKET

Initially, it is crucial to identify and characterize the current development of the global business environment, summarize the theoretical knowledge of the concept of corporate identity – English Corporate Identity (CI) as a strategic tool used by companies in the market and point out the importance of this concept and its place in strategic management. Another goal of this chapter is to identify the individual dimensions of CI, the so-called CI mix (Corporate Culture – CC, Corporate Communication – CCom, Corporate Network – CN, Corporate Design – CD and Corporate Image – CIm). The term CI (as well as all its elements)

is used in the Slovak scientific literature mostly in English, and its literal translation, which would be corporate identity, corporate identity or corporate identity, has not yet been unified. The article uses the term CI in English – in its abbreviated form CI, as well as terms related to the individual elements of CI - CC, CCom, CN, CD and CIm.

According to Marwick and Fill, CI tells us what a company is, how it works, what it does, how it conducts its business activities, and what strategies it adopts and then implements into other processes. A company's CI is something that sets one company apart from another (Marwick – Fill, 1997). Balmer and Gray pointed out the unique characteristics of the so-called Corporate Personality (CPe), which CI reflects and which are deeply rooted in the behaviour of company members who help employees fully identify with the company. That is why we distinguish between the understanding of "how we perceive ourselves", which is reflected in CI, and "how we would like to be perceived by others", which represents the so-called "Desired CI" (Balmer – Gray, 2000). Balmer and Greyser supplemented this theory with several other concepts, pointing to the need to distinguish between intentions, strategies, and various aspects of CI that create one's own identity (Balmer – Greyser, 2002).

According to Chun, we distinguish such an identity from the company's identity, which is based on the subjective perception of the company's identity by their own shareholders, and we call it a "perceived identity". On the contrary, "desired identity" includes not only how society wants to perceive and present itself (ideal / desired identity), but also how it wants to be perceived by others – i.e. "Desired image". We also distinguish between the identity of the company and CI, with the fact that the identity of the company is a term falling under the company's behaviour and CI is a term falling under the identity at the strategic level. These terms are visually interchangeable and therefore often incorrectly translated (Chun, 2005). Hatch and Schultz pointed out that a company's identity refers to what its own shareholders think of its company, while CI refers to how a company operates on the basis of shared beliefs and common goals (Hatch – Schultz, 2003).

Further understanding of CI is based on its dichotomous division into two different perspectives in defining its concept – Corporate Personality (CPe) and CI mix, where the most important element of the company's CI mix was to be its visual presentation. However, the dichotomous division resonated most with the professional literature at the turn of the seventies and eighties. Theoretical concepts of the term CI at the turn of the twentieth and twenty-first centuries were stable and included the phenomenon of CPe, CI mix, the phenomenon of CED or CIm. The inability to establish a uniform definition of CI has led some authors to focus on understanding it instead of the exact concept, which later led to the creation of theses that analyse the concept of CI. Bouchikhi and Kimberly perceive CI as a set of business principles, company principles, measures, concepts, ideals and statutes, which both define the basic values and goals of the company and ensure their acceptance, but also determine strategies that guarantee the optimal path from the current state to the desired state, and also allocate resources to the activities required by these strategies. Based on such a theoretical definition of CI, they derived the basic functions of CI. The first of these is the information and communication function, which aims to achieve a clear and positive (association-associated) knowledge of the company, as well as a transparent (employee-understood and followed) CI concept. The second function of CI is the function of creating an image, which aims to build sympathy for the company in the eyes of certain interest groups. The third function is the integration function, which aims to create synergistic effects across the company, and the last is the function of influencing relationships (Bouchikhi – Kimberly, 2003).

3 BASIC CHARACTERISTICS OF THE FRENCH MOBILE OPERATOR ORANGE AND THE SPANISH MOBILE OPERATOR O_2 AND THEIR CSR INITIATIVES

Orange is a global telecommunications company headquartered in France. It operates in over 30 countries and serves more than 260 million customers worldwide. The company offers a wide range of services, including mobile, fixed-line, and internet services. Orange has positioned itself as a leading player in the digital transformation era, providing innovative solutions and investing in new technologies.

O_2 is part of the Telefonica Group, is a telecommunications provider based in the United Kingdom. With a presence in several European countries, O_2 serves millions of customers and offers mobile and broadband services. The company focuses on delivering high-quality connectivity and aims to provide a superior customer experience.

3.1 Orange Slovakia

Orange Slovakia (SK) is a Slovak mobile operator that has been operating on the market under this brand name since March 27, 2002. It was founded in 1996 by the founder of Slovtel GSM, JSC, a member of the Orange S.A. group. The owner of 100% of Orange SK´s shares is the France Telecom group through the owner Atlas Services Belgium, JSC. In the years 1997-2000, the transnational corporation (TNC) in Slovakia was called Globtel GSM, in the years 2000-2002 Globtel, and in 2002 the company re-branded to Orange. The legal form of Orange SK is a joint-stock company and in the telecommunications industry it ranks alternately on the first and second ranks. The company's slogan for the public is “Connecting you to what matters” and the company's slogan for entrepreneurs is “Bright Ideas for Business”. When re-branding from Globtel to Orange, the company's slogan was “Future Is Bright – Future Is Orange”. In 2019, she was ranked 225th in the Forbes 500 list, however it does not rank in the list any longer, as of 2023.[1]

Orange SK provides wireless and data services on the frequencies 800 MHz, 900 MHz (870~960 MHz) and 1800 MHz and 2600 MHz. The current coverage of the territory reaches 99% of the population. Currently, in addition to the mobile network, it also operates a fixed network, in which it provides services of optical connection to the Internet, digital television and a fixed telephone line.

In the years 2006-2007, Orange SK began operating its fixed optical network based on FTTH (Fiber-to-the-home) technology, which is a fibre reaching the perimeter of the living space, for example in the form of a junction box on the outer wall of the house (service “Orange Doma/Home”). It provides Internet services via fibre optic cable, digital television and a fixed telephone line. It has a fixed network built in selected locations of the twenty largest cities, and in the future it would like to expand it and become the operator with the densest optical network in Europe. By 2020, Orange plans to double the coverage of its own optical network, while the FTTH network is currently available in 342,000 households.[2]

The company Orange SK has a rich CI and it has received the following awards:

- 1999 Gift of the year – prize of the Slovak Humanitarian Council for the action “Globtel without barriers”
- 2002 Via Bona Slovakia – honourable mention from the Pontis Foundation for long-term partnership with the civic association Návrat/Return and for cooperation with the Centre for Philanthropy
- 2003 Company of the Year – award given by Trend (the economic weekly) which ranked repeatedly in the top three in the years 2003-2007
- 2004 Family-friendly employer – the 1st place in Family policy category

[1] Global 500 List. DOI: https://fortune.com/ranking/global500/2019/orange/

[2] Official website of Orange company (2023). DOI: https://www.orange.sk/orange-slovensko/kto-sme

- 2007 Honourable mention of SOPK (Slovak Chamber of Commerce and Industry) – for services to the development of the Slovak economy, foreign trade and entrepreneurship
- 2008 Cisco Award – the best service provider infrastructure in the area of next-generation IP networks for the FTTH (Fibre to the Home – Orange Doma/Home) project
- 2008 Via Bona Slovakia – Honourable mention for the permanent and systematic development of responsible business
- CSR Europe 2005 (Brussels) – Nomination to the 100 best European case studies – Project Communication of the environmental management system to employees.
- CSR Market Europe 2007 (Brussels) – Nomination for European case studies – Project "Children and Mobiles"
- Caring for the Future 2007 – award of CSR activities within the FT Group
- Superbrand Award – awarded to the best brands on the market that have gained an excellent reputation in their field and the values associated with these brands give such emotional or tangible benefits that consumers not only expect, but also recognize
- Top Employer Europe 2013 award – awarded by the CRF Institute (focuses on international research in the field of human resources management and working conditions)
- 2004, 2005 and 2010 Via Bona Slovakia main prize for large companies – for a comprehensive approach to responsible business

The company Orange SK and its corporate culture is characterized by a high level of CSR, and their projects falling under the category of social responsibility are really numerous. It applies the principles of responsible business to customers, employees and communities, and at the same time tries to eliminate negative environmental impacts related to its business. The management of Orange SK believes that only a way of doing business that respects and balances the company's business goals and its impact on society is sustainable. More detailed information about their corporate responsibility can be found in individual annual reports and social responsibility reports, while we are based on the company's latest annual report available online – which is the 2022 annual report.[3]

As part of CSR, Orange SK operates under the following three identities:

- Orange as a green operator – striving for self-monitoring and reducing the negative impact of business on the environment, developing sustainable digital solutions, applying the Policy of quality, environment and safety and health protection at work.
- Orange as a trusted operator – striving to ensure that customers have a positive experience with their services and make their lives easier, while the company cares that they use them sensibly, and responsibly and protect their personal data.
- Orange as a committed operator – the management and employees care about the company they work in, they perceive their responsibility towards the community, they are involved in public benefit activities, they try to make digital technologies help people and profile themselves as a caring top employer.

3.2 O_2 Slovakia

O_2 Slovakia, Ltd. (originally: Telefónica Slovakia) is a company providing mobile telephony and mobile data transmission services based on GSM and UMTS. The operator launched commercial operations in the GSM network on February 2, 2007, O_2 was obliged to launch the UMTS network by September 7, 2007. O_2 Slovakia registers over 2 million of active SIM cards, which represents almost a quarter of the market share (as of 9/2022). The company

[3] Official webpage of Orange company (2023). DOI: https://www.orange.sk/fileadmin/orange/user_uploads/dokumenty/onas/tlacove-centrum/vyrocne-spravy/orange_vyrocna_sprava_2022_sk.pdf

received a license to operate services from the Slovak Telecommunications Authority – the GSM network (in the 900 and 1800 MHz bands) and the UMTS network (3G) on September 7, 2006. It has been building GSM and UMTS networks since 2006 using the technology of the Finnish company Nokia. Since 2014, it has been building its own 4G network on the frequencies 800, 1800 and 3500 MHz. Today it already covers 97% of the Slovak population (11/2022).[4]

100% owner of O_2 Slovakia, Ltd. is O_2 Czech Republic, JSC. The majority owner of O_2 Czech Republic is the PPF financial group (84.91%)[5]. From December 12, 2002 to July 7, 2006, the company operated under the trade name Czech Telecom Slovakia Ltd. By changing the owner's name to Telefónica O_2 Czech Republic on July 8, 2006, a change also occurred in Slovakia. Due to an entry error in the commercial register, from July 8 to August 8, 2006, the company was registered under the name Telefónica O_2 Slovakia. Thus, since August 9, 2006, Telefónica O_2 Slovakia, with headquarters in Bratislava, operated in Slovakia. On May 10, 2011, the company changed its name by the decision of the global owner Telefónica S.A. to Telefónica Slovakia, Ltd.

On June 4, 2014, Telefónica Slovakia, Ltd. was renamed to O_2 Slovakia, Ltd. The change in the company name is a consequence of the operator's change in ownership because the Spanish Telefónica sold both Slovak and Czech O_2 to the PPF investment group of the late Czech billionaire Petr Kellner.[6] O_2 Slovakia, Ltd. is the founder of the Fair Foundation (in Slovak „Férová nadácia“), which entered the register of foundations on December 3, 2014. With their vision of sustainability, they focus on supporting the employment and education of young entrepreneurs and start-ups and increasing their competitiveness and applicability. The Fair Foundation aims to remind young people of the values of freedom and democracy through their "Freedom is not self-evident" grant programme, through which the Fair Foundation will commemorate the anniversary of the Gentle Revolution. The foundation supported 13 creative projects out of 120 applications, the main goal of which is to interpret for the young generation in various ways the value of freedom and democracy, with a total amount of almost EUR 40,000, supporting the creativity and innovativeness of the idea, the form and degree of development, sustainability and, last but not least, whether it has the potential to attract a young target group. Supported projects deal with the topic of freedom from different perspectives and in different forms. Among those supported are projects in the field of education and media, civic activism, literature, theatre and film production, computer games, and virtual reality, which are closest to today's young generation.[7]

4 ANALYSIS OF INTERNATIONAL MARKETING AND COMPETITIVENESS OF ORANGE AND O_2

Both Orange and O_2 have a significant international presence, although their market reach differs. Orange is a French TNC that operates in numerous countries across Europe, Africa, and the Middle East. It has established subsidiaries and partnerships to extend its services globally. In contrast, Spanish TNC O_2 primarily operates in European markets, including the United Kingdom, Germany, Spain, and Ireland, focusing on its core regions. Orange has a significant global market presence with operations in Europe, Africa, and the Middle East, while O2 primarily operates in the United Kingdom, Germany, and other European countries.

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[4] Official website of O_2 company (2023). DOI: https://www.o2.sk/

[5] The share of PPF in Cetin increased to over 90%. Official website of Fio Bank (2023).
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Orange adopts a multi-brand international marketing strategy in various countries, adapting to local market conditions while leveraging its global brand equity. Orange focuses on enhancing customer experiences through personalized services, innovation, and digital transformation and also emphasizes partnerships and collaborations with local companies to expand its market reach and provide localized offerings. On the other hand, O_2's international marketing strategy centres on delivering excellent network quality and customer service. It positions itself as a trusted and reliable brand, offering superior connectivity and innovative solutions. Also, the company emphasizes local relevance and tailors its marketing campaigns to specific markets, recognizing the importance of cultural and regional differences.

When it comes to branding and positioning, both Orange and O_2 have developed strong brand identities and market positioning. Orange portrays itself as a customer-centric brand, focusing on inclusivity, social responsibility, and sustainability. It aims to be a leader in the digital revolution, offering cutting-edge technologies and services. O_2, on the other hand, positions itself as a brand that "connects people and helps them stay connected to what matters most". It emphasizes simplicity, transparency, and exceptional customer experiences. Both Orange and O_2 have strong brand recognition. Orange focuses on its vibrant and energetic brand image, often associated with its distinctive orange colour. O_2, on the other hand, emphasizes simplicity and customer-centricity, promoting its services as easy to use and understand. Orange's logo prominently features the iconic orange square with rounded edges, representing the company's energetic and innovative image. O_2's logo consists of a simple blue circle, symbolizing simplicity and connectivity. Orange emphasizes its brand values of innovation, accessibility, and customer-centricity. O_2 also proves to prioritizes values like simplicity, reliability, and excellent customer service.

Both Orange and O_2 place great importance on providing outstanding customer experiences and service. Orange invests in digitalization and self-service tools, enabling customers to manage their accounts easily. It offers personalized services, such as Orange Bank, a mobile banking solution. O_2 focuses on creating a seamless customer journey, offering perks like priority access to events and exclusive rewards. The company emphasizes proactive customer support and invests in user-friendly digital platforms. Orange and O_2 provide a wide range of services, including mobile and fixed-line telephony, broadband, and digital television. Both companies continuously innovate to introduce new technologies and stay competitive in the market.

Regarding advertising and promotion, both Orange and O_2 often employ various marketing techniques to reach their target markets. Orange has been known for its creative and innovative advertising campaigns, often featuring popular celebrities and engaging storytelling. O_2, on the other hand, focuses on customer testimonials and emphasizes its reliable network coverage. Customer perception of Orange and O_2 is quite different – while Orange is often associated with creativity, cutting-edge technology, and a youthful vibe, O_2 is recognized for its user-friendly services and customer-focused approach. Orange positions itself as a technology leader, offering advanced solutions and a diverse range of services, however, O_2 positions itself as a trusted and reliable provider, focusing on delivering seamless connectivity and excellent customer experiences.

Both Orange and O_2 recognize the importance of corporate social responsibility and have implemented initiatives to contribute to society and demonstrate their commitment to sustainability. Orange has set ambitious environmental targets to reduce its carbon footprint, promote renewable energy usage, and minimize electronic waste. O_2 has also prioritized sustainability, aiming to achieve net-zero carbon emissions and implementing recycling programs for electronic devices. Both companies engage in community initiatives, supporting educational programs, digital inclusion projects, and local charities. They also encourage employee volunteering and provide opportunities for their staff to contribute to social causes.

Orange and O_2 adhere to ethical business practices and strive to maintain transparency and integrity in their operations. They have implemented policies to ensure responsible sourcing, respect human rights, and protect customer privacy.

5 CONCLUSION

Corporate identity refers to the visual and communicative elements that distinguish a company from its competitors. It encompasses various aspects such as logo design, brand values, and the overall perception of the organization. Overall, a strong corporate culture, positive corporate image, and effective CSR initiatives can enhance the international marketing efforts and competitiveness of companies like Orange and O2. These factors contribute to brand differentiation, customer loyalty, stakeholder relationships, and reputation, all of which are critical for success in the global marketplace.

In summary, Orange and O_2 have distinct approaches to international marketing, CSR, and corporate identity. Orange focuses on customer-centricity, simplicity, and innovation, while O_2 emphasizes reliability, quality, and technological expertise. Both companies engage in CSR initiatives, particularly in environmental sustainability and social impact. Their corporate identities are shaped by their brand images, values, and stakeholder perceptions. By analysing these areas, we can appreciate the unique strategies employed by Orange and O_2, contributing to their success in the competitive telecommunications industry.

All in all, both Orange and O_2 have established strong international marketing strategies, emphasize corporate social responsibility, and have distinct corporate identities. While Orange has a wider global presence, O_2 has a strong foothold in the UK and Europe. The two companies have successfully differentiated themselves in the market, catering to different customer segments while maintaining a focus on innovation, sustainability, and customer satisfaction.

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THE LATEST TRENDS IN THE DEVELOPMENT OF CSR AND CORPORATE HOSPITALITY AS A MEANS OF INCREASING THE COMPETITIVENESS OF COMPANIES IN THE INTERNATIONAL ENVIRONMENT

Otília Zorkóciová

Abstract

International marketing is based on a general marketing philosophy and is a process aimed at optimizing resources and finding opportunities in the world market. International marketing improves the possibilities of applying these products in foreign markets, in which the company has a competitive advantage and leads to the satisfaction of the needs and wishes of foreign customers. In the framework of international marketing, it is interesting to pay attention to Corporate Social Responsibility (CSR), as well as the policy of Corporate Hospitality (CH), which both significantly shape the overall corporate identity (CI) of the company, especially their elements of corporate culture and corporate image.

Key words: *international marketing, social responsibility, corporate identity, corporate image, corporate culture, transnational corporation (TNC)*

1 INTRODUCTION

Activities falling under the category of corporate social responsibility (CSR) and corporate hospitality policy (CH) are two important indicators of the corporate identity (CI) of companies, namely corporate image and corporate culture. A comparative analysis of such activities in several companies of different focus and size on the Slovak market and subsequent comparison of these activities with the activities of parent companies would illustrate to what extent CSR and CH activities are part of marketing, or International marketing. It is based on the assumption and previous experience from research that these activities are not paid nearly as much attention in Slovak subsidiaries as in parent companies, which has a negative effect on building their positive corporate image, whether these companies belong to the market leaders or they have some strong competitors.

The phenomenon of corporate hospitality of companies began to appear in the Slovak market together with the arrival of foreign companies. In the ethical codes of transnational corporations (TNCs) operating in Slovakia, corporate hospitality is often mentioned in other languages under its original English name – i.e. Corporate Hospitality (CH), in spite of the fact that there are other local equivalents in native languages. It is defined very broadly and diversely, and within CI it also falls under the category of corporate image (CIm), or under corporate/company culture (CC). It is any entertainment event organized by the company for either its employees or clients (or for now only potential clients) or other interested parties in such a way that all costs are borne by the company itself. The goal is to strengthen relationships with clients, motivate employees and gain the trust of all stakeholders. Horse races, fashion shows, benefit concerts, rugby matches, golf tournaments and the like can be mentioned as a specific example of CH, often connected with an auction linked to a charitable activity. Different types of events organized by the company (as part of corporate hospitality) are: inaugural events – with a specific theme or purpose, to attract attention, multi-course lunch/dinner – more suitable for longer conversations or negotiations, award ceremony – to support invitees with a vision of cooperation in of the future, benefit events – often supplemented by an auction linked to a charitable activity. The aim of the research will be to

analyse the corporate hospitality (CH) activities of selected TNCs using the interview method with representatives of companies in Slovakia and the analysis of websites of Slovak subsidiaries.

2 THEORETICAL BASES AND IMPORTANCE OF BUILDING CORPORATE IDENTITY (CI) FOR THE SUCCESSFUL POSITIONING OF THE COMPANY ON THE MARKET

The aim of this chapter is to identify and characterize the current development of the global business environment, summarize the theoretical knowledge of the concept of corporate identity – English Corporate Identity (CI) as a strategic tool used by companies in the market and point out the importance of this concept and its place in strategic management. Another goal of this chapter is to identify the individual dimensions of CI, the so-called CI mix (Corporate Culture – CC, Corporate Communication – CCom, Corporate Network – CN, Corporate Design – CD and Corporate Image – CIm). The term CI (as well as all its elements) is used in the Slovak scientific literature mostly in English, and its literal translation, which would be corporate identity, corporate identity or corporate identity, has not yet been unified. The article uses the term CI in English – in its abbreviated form CI, as well as terms related to the individual elements of CI – CC, CCom, CN, CD and CIm.

CI includes all tangible objects and manifestations of the company's behaviour, with which the company presents itself externally. According to Zorkóciová, CI is a manifestation of the company's personality, which is reflected not only in CC but also in CIm. However, theoretically defining the term CI is very complicated, because the professional public is not uniform in specifying this phenomenon. This is mainly due to the fact that CI is a multidimensional and interdisciplinary phenomenon and is subject to change not only in space but also in time. According to CI, the company can be clearly identified and clearly distinguished from other competitors in the market. CI should include not only the history, philosophy and vision of the company but also a comprehensive view of its employees and the ethical and moral values that the company professes (Zorkóciová, 2007).

Within CI, Pérez and Rodríguez del Bosque distinguish the following five dominant attributes: identity as a personality of society, identity as an image of society, identity as a visual image, identity as a set of ways of expression by CCom and identity as an integrative concept. CI is also perceived as a set of corporate resources that are characteristic of a given company (Pérez – Rodríguez del Bosque, 1985). Melevar summarizes them in a model that contains 21 internal factors grouped into seven categories (Melevar, 2003).

Melevar and Karaosmanoglu also examined the interrelationships created by CI, and they concluded that CC, based on the company's history, founder, country of origin, subcultures and containing the company's mission, vision and values, influences corporate strategy as well as CB (i.e. behaviour company, management and employees). The corporate strategy follows the corporate structure for the brand structure and organizational structure, which directly influence the manifestations of the CD (slogan, architecture, office layout, website, location). Corporate strategy, CC and CB together create CCom (marketing, management, communication in the company) which together with CD create CI (Melevar – Karaosmanoglu, 2006). The contrast between CI and CC is analysed by Ramanantsoa and Reitter, who pointed out that symbolic products (i.e. the visible part of society) have the function of communicating the so-called "Organizational imaginaire" (i.e. a hidden part of society). These two levels complement each other and allow you to understand the essence of society and its functioning (Ramanantsoa – Reitter, 1985).

According to Balmer, CI can also be understood as a coordinated and integrated activity (i.e. a strategy), within which CI should meet the criteria of multidimensionality, multispectral addressability and synergy. Just clearly defined corporate strategy can guarantee a functioning

corporate communication, security and trust and overall uniformity in the company (Balmer – Greyser, 2002). According to the pair of American authors Kimberly and Bouchikhi, the company's CI should then be integrated into the company's product, pricing, marketing, communication and distribution strategies, so that all target groups can perceive the company equally. In addition to business entities, other market entities can also develop the CI concept. (e.g. states, world organizations, political parties or universities) that want to communicate clearly and distinctly with the external and internal environment and thus strategically build self-awareness (Bouchikhi – Kimberly, 2008).

The historical development of theoretical insights into the concept and formation of CI dates back to the 19th century when CI was understood as a manifestation of the character of the person of company's founder, who defined the company's strategy and the company's values. During this period, the visual side was not cared for at all, and this period lasted until the end of the First World War. The twenties and forties of the twentieth century were the so-called brand-technical, which means that the brand was important only from the technical and product sphere, and the products at that time were practically equivalent in quality and price. As mass media methods of communication were absent in the interwar period, CI could not yet be communicated to the public. In the 1960s and 1970s, CI began to gain importance. The most important element of CI was the CD, logos were developed and they distinguished companies from their competitors. The customer orientation was supplemented by the opposite view and companies began to follow the attitudes and feelings of customers towards the company. Management of employee behaviour and motivational strategies came to the fore. By the end of the eighties, the CI phenomenon began to be understood as a strategic management tool. With the advent of globalization in the 1990s, large American and European TNCs began to take shape, entering different markets and business areas. The CI phenomenon gained global dimensions during this period, and thanks to informatization and the development of the Internet, online CI strategies have also developed (Pelsmacker – Geuns – Bergh, 2010).

According to Marwick and Fill, CI tells us what a company is, how it works, what it does, how it conducts its business activities, and what strategies it adopts and then implements into other processes. A company's CI is something that sets one company apart from another (Marwick – Fill, 1997). Balmer and Gray pointed out the unique characteristics of the so-called Corporate Personality (CPe), which CI reflects and which are deeply rooted in the behaviour of company members who help employees fully identify with the company. That is why we distinguish between the understanding of “how we perceive ourselves”, which is reflected in CI, and “how we would like to be perceived by others”, which represents the so-called “Desired CI” (Balmer – Gray, 2000). Balmer and Greyser supplemented this theory with several other concepts, pointing to the need to distinguish between intentions, strategies, and various aspects of CI that create one's own identity (Balmer – Greyser, 2002).

According to Chun, we distinguish such an identity from the company's identity, which is based on the subjective perception of the company's identity by their own shareholders, and we call it a “perceived identity”. On the contrary, “desired identity” includes not only how society wants to perceive and present itself (ideal / desired identity), but also how it wants to be perceived by others – i.e. “Desired image”. We also distinguish between the identity of the company and CI, with the fact that the identity of the company is a term falling under the company's behaviour and CI is a term falling under the identity at the strategic level. These terms are visually interchangeable and therefore often incorrectly translated (Chun, 2005). Hatch and Schultz pointed out that a company's identity refers to what its own shareholders think of its company, while CI refers to how a company operates on the basis of shared beliefs and common goals (Hatch – Schultz, 2003).

Further understanding of CI is based on its dichotomous division into two different perspectives in defining its concept – Corporate Personality (CPe) and CI mix, where the most important element of the company's CI mix was to be its visual presentation. However, the dichotomous division resonated most with the professional literature at the turn of the seventies and eighties. Theoretical concepts of the term CI at the turn of the twentieth and twenty-first centuries were stable and included the phenomenon of CPe, CI mix, and the phenomenon of CED or CIm. The inability to establish a uniform definition of CI has led some authors to focus on understanding it instead of the exact concept, which later led to the creation of theses that analyse the concept of CI. Bouchikhi and Kimberly perceive CI as a set of business principles, company principles, measures, concepts, ideals and statutes, which both define the basic values and goals of the company and ensure their acceptance, but also determine strategies that guarantee the optimal path from the current state to the desired state and also allocate resources to the activities required by these strategies. Based on such a theoretical definition of CI, they derived the basic functions of CI. The first of these is the information and communication function, which aims to achieve a clear and positive (association-associated) knowledge of the company, as well as a transparent (employee-understood and followed) CI concept. The second function of CI is the function of creating an image, which aims to build sympathy for the company in the eyes of certain interest groups. The third function is the integration function, which aims to create synergistic effects across the company, and the last is the function of influencing relationships (Bouchikhi – Kimberly, 2003).

Another important characteristic of CI is its international dimensions, while we distinguish between monolithic CI (unified visual and communication presentation of the company, as e.g. McDonald's), delegated/managed CI (subsidiary companies here have their own style of identity vis-à-vis the parent company, which, however, always in the background, as e.g. Danone has) and brand CI (each division or product has its own identity, e.g. as a result of mergers of already existing companies, as is the case e.g. in Procter & Gamble). CI can further be understood on two levels – as external identity (products, services, environment in the company affecting employees and communication of the company with the environment) and internal identity (methods of company management, codes of conduct, ethical codes, company rituals). On the basis of this analysis, we can divide the entire CI complex into individual elements that create different links and interact with each other.

Despite the recent economic downturn and subsequent fluctuations in development activities in some markets, the general trend of economic growth around the world has been steadily increasing over the past three decades. Along with improving the quality of life, consumers are paying more attention to the ethical and philanthropic activities of multinational enterprises (MNEs). As a result of this phenomenon, the importance of corporate social responsibility (CSR) research is growing. Scientific evidence increasingly confirms that CSR activities are beneficial to corporate success (e.g. Orlitzky et al., 2003; Waddock – Graves, 1997). We hypothesize that this is probably because consistent CSR activities induce an improvement in the company's image, which in turn leads to consumer confidence in its products (Turker, 2009). Overall, there is a general consensus that CSR is often considered a key factor significantly influencing a company's market image and success both domestically and internationally.

In accordance with the trend discussed above, scientists and practitioners perceive CSR as an integral part of marketing strategy. In addition to maximizing shareholder wealth by performing activities that increase business profit, various stakeholders must also be convinced that the company is a good corporate citizen (Freeman, 1984). Meanwhile, it should be noted that among all stakeholders, one important group that appears to be particularly influential for firms to initiate CSR activities is consumers (Du – Bhattacharya –

Sen, 2010). Due to the globalization of markets, companies must create a positive image in all international markets. However, a thorough review of the literature shows that most studies investigating CSR only focus on domestic marketing, e.g. impact of CSR on consumer loyalty in local markets (Adams – Licht – Sagiv, 2011; Muller – Kräussl, 2011; Luo – Bhattacharya, 2006; Lai et al., 2010), which clearly indicates that CSR research tends to have an implicit domestic marketing preoccupation and very little research on CSR issues considers the international marketing implications of CSR.

CSR activities can also be used as a valuable international marketing strategy. For example, some studies in international marketing suggest that CSR by international marketers will significantly enhance their national and corporate brands in developing and emerging markets (Torres et al., 2012). Another example is the spread of good word of mouth about desirable business practices among international consumers, which is absolutely crucial for TNCs to achieve successful subsidiary operations in foreign markets (Bhattacharya – Luo, 2006). Despite such facts, it is difficult to find scholarly attention to the debates connecting international marketers, their CSR thinking and behaviour, and their impact on success or failure in foreign markets. Thus, many major questions remain unanswered regarding the nature and implications of CSR activities for multinational companies' marketing strategies.

Hospitality Marketing (HM) is focused on thinking about business in terms of customer needs and satisfaction. Hospitality marketing focuses on how various food and lodging service industries (e.g. lodging, gastronomy, and tourism) develop marketing strategies to promote their products or services, resulting in increased revenue. As the food and hospitality industry focuses primarily on creating and maintaining positive customer experiences and relationships, HM becomes an important part of ensuring the industry's success. If entrepreneurs want to attract more customers to their hotel or travel agency, they must advertise effectively on various digital channels and be where their specific target consumer is.

Keeping up with the latest trends in HM is vital, but it is equally important to understand the context of these trends as they are relevant to the hospitality industry as a whole, as well as the trends that have emerged in response to the pandemic. Other marketing trends in the catering and accommodation services industry that can be attributed to the COVID-19 pandemic, or they may be affected by related changes in customer behaviour. These trends apply to hotels, restaurants, bars, cafes and various other businesses.

Fair Trade marketing gives consumers the opportunity to pay higher prices for imported goods so that producers from developing countries can achieve a decent standard of living. We perceive the Fair Trade concept within international marketing as a system of globalization and economic development, which differs from the system implemented by conventional marketing of TNCs. It examines the philosophical principles of fair trade and compares them with the ideologies of anti-globalization, marketing management, ethical sourcing and also ethical consumerism. We also distinguish the institutional networks of fair trade marketing, as well as their numerous consequences of this system for producers, consumers and companies. For further research, we would select several global brands to analyse more closely.

3 POTENTIAL RESEARCH AREAS OR QUESTIONS FOR FURTHER RESEARCH

The following questions are potential areas for potential research in Slovak daughter companies and their foreign mothers:

- Do the CSR practices of international businessmen function as a catalyst increasing the international competitiveness and performance of the organization in foreign markets?

- Does a good corporate image derived from CSR practices play a key role in gaining information about the local market and possibly improving competitiveness in international markets?
- What are the motivations for CSR practices in foreign markets? Is there any specific relationship between the level of foreign CSR and the strengthening of the national brand? Is there a difference in motivations between CSR activities of international marketers in developed and developing countries?
- How do international business people adapt to host country CSR practices and regulations? What factors influence this adaptation? Does this adaptation process increase the brand value of MNCs?
- Do international businessmen adopt standardized CSR practices or adapt their approaches to host countries? What are the potential advantages/disadvantages and other marketing implications?
- Are the marketing and ethical benefits of CSR activities universal in foreign markets?
- Do advanced environmental and marketing capabilities of foreign firms affect their CSR practices and brand image?
- How do firms transform environmental capabilities to link them internationally to marketing advantages within an institutional void (i.e. LDCs)?
- How do international marketers manage their CSR best practices in different local market environments?
- What are the international marketing strategies of social enterprises?
- Are the CSR activities of global marketing firms related to the development of perception of the country of origin, country image or consumer ethnocentrism?
- Do MNEs in developed and emerging markets differ in their CSR activities, and if so, why? Does marketing success matter?
- Transnational CSR activity: What is it and how should it be measured?
- What is the impact of CSR communication on the civic behaviour of employees in different markets?
- Do consumers, employees and investors in different countries react differently to CSR activities and communication?

4 AN OVERVIEW OF THE TRENDS IN THE DEVELOPMENT OF CSR AND CH AS A MEANS OF INCREASING THE COMPETITIVENESS OF COMPANIES IN THE INTERNATIONAL ENVIRONMENT

There are many emerging trends in Corporate Hospitality, which include integration of CSR into core business strategy, focus on environmental sustainability, social impact and community engagement, stakeholder engagement and transparency, ethical supply chain management, and integration of technology and innovation.

Rather than treating CSR as a separate initiative, companies are increasingly integrating CSR principles into their core business strategies. This means aligning CSR initiatives with the company's mission, values, and long-term goals, and integrating sustainability considerations into various business functions. There is also a growing emphasis on environmental sustainability within CSR practices. Companies are adopting eco-friendly practices, reducing carbon footprints, promoting renewable energy, implementing waste reduction measures, and considering the entire lifecycle of their products or services. This focus on sustainability is driven by increased environmental awareness among consumers and the need to address climate change concerns. CSR initiatives are shifting towards creating a positive social impact and fostering community engagement. Companies are investing in initiatives that address social issues such as poverty, education, healthcare, and gender equality. They are also

encouraging employees to participate in volunteer programs and providing support for local community projects.

Companies are gradually recognizing the importance of engaging with their stakeholders, including employees, customers, suppliers, investors, and local communities. They are actively seeking input, listening to concerns, and involving stakeholders in decision-making processes. Transparency is also a key element, with companies disclosing their CSR practices, progress, and impact through sustainability reports and other communication channels. Supply chain transparency and responsible sourcing are gaining prominence in CSR efforts. Companies are taking steps to ensure that their suppliers adhere to ethical practices, including fair labour conditions, responsible sourcing of raw materials, and respect for human rights. This trend is driven by increased consumer expectations for ethical and sustainable products, as well as the need to mitigate reputational risks. Technology is playing a significant role in advancing CSR initiatives. Companies are leveraging technologies such as data analytics, artificial intelligence, and block-chain to enhance transparency, measure impact, and streamline CSR processes. Digital platforms and tools are also being used to engage employees, customers, and stakeholders in CSR activities.

Companies are tailoring corporate hospitality experiences to meet the specific preferences and needs of their clients or business partners. This customization can involve offering unique activities, exclusive access to events, or personalized services that create memorable experiences. Similar to CSR, there is an increasing emphasis on integrating sustainability into corporate hospitality practices. Companies are choosing eco-friendly venues, implementing waste reduction measures, and incorporating sustainable practices into event planning and execution. Technology is being utilized to enhance corporate hospitality experiences. This includes interactive event apps, virtual reality (VR) or augmented reality (AR) experiences, live streaming of events, and digital platforms for networking and engagement. CH programmes are increasingly considering the well-being and health of attendees. This can involve providing healthy food options, wellness activities such as yoga or mindfulness sessions, and opportunities for relaxation or rejuvenation during events. Companies are involving clients or business partners in the planning and design of corporate hospitality experiences. This collaborative approach ensures that the events align with the interests and objectives of both parties, fostering stronger relationships and mutual benefits. Companies are also placing greater emphasis on measuring the return on investment (ROI) of their corporate hospitality activities. This involves tracking the impact on key business metrics such as revenue growth, client retention, and brand perception, which helps justify the investment and refine future hospitality strategies (Ebner – Baumgartner, 2022).

5 CONCLUSION

Even though Corporate Hospitality is a separate concept from Corporate Social Responsibility, it can contribute to a company´s competitiveness by building relationships and enhancing its reputation. There are many other emerging trends in Corporate Hospitality, which include personalized experiences, integration of sustainability, technology-enabled experiences, focus on well-being, collaboration and co-creation and also measurements of ROI. Specific trends and practices in CSR and corporate hospitality can vary across industries and regions. Staying updated with the latest developments and tailoring strategies to the unique needs of each company is crucial for success in the international environment.

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MEASURE CONSUMER SATISFACTION IN POSTAL SERVICES IN SLOVAKIA USING DCE

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Abstract

European Commission's Postal Directive recommends EU member states to better understand to the user needs and preferences for postal service. Various EU member states have employed various techniques to measure consumer preferences in postal markets that link senders and recipients. This is a challenging task that needs careful consideration of technical, economic and social environment evolution of postal consumer needs. The aim of this paper is to examine consumer satisfaction for postal services in Slovakia. The analysis examines how these consumer preferences vary across 260 residential consumers and 90 business customers.

Keywords: *Decision theory, Stochastic models, Discrete Choice Experiment*, Postal services

INTRODUCTION

The objective of this study was to develop recommendations for the future development of the universal postal service in Slovakia in the context of the postal market best practices especially in the European Union. The overall aim was decomposed into several sub-tasks. The first one was to analyze the current state of the universal postal service in Slovakia and its benchmarking against the other EU member states. The second step was to develop methodological framework to measure the customer requirements and preferences of the users of postal services. This approach was than tested on the pilot sample and the methodological framework was updated to reflect the feedback from the pilot project. The final stage consisted of the nation-wide data collection and final evaluation of the project results.

1 LITERATURE REVIEW

Now postal services are a large and still growing sector of most economies (Boronico, 1997) in the world. The major issue that postal services must consider involves consumer satisfaction and consumer preferences. Service quality is at the root of consumers' satisfaction and is linked to such behavioral outcomes as word-of-mouth, At present, new digital technologies have a strong impact on the provision of postal services (Otsetova and Dudin, 2018) worldwide. Customer satisfaction with postal services largely depends on their ability to meet their needs. The importance of segmentation in the current market environment is important (Štarchoň and Tóth, 2012). According to Edum et al. (2019), the demand for postal services is currently increasing due to the increasing need to meet their needs through online shopping in various e-shops. Brand origin country can be essential in slovak consumers preferences (Smolková and Štarchoň, 2013). Several authors have addressed customer satisfaction in postal services in their research (Boronico, 1997), for example in Bulgaria (Otsetova and Dudin, 2018), Turkey (Yavas, 2000), Serbia (Ratković et al., 2017; Pavlović et al., 2018), in Malaysia (Isa and Kiumarsi, 2019; Kiumarsi et al. 2015), Indonesia (Manalu, 2019; Khanooja and Prathabhan, 2019), Ireland (Cahill et.al,2018), Denmark (Kristensen et al., 2000) or in the United States (Crew and Kleindorfer, 2008). According to vigorous studies, a trend has emerged in recent years the creation of new services in the postal sector, which is subject to requirements and preferences customers (Ratkovic et al., 2017; Otsetova and Dudin, 2018). It plays an important role in the customer's preference competitiveness of

postal companies. Corporate identity gives the company a face (Vilčeková, 2006). It plays an important role in the customer's preference competitiveness of postal companies. In a competitive environment, postal service providers must identify the determinants of the success of their distribution channels in terms of service quality and their impact on satisfaction and customer loyalty (Águila-Obra et al., 2013). Postal services that are extremely important worldwide suggests that emphasis should be placed on the implementation of timely and reliable services (Ratković et al., 2017; Otsetova and Dudin, 2018) and competitive prices (Boronico, 1997).

1.1 Legislative framework

The definition of the postal services is based on the Act 324/2011 on postal services, which was amended by the Act 547/2011.The wider context is based on the First Postal Directive 97/67/ES from 15. December 1997, Second Postal Directive 2002/39/ES from 10. June 2002 and Third Postal Directive 2008/6/ES from 20. February 2008.The specific conditions of the provision of the universal service in Slovakia are defined in the Decision of the Postal Regulatory Office 815/001/2012 on the Granting of Postal license to the company Slovenská pošta, a.s. for the period 1.1.2013 to 31.12.2022 for the provision of universal postal service and the obligation to provide the postal payment service. The Postal license 815/001/2012 was amended by the Decision 599/ORPS/2014, which came into effect on 1. January 2015, but this change did not have impact on this study.The quality requirements on the conditions of the universal service are stated in the relevant decisions of the Postal Regulatory Office issued in 2012.

1.2 Discrete Choice Experiment

Discrete Choice Experiment (DCE) method describes, explains and forecasts selection among two or more independent alternatives. It is used in various fields from economy, through environmental management, urban planning to transport and telecommunications. It is often used when analyzing the consumer buying behavior. It aims to understand and predict the behavior of consumer, when he selects from multiple options. The method identifies factors influencing the decisioning process and provides understanding of the value, which consumers assign to individual products and services. From the scientific perspective it is based on the analysis of the microeconomic theory of demand and consumer behavior. It is considered relatively precise method of estimating the consumer preferences. As opposed to the standard consumer models, where the key question is “how much”, the DCE is focused on the question “which”. The theory states, that the individual from the utility perspective values specific attribute/characteristic of the product and not the product itself and therefore selects the alternative, which maximizes the highest possible benefit among the offered options. The basis of the DCE approach is to determine, why individual prefers specific alternative compared to other option by comparing one to other. DCE was initially developed by Louviere and Hensher (1982) and Woodworth (1983). Since then, many authors has used discrete choice experiments in their studies, e.g. enviromental decision making (Hoyos 2010), smoking cessation behaviour (Goto et. al 2007), willingness to pay (Meenakshi et. al 2010; Schlereth 2012) and many other.DCE is widely used for the surveys in the public sector as it allows to measure the value of the public services from the citizen perspective. Therefore, it is also suitable in the postal sector to determine the customer priorities in the context of market and demographic changes.

1.3 Attributes Selection

In the experiment design phase, the first step consists of identification of the all relevant attributes. As the number of attributes, which can be researched is limited, it cannot cover all

attributes of the postal services, but they need to be prioritized. The common practice is to limit number of factors to maximum 15 to avoid the overload of the respondents and their confusion. As the survey was also covering the specific segments of vulnerable persons (people older than 65 years, disabled people or people with low income) this aspect was very important. The selection of the relevant attributes has been consulted with the representatives of the relevant ministry and the Postal Regulatory Office.The following step was to involve price as the evaluation factor, which would allow the quantitative analysis of the results. The price was considered the monetary/numerical variable.

1.4 Questionnaire Definition

The questionnaire consisted of three main parts: Classification and descriptive questions – this part ensured that the sample surveyed is statistically representative and provided additional information to cluster our findings.Discreet choice experiment section for the parcels – this part measured relative importance of the individual attributes of the universal service parcels. We offered respondents various combinations of the different levels of parcels service at the given price points and they were selecting, which one they prefer. Additional services – we allowed customers to provide ideas about new services, which they would welcome from the universal service provider.

2 METHODOLOGY

We have used statistical system to evaluate the results of the survey. We have followed the 5 steps approach:

2.1 Attributes selection and questionnaire

Each attribute was represented by 2 or 3 levels, where 1 level was considered to be the reference level. Reference level was set based on the current legislative requirements. Independent variables very classified as: Nonmonetary variables and Monetary (category) variables. Nonmonetary variables represent reduction or increase in the quality of service compared to current level. For example, for the delivery speed the Next day delivery is better service than the current D+2 level and on contrary the D+4 is the reduction in the level of service.The monetary variable, the price of service, cannot be evaluated independently, because its value is derived from the other qualitative parameters. The basis for the setting of the levels of the attributes analyzed was the current level of the universal service in Slovakia. For the definition of the level of increment/reduction of the individual attributes we have followed the recommendations of the Rand Europe study. These values were than tested on the pilot sample and minor adjustment very made to reflect the learnings from the pilot survey. The table 1 has shown selected attributes.

Table 1: The individual attributes and their values

Attribute	Levels		
Speed of delivery	D + 4	D + 2	Next day delivery
Delivery frequency	Monday, Wednesday, Friday	Monday - Friday	Monday - Saturday
Time of delivery	Delivery by 9:00 AM	Delivery by 5:00 PM	
Place of delivery	To the post office	To the home	To delivery box
Price	EUR 1,60	EUR 3,20	EUR 6,40

Speed of delivery is measured by the maximum allowed number of days from the day of collection (D) to the delivery day. Currently the letters are delivered within two working days (D+2). Delivery frequency defines the days on which the items are being delivered. Currently

it is every working day.Time of delivery defines the latest time, when the items are delivered on the last day of the delivery period. Currently all items are delivered by 5:00 PM.Place of delivery defines, if the items are delivered to the address, or some other place. The delivery box is a place created by the service provider less than 1 km from the delivery address.
Each respondent after filling in classification and descriptive questions in questionare was introduced into the context of the survey by short explanatory text. After that he was presented several hypothetical scenarios among which he was required to select his preferred option. Each combination contained product description consisting of various levels of individual attributes. The offered options were pushing respondent to compromise between individual attributes of the product, thus revealing his preferences. For each discreet choice experiment we provided 6 selection steps, while in each step the respondent was required to select one from two options provided. The example of selection step is illustrated in table 2. Based on the recommendation from the Rand Europe study we did not allowed the respondent to reject both options.

Table 2: Questionnaire section product description example

Selection #3 - Parcels	Alternative A	Alternative B
Place of delivery	Delivery home	Delivery box
Delivery days	Monday-Friday	Monday - Saturday
Time of delivery	By 9:00 AM	By 5:00 PM
Delivery frequency	Next day delivery	D+4
Price	EUR 6.40	EUR 1.6
Selected option	□	□

Each respondent expressed his preferences by making 6 selections from the combinations provided. There were different variants of the questionnaires used. For the sample of 350 respondents we have therefore collected 2100 answers. Towards the end of the questionnaire each respondent was requested to state the importance of the individual attributes of the service. This question was used for the quality control purposes.

2.2 Attributes evaluation

The basic principle of the DCE method is the maximization of utility. The respondents are selecting the option, which maximizes his utility. The evaluation model is described by the formula bellow:

RESPONSE = b1 * RDL_1D
+ b2* RDL_4D
+ b3* PDD_PSP
+ b4* PDD_PS
+ b5* CD_9
+ b6* MD_Post
+ b7* MD_DS
+ b8 * Price

Independent variables are represented by following proxy variables:

- Next day delivery (RDL_1D)
- D+4 delivery (RDL_4D)
- Delivery days – Monday, Wednesday, Friday (PDP_PSP)
- Delivery days – Monday – Saturday (PDD_PS)
- Delivery time by 9:00 AM (CD_9)
- Place of delivery – post office (MD_Post)
- Place of delivery – delivery box (MD_DS)
- Price – numerical variable

Dummy variables are most often used for the quantification of qualitative variables (e.g. gender, education, qualification, buying preferences). The approach of dummy variables uses only two levels – 0 (the attribute is not represented in the selected alternative) or 1 (the attribute is represented in the selected alternative). For example, RDL_1D represents the proxy variable for the Next day delivery option. If respondent is interested in the improvement in the delivery frequency than RDL_1D = 1, otherwise RDL_1D = 0. The same approach is used for other proxy variables for all other attributes in the survey. The abbreviation of the proxy variable consists of the abbreviation of the attribute and abbreviation of the corresponding level.

2.3 Regression model estimation

We have used the conditional logit model to estimate the regression model to predict, which alternative the respondent will select. The conditional logit model has been selected due to the fact that the attributes are defined. If the model evaluation would be done without ex-ante defined attributes it would be required to use unconditional logit model. The logit model was supplemented by the adding stratum variable, which was matching the specific respondent to his answers, which allowed model evaluation for specific categories of respondents. Regression coefficients (marked as coefficients b) represented respondents stated preferences, therefore they were indicating the respondent's attitude towards the potential increase/decrease in the quality of service in comparison to the reference level.

2.4 Model evaluation

For the residential customers the model evaluated 3120 inputs, which were represented by 1560 different questions with two possible alternatives (260 respondents, where each answered 6 questions by selecting from 2 alternatives). For the corporate respondents the model analyzed 1620 inputs (90 respondents, where each answered 6 questions by selecting from 2 alternatives).

Table 3: The explanation of model results for residential customers group

	Coefficient b	Statistical error	Value z
RDL_1D	0.49882**	0.15227	3.276
RDL_4D	- 1.03936***	0.10622	-9.785
PDD_PSP	- 0.32190*	0.13132	-2.451
PDD_PS	0.36439*	0.14792	2.463
CD_9	- 0.59173***	0.08708	-6.795
MD_Post	- 0.97817***	0.17000	-5.754
MD_DS	- 1.26414***	0.12238	-10.330
Price	- 0.63261***	0.04748	-13.324

Table 3 has shown the regression results of residential customers group. In the first column the coefficient b demonstrates respondents' attitude towards potential increase or decrease in the quality of the given attribute compared to the current level. Stars indicate statistical importance of the given coefficient for the model. The importance factor is calculated from the value z. Importance factor shows the quality of given attribute. If the coefficient does not have any stars attached it means, that the impact of the given level does not have significant impact on the overall result. The second column shows the statistical error of the estimate of the given coefficient represented by the standard deviation, which is caused by the fact that results are only statistical prediction. Its size does not impact results and is dependent on the size of the sample surveyed.The third column provides the value of the tested statistics z, which is used to test the significance of the estimated coefficient b and is calculated on the

basis of the statistical error. As the model predicts respondents' behaviors and the results are probability estimates, the value z would change if the model is recalculated, however the difference should minimal.

2.5 Calculation of the marginal willingness to pay

Marginal willingness to pay (MWTP) indicates the value, the respondents are willing to give up in order to purchase the additional unit of the product, service or to avoid unpleasant event. MWTP is calculated by dividing coefficient b of the nonmonetary variable and the coefficient b of the monetary variable and multiplying by -1. For example, the Next day delivery for the parcels' discreet choice experiment the MWTP can be calculated from the following formula: MWTP = -b1/bprice

Table 4 Example of the MWTP calculation for residential

	MWTP	0,025	0,975
RDL_1D	0.7885	0.3284	1.2482
RDL_4D	-1.6430	-2.0842	-1.2783
PDD_PSP	-0.5088	-0.9367	-0.1064
PDD_PS	0.5760	0.1121	1.0530
CD_9	-0.9354	-1.2389	-0.6607
MD_Post	-1.5462	-2.1261	-1.0141
MD_DS	-1.9983	-2.4685	-1.5895

Table 4 has shown MWTP values for each attribute level for residential customers group. First column displays MWTP, for example for the RDL_1D respondents are willing to give up maximum of 0,4496 units to speed up delivery by one day. Next two columns are showing interval, which defines minimum and maximum values, which attribute can contain in the case of repeated estimates. Table 5 has shown coefficients b for the parcels survey of corporate cusntomers and MWTP values each attribute level.

Table 5 Coefficients b and MWTP for Corporate Respondents

	b coeficients	MWTP
Price	-0,4215	
Delivery days (Mo, We, Fr)	0,0208	0,0493
Delivery speed (D+4)	-1,3465	-3,1945
Delivery place (post office)	-0,7258	-1,7219
Delivery place (delivery box)	-1,3561	-3,2173
Time of delivery (by 9:00 AM)	-0,194	-0,4603
Delivery days (Mo-Sa)	0,0387	0,0918
Delivery speed (Next day)	0,975	2,3132

3 DISCUSSION

The significantly positive coefficient value of speed delivery obtained in the evaluation of the nationwide survey of residential customers indicates a significant interest in improving the current service to this level. When analysing the preferences of all respondents as a whole, respondents prefer faster parcel delivery even at the cost of some increase in parcel price. The MWTP indicator confirms this statement, respondents are willing to pay extra for the benefit of one day faster delivery. The exception was respondents living in municipalities with up to 5,000 inhabitants, who were the only group surveyed to express satisfaction with the status

quo and disinterest in a possible acceleration of delivery. When comparing the results with the data obtained in Italy, Poland and Sweden using study (Rorh, 2011), it is possible to observe a certain difference in the preferences of the respondents, since in these countries no significant interest in speeding up parcel delivery was observed.

Interestingly, parcel delivery by 9am was also seen as an improvement on the status quo (it is by 5pm), yet respondents still reacted negatively to a change in this level. On closer examination of the responses, there were no significant differences between the preferences of the different categories. However, it is possible to note a more negative attitude towards delivery before 9 pm for respondents not belonging to the vulnerable segment, respondents living in larger cities and respondents with a monthly income of 866 euro.Residents of Poland, Italy and Slovakia have a strong tendency towards later delivery times, while Swedes have no preference in this area. The reason for this can again be seen as a preference to be at home at the time of package delivery.The reduction in the number of delivery days was rated highly negatively by respondents, indicating that respondents rate the introduction of only three delivery days negatively. However, compared to letter mail, respondents showed a stronger interest in increasing the number of delivery days. The strongest interest in extending the number of delivery days was observed among respondents living in municipalities with a population under 5,000, among respondents not belonging to the vulnerable segment and among respondents with a monthly income above 866 euros. The results for this attribute cannot be compared with the results from the study (Rohr,2011) as it was not examined in the latter.

Analysis of the preferences of all respondents as a whole yielded insights into the importance of the home delivery attribute. Negative b coefficient values for the options of potentially changing the delivery location to a mailbox or post office, indicate that respondents evaluate the possibility of changing the delivery location negatively from the status quo. As can be seen in Figures 8 to 10, home delivery is preferred, as with letter delivery, by all categories participating in the survey. Comparable results for this attribute were also obtained in the survey described in the (Rohr,2011), where individuals also showed a significantly negative attitude towards a change of delivery point. The greatest interest in improving the current situation can be observed in companies that send more than 30 parcels or receive more than 50 parcels per month, or companies that have been classified as legal entities sending/receiving less than 500 letters per month on the basis of the volume of letters. The interest of legal entities in speeding up parcel delivery is also more pronounced than that of individuals, with a significant willingness to sacrifice some financial resources for the service

There was no interest in changing the delivery time from the current situation, unlike the experiment concerning letters. Since the coefficient value reached a low level of significance for all distributions examined, this indicates the respondents' inclination towards the status quo.Based on the coefficients, a significantly negative attitude towards a possible change in the place of delivery can be observed. The main reason for this can be considered to be a possible increase in costs in the case of having to commute to the post office or to a delivery box.

The MWTP in this attribute indicates that the service would have to become significantly cheaper for companies to be willing to pick up packages at a location other than the company's headquarters. Especially for large companies, this value reached significantly negative values, confirming the assertions described above. According to the results of the study (Rohr,2011), companies in Poland, Italy and Sweden expressed a negative attitude towards a possible change of delivery location. On the basis of these results, it can be concluded that the preferences of Slovak companies are almost identical to the results obtained abroad.

The low value of the coefficient for a reduction in the number of delivery days for all the categories studied indicates a negative attitude towards such a change of level. A positive value was achieved only for companies sending less than 30 parcels and receiving less than 50 parcels per month. However, since the value reached a low level of significance, this value can be interpreted as satisfaction with the status quo. A negative attitude towards a possible reduction in delivery days can be considered as the fact that companies sending a large number of parcels depend on their timely delivery (internet shops, bookstores) and such a change in the level could harm their business. However, the increase in the number of delivery days was met with interest from the legal entities surveyed, which receive and send more than 500 letters per month, or send more than 30 or receive more than 50 parcels. On the basis of this fact, it is possible to note the interest of companies that actively use postal services.

4 CONCLUSION

Overall there were minimal differences between the results for the residential and corporate customers. The only difference was the desire of the residential customers to extend the delivery days by Saturday, even if the price of the service is increased. For the corporate respondents the coefficient b was also positive, but very close to zero, so from the statistical point of view it is not representative. As most of the businesses are open only during the working days, the delivery on Saturday would not be relevant to them. Both residential and corporate respondents would also welcome increase in the delivery speed to the Next day delivery. For the other parameters the negative coefficient values indicate satisfaction with the current level of service.

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EKONOMIKA, BANKOVNICTVÍ, POJIŠŤOVNICTVÍ

ECONOMY, BANKING, INSURANCE MANAGEMENT

COMPETITION IN BANKING: CURRENT RESEARCH AND BRIEF BIBLIOMETRIC ANALYSIS

Vladimír Petrík

Abstract

Banking industry is currently formed by various societal and economic developments, e.g. changing nature of monetary policy, increased regulatory pressure and disruption in the form of FinTech companies. All of these conditions influence competition characteristics of banking industry. The goal of the paper is to detect theoretical perspectives, themes and common issues in the topic of Competition in Banking and identify opportunities for future research. The paper has a form of literature review with semi-systematic research approach. Competition in the banking industry can have both positive and negative effects on stability, depending on the country-specific context and regulatory variables. The interplay between macroprudential and monetary policies also presents challenges.

Key words: *banking, competition, market power, review.*

1 INTRODUCTION

Studies on competition in banking examine various aspects of competition, including the market share of individual banks, the presence of entry barriers, the degree of innovation and efficiency, and competitive behavior in the market. One of the main objectives of these studies is to provide relevant information for regulators to formulate policies and measures that promote healthy competition in the banking sector. Competitive analysis can help identify potential competitive failures and potential monopolistic behavior that could negatively affect consumers and market itself.

Another important topic for studies on competition in banking is the impact of technological progress and digital transformation on the competitive environment. With the emergence of financial technology (FinTech) and new digital players, banks face new challenges. Studies focus on assessing the impact of these new players on the market dynamics and competitive position of traditional banks (Petrík, 2023). Another important area of research is the assessment of banking sector concentration and its implications for competition.

As any new theory should be built on our existing knowledge, the intention of this paper is to detect current theoretical perspectives, themes and common issues of *Competition in Banking*. Paper is structured to four chapters. This first chapter provides introduction to the issue and demonstrates attractiveness of selected topic. Second chapter describes goals and methods of the paper. Third chapter presents results. Fourth chapter discusses results with other authors.

2 METHODS

As it was indicated in previous chapter, the goal of the paper is to detect theoretical perspectives, themes and common issues in the topic of *Competition in Banking* and identify opportunities for future research.

The sample strategy for literature review was systematic, it was limited only to Web of Science database (hereinafter referred to as “WoS”). This is also a limitation of this paper. The methods used are content analysis and thematic analysis of selected articles, followed by qualitative analysis (McColl-Kennedy et al., 2017). The review within this paper was conducted in line with 8-step process of systematic literature review proposed by Xiao & Watson (2019).

The information presented in this paper regarding numbers and results of WoS content is as of March 30, 2023, when the WoS records were obtained.
Following the purpose of the lecturer's message regarding making author comfortable with state-of-art research in Finance, it was decided that the attention will be put only to WoS articles from journals in 1st decile of WoS journal rank. There were 80 journals in the 1st decile of FORD 5.2 Economics and Business.
The search in WoS was based on following criteria: (a) Search query: "bank*" AND "competit*"; (b) Period: year 2022; (c) Document types: Articles; (d) Languages: English; (e) WoS Index: Social Sciences Citation Index; (f) Publication titles: 80 journals in 1st decile.
The result was 79 articles in 24 journals of totally 80 journals in 1st decile. Some journals had one or more articles fulfilling abovementioned criteria.
Selection of journals from WoS to given decile was entered manually. The information about quartiles was taken from tool created by of University of Economics and Business in Prague (2023). Moreover, basic bibliometric analysis concepts were applied on the data covering these 79 articles. Program WoS Viewer was used to provide co-occurrence analysis of KeyWords Plus (parameters: eights were represented by occurrences; minimal number of keyword occurrences was 15).
To synthesize and compare evidence regarding the relationship mentioned above, a semi-systematic research approach was chosen for this literature review. This approach allows for the synthesis and comparison of evidence, which is necessary for the study. The process of conducting the research study was influenced by guidelines provided by Tranfield et al. (2003), McColl-Kennedy et al. (2017), and Snyder (2019). Tranfield et al. (2003) emphasized the challenge and necessity of conducting systematic reviews in management and economic research. There are several types of literature reviews, as highlighted in the literature (e.g., McColl-Kennedy et al., 2017; Snyder, 2019). Therefore, it was important to specify the applied approach in this study, which used terms like research study or literature review. According to McColl-Kennedy et al. (2017), when a large number of articles need to be reviewed, it may not be feasible to apply a full systematic review process, and a semi-systematic review is recommended. Thus, the semi-systematic literature review approach, also known as a narrative review, was chosen as a specific guideline for conducting the literature review on the proposed topic. The methods employed in this semi-systematic review are related to qualitative research in general, such as content analysis and thematic analysis of selected articles, followed by qualitative analysis. The suitability of this approach was indicated by Wong et al. (2013) and Snyder (2019), who stated that it is appropriate when studying complex areas.
In addition to the goal of the paper, results of the paper shall confront and expand presented knowledge by geographically focused research results. Discussion part of the paper shall indicate opportunities for future research.

3 RESULTS

In this chapter, the brief overview of current bibliometric is provided, followed by selection of geographically focused research results.

3.1 Brief Bibliometric Research

The current body of knowledge regarding competition in banking is presented in this chapter, based on literature review of 79 articles in 24 journals of totally 80 journals in 1st decile WOS journal rank (Table 1). Details about selection of articles and journals are in previous, 2nd chapter of this paper.

Table 1 List of journals with search results and frequency of recorded articles

Journal	No. of articles
JOURNAL OF INTERNATIONAL ECONOMICS	10
MANAGEMENT SCIENCE	9
JOURNAL OF FINANCE	6
JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS	5
JOURNAL OF FINANCIAL ECONOMICS	5
JOURNAL OF FINANCIAL INTERMEDIATION	5
REVIEW OF ECONOMIC STUDIES	5
REVIEW OF FINANCIAL STUDIES	5
JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION	4
AMERICAN ECONOMIC REVIEW	3
ECONOMIC JOURNAL	3
ANNUAL REVIEW OF ECONOMICS	2
ANNUAL REVIEW OF FINANCIAL ECONOMICS	2
JOURNAL OF MONETARY ECONOMICS	2
JOURNAL OF POLITICAL ECONOMY	2
QUARTERLY JOURNAL OF ECONOMICS	2
REVIEW OF ECONOMICS AND STATISTICS	2
ACADEMY OF MANAGEMENT REVIEW	1
ACCOUNTING REVIEW	1
ADMINISTRATIVE SCIENCE QUARTERLY	1
ECONOMETRICA	1
ECONOMETRICS JOURNAL	1
ECONOMIC POLICY	1
JOURNAL OF ACCOUNTING RESEARCH	1
Total:	79

Source: Own work based on the WoS query as of March 30, 2023

Table 1 indicated that Journal of International Economics, Management science and Journal of Finance dominates the publication outputs in 1st decile, as they represented approx. 32 % of all articles (25 out of 79).

Bibliometric co-occurrence analysis of KeyWords Plus of these 79 articles provided 5 clusters with 680 links covering items in total. Illustration of these cluster are in following Fig. 1.

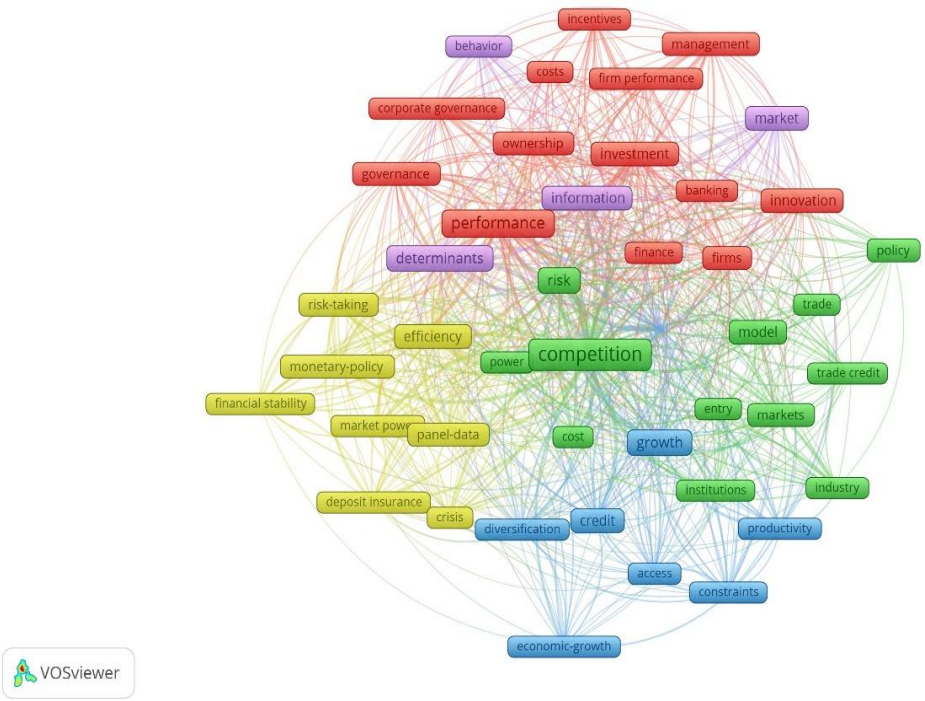

Fig. 1 Co-occurrence of KeyWord Plus in 79 analyzed articles. Source: WoS data (2023)

In addition, for better illustration, following Table 2 provides results of KeyWords Plus in the analysis sorted by cluster.

Table 2 KeyWords Plus by cluster

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Banking; Corporate Governance; Costs; Finance; Firm performance; Firms; Governance; Incentives; Innovation; Investment; Management; Ownership; Performance.	Competition; Cost, Entry; Industry; Institutions; Markets; Model; Policy; Power; Risk; Trade; Trade credit.	Access, Constrains; Credit; Diversification; Economic growth; Impact; Productivity.	Crisis; Deposit insurance; Efficiency; Financial stability; Market power; Monetary policy; Panel data; Risk taking.	Behavior; Determinants; Information; Market.

Source: WoS data (2023)

These clusters are represented by various number of articles in clusters, but these clusters slightly differ by thematic focus. Cluster 1 oscillates about governance and performance. Cluster 2 is focused on costs, power and risk. Cluster 3 shares the productivity, credit and diversification, incl. industry impact. Cluster 4 works with risk-taking, market power, crisis and monetary policy. Cluster 5 has a narrative of information and behavior.

Additionally, following Table 3 provides the overview of most active authors in the sample of 79 articles. The position of author in the authorship collective was not weighted or taken into the account.

Table 3 Authors with more than 1 occurrence in authorship of 79 articles

Author	Frequency	Commentary
Aldasoro, Inaki	2	2-times 1st author
Eren, Egemen	2	1-time 3rd author, 1-time 4th author
Gambacorta, Leonardo	2	1-time 3rd author, 1-time 4th author
Landvoigt, Tim	2	1-time 2nd author, 1-time 4th author
Mongey, Simon	2	2-times 3rd author
Song, Fenghua	2	2-times 1st author
Zhu, Haoxiang	2	1-time 3rd author, 1-time 4th author

Source: WoS data (2023)

There was no author with more than 2 authorships. There were 7 authors in total with 2 authorships. Authors Inaky Aldasoro and Fengua Song were 2-times 1st authors.

3.2 Selected Regional and National Results

In this chapter, the results of geographically oriented research is presented.

Azmi et al. (2019) investigated competition-stability nexus on diversification on the sample of 14 *dual banking economies* (operating both conventional and Islamic banks) over 2005–2016 (countries: Bangladesh, Brunei, Indonesia, Jordan, Kuwait, Lebanon, Malaysia, Pakistan, Qatar, Saudi Arabia, Tunisia, Turkey, the UAE and Yemen). Their core finding is that competition does not impact bank stability and that diversification is insignificant in the competition-stability nexus. This result does not fully correspond with previous findings, but also indicate the convergence of both business models as existence of Islamic banking may not necessarily destabilize the system. In addition, Abuzayed, Al-Fayoumi & Molyneux (2018) stated that in dual banking system in *GCC region* factors such as improved institutional quality, macroeconomic conditions, and other bank-specific factors motivate greater stability. The findings regarding impact of bank diversification on stability show a negative relationship between diversification and stability, with increased exposure to non-interest/non-financing activities undermining the benefits. This effect is more pronounced for conventional banks. Larger, efficient, and liquid banks tend to be more stable, while banks with larger loan books relative to assets are more fragile. The findings have implications for GCC regulators as they work towards economic and financial sector diversification.

Relationship between mark-up and systemic risk was investigated by Hirata & Ojima (2020) in *Japan*. Their result, negative relationship between the mark-up and systemic risk for Japan's regional banking system, is rather conflicting with existing literature. The reason is business model or banks in Japan when Japan's regional banks has specialized in local relationship lending without diversifying their business profiles like large and globally active banks in Europe and the U.S. On the other hand, Hirata & Ojima (2020) draw two important conclusions: (i) simultaneous moves of otherwise insignificant banks are detrimental to the stability of banking system since they elevate systemic risk via common asset holdings, and (ii) there are needs for competition policies that well suit for regional banks whose focus is on traditional lending. Current research by Risffandy, Tarazi & Trinugroho (2022) provided robust evidence that competition erodes the stability of conventional banks only within dual banking system.

Tan & Floros (2018) provided some evidence from *China*. The findings indicate that in Chinese commercial banks, higher efficiency is associated with increased credit risk and insolvency risk, while liquidity risk and capital risk are reduced. Furthermore, increased competition leads to lower credit risk and insolvency risk but higher liquidity risk. The study reveals a significant and positive relationship between efficiency and credit risk as well as insolvency risk, while liquidity risk and capital risk are significantly and negatively associated

with efficiency. Finally, it is observed that reduced liquidity risk is linked to higher competition levels.

Clark, Nemanja & Sharipova (2018) investigated the impact of bank competition on financial stability in the transition markets of the *Commonwealth of Independent States* (CIS). The findings of our study support the competition-stability hypothesis, demonstrating that competition plays a role in enhancing financial stability in the examined countries. Additionally, we discover that legal rights for borrowers and lenders, along with the supervisory power of regulators, have a significant and positive influence on bank stability within the CIS. These results remain robust when considering various instrumental variables, model specifications, subsample tests, and alternative measures of competition.

Unbalanced data on 1121 banks from 22 *transition countries* from 1998 to 2016 (namely Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Macedonia, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine, Uzbekistan) were subject of research for Shaofang (2019). Before transition, banking sectors in these countries were largely controlled by the state. The study confirmed a negative relationship between market power and bank stability, as well as a positive relationship between bank reform and stability. Competition incentivizes banks to diversify risk, thereby reducing bank instability. Furthermore, banks experience improved financial stability following banking sector reforms, such as interest rate liberalization, increased lending to private enterprises, and the growth of private banks. Regarding bank regulations, higher activity restrictions and explicit guidelines for asset diversification contribute to bank stability. However, this positive effect is weakened for banks with higher market power. Stricter capital requirements, combined with higher market power, increase the risk of bank insolvency. Our findings also highlight that greater power to declare insolvency, private monitoring, and financial statement transparency enhance bank stability. On the other hand, the presence of a deposit insurance scheme is negatively associated with financial soundness. These results have significant policy implications for transition countries. Firstly, the negative relationship between market power and stability underscores the importance of fostering competitive conditions within the banking system. Additionally, the positive relationship between bank reform and stability emphasizes the significance of implementing appropriate reforms, such as interest rate liberalization, increased support for private enterprises, and the promotion of private banks. Secondly, findings support the notion that an effective bank regulatory framework is crucial for ensuring bank stability. Activity restrictions, capital regulations, official supervisory actions, private monitoring, and financial statement transparency are all positively correlated with higher bank stability. Lastly, while higher activity restrictions can reduce bank fragility, an excessive increase in such restrictions may reduce competition in the financial market. Therefore, it is essential for regulators to strike a balance between enhancing bank stability and maintaining a competitive banking system.

Ornelas et al. (2020), analyzing links between competition, market power and spread of loans to firms in *Brazil* came to significant conclusion that policy responses related to foster information sharing may help to decrease switching costs and alleviate the effects of lock-in as their results show an inverse relationship between competition and spreads.

Study of Dinu & Bunea (2022) explored the relationship between competition, risk management, and profitability in the *Romanian* banking market, both before and after the onset of the COVID-19 pandemic. With economic uncertainty prevailing at the national level, effective risk management becomes crucial for maintaining financial performance and resilience amidst potential losses. The findings indicate a significant correlation between banks' exposure to total risk and market share, as well as their impact on the banking system's performance prior to the pandemic. Following the onset of COVID-19, the study reveals that

banks' exposure to credit risk, in conjunction with their position in the banking market, assumes greater significance.

4 DISCUSSION AND RESEARCH OPPORTUNITY

The generally accepted premise is that competition is a source of instability in banking (Vives, 2019). On the other hand, it is always a country specific context that has to be taken into account while assessing the strength of this assertion, because competition in transition economies according to Shaofang (2019) incentivizes banks to diversify risk, thereby reducing bank instability. Gonzáles (2022; 2023) provided insights into the relationship between macroprudential policies, creditor rights, bank competition, and stability. The tightening of certain macroprudential policies, such as limits on loan concentration and reserve requirements, can increase bank competition, while capital-based and tax-based policies reduce competition. It also emphasizes the positive impact of these policies on financial stability. Moreover, focusing on changes in creditor rights, reveals that an increase in creditor rights in bankruptcy generally leads to higher bank market competition. The study further demonstrates that changes in competition mediate the impact of creditor rights on bank stability, indicating a potential increase in bank insolvency risk but also suggesting that stronger creditor rights can reduce bank risk when competition is considered. Competition is usually in research papers measured by three methods: the Boone index, Lerner index, and the Herfindahl–Hirschman Index (HHI).

These findings collectively underscore the complexity of regulatory decisions. Regulators need to balance the benefits of strong creditor rights, such as improved credit supply and economic growth, with potential downsides, including riskier corporate investments. Additionally, interactions with other regulatory variables, such as restrictions on bank entry and activities, must be considered. The studies suggest that reinforcing bank stability may require different approaches depending on the country context, such as traditional regulatory actions or tightened legal restrictions. Overall, these insights contribute to a better understanding of how to promote both competition and stability in the banking sector. The changing banking business nowadays includes liberalization, technological change, and shadow banking and these has to be taken into an account while providing effective regulation. Considering expected regulatory convergence, e.g. in European Union, it is also important understand effects of formal and informal institutions like in real economy. The standard competitive paradigm does not fully apply to banking due to various market failures such as asymmetric information, market power, externalities, and behavioral biases. Research results reveal that systemic risk measures are associated with cultural values. In particular, our results show that individualism and masculinity are the main drivers of banks' contribution to systemic risk. In addition, the impact of cultural variables on the systemic risk measures is nonlinear. This variation may be driven by both information in the national cultural measures and the skewness of the systemic risk measures. The findings have implications for prudential policies: designing uniform prudential and regulatory policies in banking to avoid financial distress for countries with heterogeneous cultures might not have the desire impact; rather, they might be more effective if the type of culture in each individual country is considered (Andries & Balutel, 2022). While competition can enhance efficiency in general, it can only improve social welfare if other market failures are addressed. Vives (2019), in line with other authors, stated that increasing competitive pressure in banking may have negative consequences by amplifying instability through two channels: (a) by incentivizing risk-taking and increasing the likelihood of failure due to asymmetric information, and (b) by exacerbating coordination problems between depositors/investors and triggering runs or panics as an externality market failure.

The current economic conditions, characterized by rising inflation and increasing interest rates, raise concerns about the interconnected effects of macroprudential policy and monetary policy. In recent times, macroprudential policy has emerged as a fully-fledged tool of economic policy, as exemplified by the swift relaxation of capital requirements in numerous countries in response to the COVID-19 crisis. Within a DGSE model (Dynamic General Equilibrium with Stochastic Equilibrium) that incorporates financial frictions, conflicts between macroprudential and monetary policies have been identified. These conflicts arise when monetary policy produces adverse effects on macroprudential objectives and vice versa. In particular, the implementation of macroprudential instruments such as countercyclical capital requirements and loan-to-value caps may hinder the stabilization of inflation and output, especially when faced with shocks related to investment and bank capital. These shocks are characterized as supply-side and have economy-wide implications (Revelo, Levieuge, 2022). These results open the way for a more formal analysis on the coordination of these policies and on the suitable institutional arrangements for the design of monetary and prudential regulation.

Avezum, Huizinga & Raes (2022) present evidence that non-financial firm leverage is sensitive to a range of bank regulatory variables. Capital regulation stringency and official supervisory power are negatively related to firm leverage. Restrictions on banks' securities, insurance, and real estate activities, and restrictions on their investments in non-financial firms, are positively associated with non-financial firm leverage. These associations suggest that banks with more limited non-credit investment options are left to allocate more resources to lending. Findings like these create an opportunity for future investigation of transmission of bank regulation to firms' financing and real activities.

Moreover, understanding the linkages of shadow banking entities to other non-bank financial institutions is also an important part of the financial system that needs to be monitored. A mapping of these linkages and potential contagion paths between sectors and jurisdictions will contribute to a more complete picture of the interconnectedness of the banking and shadow banking systems. Other potential areas for further work include an examination of the supervision and regulation of individual shadow banking entities, including their potential prudential consolidation. (Abad et al., 2021).

In today's economic landscape, businesses, including banking services, are facing significant challenges in terms of competitiveness. The financial services sector, in particular, is experiencing widespread disruption. Banks need to adapt flexibly to the evolving business environment and changing customer demands. This constant need to meet diverse requirements puts continuous pressure on innovation. The relationship between financial technology (FinTech) and systemic risk has become increasingly intertwined in the 21st century, despite both concepts existing before this time. Further exploration is needed to understand the interdependencies between modern FinTech and systemic risk. It is crucial to investigate not only how systemic risk affects FinTech but also how FinTech itself can contribute to systemic risk (Petrík, 2023). Failing to control and address these risks in a timely manner can lead to significant costs and the emergence of systemic risks. Therefore, it is essential to proactively detect and prevent potential crises before they occur (Amelda, Bernadetta & Jesselyn, 2020). Azmi et al. (2019) examine the case of dual banking economies and propose that implementing a dual banking system can benefit a country by improving financial inclusion and catering to diverse customer needs, including religious requirements highlighted in their study. FinTech has the potential to provide opportunities for specific customer segments that may not have previously shown interest in traditional financial and banking services.

It will be interesting in following years to watch how currently big banks will deal with competitive pressure from smaller subjects within or outside banking industry, as evidence

suggest that similar loans provided by banks having higher market power are significantly more expensive (Canon, Cortes, Guerrero, 2022). It is not uncommon to have smaller organizations to operate more efficiently in contrary to expected economy of scale of bigger banks, as big banks might be too rigid to effectively adapt to new environment.

To sufficiently comprehend the real influence of competition in banking industry, one must understand and take into an account country-, industry-, and economy-specific status of banking. Hirata & Ojima (2020) show the need for further research on the effect of competition on systemic risk, considering the characteristics of banks in different banking systems (e.g. regional vs global). Impact of competition on systemic risk could be unique depending upon the characteristics of banks in a system.

Another important "buzzword" of market today is sustainability. Although there is some and still growing body of research, there is still a plenty of topic within interrelationships between banking performance, competitiveness and sustainability. Istudor et al. (2022) demonstrated in the perspective of US, China and Europe the link between banks' investments in green energy and sustainable products and the subsequent increase in competitiveness reveals a dynamic pattern of effects on profitability. In the short term, this strategic shift may have a negative impact on profitability. However, in the medium and long term, it is expected to yield positive results, leading to an overall increase in profitability. Furthermore, this transition towards sustainable business models and the financing of a higher proportion of green investments provides additional competitive advantages. These advantages extend beyond mere financial gains and include factors such as enhanced reputation and smart differentiation from banking systems that are less focused on sustainability. This process influences multiple levels, including the systemic and macro perspective, as well as the organizational and micro perspective within the banking industry. Moreover, it significantly impacts customer perceptions, as customers increasingly value and prioritize sustainable banking practices.

Another path to follow is to examine competitive tensions between host and local banks at local banking market. Song et al. (2022) indicated that foreign expansion of Chinese banks reduces their cost efficiency due to the agency problem, while improving profit efficiency to retain the long-term bank-client relationship, naming stringent regulations and less competition as key factors impacting the loss and gain of cost and profit efficiency. Evidence from Indian hostile and competitive banking environment provided by Caussat (2022) shows that conceptualization of competitive advantage of banking multinational enterprises in such market situation might be based on institutional asymmetries, first-mover advantage and comparative capitalism. In addition, Chen & Hsu (2022, p. 1283) found out on panel data of 375 foreign banks in 47 Asian countries that "*foreign banks in Asia present higher profits than domestic banks. Specifically, banks locating in a less competitive host nation show higher profitability, while host-home differences in aggregated quality of national governance also significantly reduce the foreign bank profitability in terms of individual indicator for voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption.*"

Following the 2008 global financial crisis, stability-competition or stability-fragility nexus have been investigated by various researchers, often resulting to require trade-offs between competition and stability. While existence of competition-stability relationship might be grounded in theory and practice, for future regulation and research debates the situation is more complex and we agree with research efforts exploring exogenous changes in the competitive pressures facing individual banks (e.g. Jiang, Levine, Lin, 2022).

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CHANGE IN THE DISTRIBUTION OF POLITICAL-ECONOMIC FORCES IN THE WORLD AS A RESULT OF THE WEAKENING ROLE OF THE US DOLLAR

Daniel Lopata, Jaromír Tichý, Mario Slivka

Abstract

At the time of global changes in the world, it is difficult to define clear political parameters and international standards that would serve as a basis for a uniform regional division. In the globalized world, the modern world is a combination of: politics, economics, law, etc. The deflection from the unipolar world and the emergence of new political players on the world stage naturally affected the world monetary unit - the dollar (USD), because in political relations the International Monetary Fund and banks consider the US dollar as the basis of their capital. Currently, currency linkages in world economic relations are poorly managed. The reorganization of the world monetary system is necessary to stabilize the global financial sphere, including the political one. The aim of the contribution is to indicate a way to define the future development of the world political-economic distribution of forces based on the position of the weakening role of the US dollar as a global reserve currency.

Keywords: *reserve currency, globalization, international arrangement, ideology, bipolar world, political-economic view*

INTRODUCTION

When monitoring the development of macroeconomic indicators, especially from the point of view of forecasting their development with regard to the direction of the globalized political-economic trend, the future of the world order can be sought. It can be seen that geographical, historical-cultural, economic, political-military and other factors, which traditionally form the basis of the regional division of the modern world, are interconnected. This combination of factors reflects the conflictual and complex nature of development, pointing to areas with high demographic pressure, the spread of extreme poverty and the depletion of human capital. Emerging alliances of seemingly disparate civilizations can fundamentally change the balance of power in various combinations of a more or less conflictual nature. The expansion of the sphere of influence of NATO and the European Union in the former Soviet republics caused great resentment in Russia. However, in the interpretation of the United States, historically, culturally and religiously, the Baltic republics clearly belong to Western civilization. Russia, on the other hand, is trying to create a Eurasian bloc with a strong Orthodox core, but also with considerable influence in relatively weaker Islamic countries. After the brief euphoria of regained independence, five countries of the former Soviet bloc are turning to Russia for support and protection. Nowadays we know that such extreme interpretations of the Western-Russian sphere of influence ended in military conflict in Ukraine and Georgia. China's expansion, fueled by economic growth, has reflected in the cultural and economic influence. Political elites perceive mainland China as the central state of Chinese civilization, Greater China, which is interdependent on all the economies of Southeast Asian states. Islam, with its inconsistency and unclear attitude to the position of state leadership claimed by Iran, Pakistan, Saudi Arabia, Turkey, Indonesia and Egypt, contributes to constant internal and external conflicts. It can therefore be stated that the future political-economic division will tend to shift from an inter-regional to an intra-regional approach. There is already discussion about the

emergence of regional economic units – European, North American, East Asian and others. (Huntington, 2001)

1 POLITICAL-ECONOMIC BALANCE OF POWER

After 2020, many countries claim a dominant position or serious participation in global politics, for example – China, India and Turkey. China is a unique country that has retained a communist system at its core and a capitalist approach to business development.

The problem of the political-economic balance of power lies in globalization. Economic globalization is inherently transnational and removes all barriers to the movement of goods and capital. In international politics, however, we encounter an emphasis on the concept of the nation state. Thus, the organization of peace is greatly influenced by the alignment of concepts of national interests, and thus the emphasis on the importance of borders. (Kissinger, 2016)

It can therefore be concluded that the main actors remain nation-states and the main motivation is the acquisition of power and wealth, emphasized by cultural orientation in all its similarities and differences. Henry Kissinger (2016) lists six major powers that will continue to assert their own values in the future - United States, Europe, China, Japan, Russia and India. Huntington (2001) bases this classification on the civilizational model and adds that there are five very different civilizations. In order to complete the whole issue, Islamic countries cannot be neglected. Their total population, strategic location, underground sources of oil and gas, and influence on world politics are not negligible. (Kissinger, 2016)

1.1 Distribution of political forces in the world

When studying the specifics of American society, it was found that none of the problems in the economy and politics that are coming in the USA was predicted, or at least everyone thought so. American society is characterized by the fact that negative predictions in the economy and politics are recognized only when it is clear to everyone that they will become tomorrow's reality. The problem of American society is also the expediency of how to highlight any news and interpret it as a trend of economic growth despite the fact that the main trend of this news is accompanied by convincing negative facts. These characteristics of American society have become increasingly dangerous since 2000. American politics and economics are already showing similar symptoms that coincide with those of 1929 and which led them to crisis. (OER services, 2023)

Since 1990, the Americans have built their new model of economic growth on increasing productivity and betting on new high-tech products. The impact of the advance in the field of advanced technologies ("high-tech economy") that the Americans initiated has led to major problems in the American current economy. And it was productivity growth that was the basis for promoting a new type of economy (permanent growth), which had to be accompanied by infinitely increased consumption! All of this growth is turning out to be nonsense, and even the numbers that WorldCom and Rank Xerox were reporting for financial growth turned out to be unsustainable.

In the early 2000s, it became increasingly clear that the new American economy that had been created over the past 15 years had many serious flaws:

- The huge financial commitments that were spent over the years to develop this economy were hanging in the balance;
- The growth rate did not correspond to the expected values;
- This "high-tech economy" requires more and more investment just to exist;
- And above all, it does not allow a significant increase in sales to its consumers, as it turned out that the consumer is relatively conservative in his needs (clothing, housing, food). The analysis of the structure of the population's expenditure also showed that in

order to increase the share of the population's expenditure on GDP participating in the purchase of goods produced by the "top economy" by at least 1.5 %, the need for investment in the economy itself would have to be almost doubled. (Cheung, Kutcher, and Wagle, 2009)

Clearly, all the costs of the US tech economy will be redistributed and burden other economies. As practice has shown, a technologically advanced economy cannot pay for itself. The scale of investment in the modern American economy is very difficult to estimate, but some American and Russian experts say it could be 15% of GDP, which would then lead to a 15% or even 20-25% drop in GDP. There was not enough money for this in full, and the massive propaganda of economic success made the overall situation even worse. This led America to act to stabilize the economy by non-economic means, which was clearly evident in those years by the actions in Afghanistan, Iraq, Syria, Palestine, etc. This mainly resulted in an increase in spending on the military industry in 2001 and in the following years of the 21st century. On the background of the above, all US actions are aimed at strengthening its own power, and on this topic, Kissinger (2016) clearly focuses on the role of the US in the world economy after the war years and at the beginning of the 20th century.

In the period after the Second World War, the general organization of political and economic forces was very strongly in favor of the international leadership led by the United States of America. The strong industrial areas of Europe, Germany, Czech Republic, were exhausted by the war. Great Britain and France became financially and economically dependent on the United States in the post-war years and could no longer be considered the main competitors of the United States, and all this was accompanied by an ongoing process of decolonization. On the contrary, the military conflict of World War II contributed to the economic and ideological strengthening of American power, which, however, was recovering from the financial crisis of the 1930s. Convinced of its uniqueness based on the idea that its development really determines the development of humanity, America ascribes to itself the special function of spreading freedom and democracy with universal validity. This concept, in turn, changes the way foreign policy spreads from traditional values to these principles, which are believed to have universal power. Such a concept is underlined by the statements of all post-war American presidents. The moral universalism of American leadership has certainly produced results. America helped to revive the European economy, created the North Atlantic Alliance, and created a network of global and economic partnerships. It set up a worldwide system of free trade that helped to increase shared prosperity and productivity. (Kissinger, 2016)

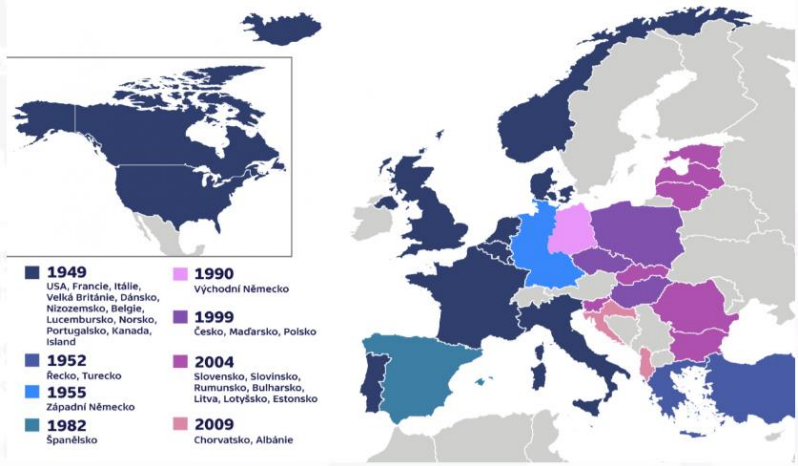
Eventually, however, US resources proved to be insufficient to sustain the "high-tech economy" and the scale of the financial problems spread to the rest of the world. The history of economic relations throughout the world is based on a single measure of value, and for most of that time gold has been the measure of value. It was only in 1944 that the US dollar, which was backed by gold - the Bretton Woods system, took over as the standard of value. In 1971, this system was abandoned and the US dollar, which was backed by the US economy and political power, became the sole benchmark. Post-war America achieved an economic boom of 60% of GDP very soon due to its post-war efforts, mainly due to technology coming from Germany, European economies and countries where it conducted its military operations after World War II, such as Korea, Vietnam, Africa, etc. On one hand, the idea of spreading "human rights" and democracy was realized when the system in approximately thirty countries reoriented itself from an authoritarian to a democratic concept already in the seventies. On the other hand, the level of economic development also played a role, as America needed markets and developed them further. From 1945 it lent to Europe, then created the WTO to define a controlled market and protect the interests of big corporations,

including the aforementioned wars in the Middle East, Afghanistan, Vietnam, Africa, Korea and elsewhere, which of course invalidated the aforementioned ideologies. (Clark, 2003)
The US policy of controlling anything and everything for political ambition and monetary gain has also led to the closure and collapse of many businesses that produced competitive products around the world. An example of such a recent fact is the competition with Huawei, the EU green program, the closure of uranium gas mining in Europe, etc., not exactly business methods, and there have been many such facts on the US account since 1945, and some of them purely as a fight for their own interests, regardless of the commercial and political interests of the world. In general, it can be said that all this is happening in order to make the dollar strong and maintain monopoly control over the main countries of the world. But even a strong dollar is against the interests of American manufacturers; on the other hand it protects world markets from destruction. However, in the 21st century, there are no longer enough resources to keep everything together indefinitely, leading to what is happening in the world now. The more Americans resist this, the more enormous the consequences, both economic and political, will be. (Eckert, 2012)

1.2 The role of Russia and the bipolar division of the world

However, the Free Movement of America to the East was always hindered first by Tsarist Russia, then by the USSR. This was followed by its long withdrawal from the political scene, but at the beginning of the 21st century, Russia returned to a state where it had to be reckoned with. The Russian stagnation that lasted from 1986 to the beginning of 2000 is now over. Russia is trying to show the world that it is in full force, and what it is.
Looking back in history, then, of course, the historically ideological counterweight of American values on the world stage has been communism since the 1920s. This 19th century ideology, as conceived by Marx and Engels, called for the proletarians to seize power and end exploitation by the ruling class. As early as 1910, this ideology was supported by many labor unions and social democratic parties. In 1917, the Bolshevik Revolution took place in Russia, and the idea of spreading communism in a revolutionary form under Trotsky's leadership was to take over the whole world. Stalin reversed course and began to build the doctrine of socialism in one country rather than the whole world. In Europe, left-wing parties split into socialist and communist, and their influence grew to reach political and intellectual elites. However, Europe, including the US and England, was very concerned about this. Therefore, a plan was born, the implementation of which was entrusted to Germany (represented by Hitler). However, the Anglo-Saxon plan failed and history took a different direction. The beginning was the unexpected defeat of Germany by the USSR, followed by the subjugation of part of Europe to the USSR. Thus began a bipolar world divided into East and West. The Soviet Union thus became a guarantor against NATO's eastward advance, as it firmly established itself in territories that had previously belonged to Europe. In this way, it maintained stability in these territories and prevented the US from advancing east, not only to the borders of Russia, but also to the borders of other countries and influencing them by force. However, in 1989, the Berlin Wall fell, which was perceived by ordinary people as a symbol of the victory of the democratic West over the communist East and that the Western concept of human rights and democracy would prevail throughout the world. However, it was the beginning that gave free rein to the liberal policy of the US, which went east and pursued its economic and political goals regardless of the interests of the countries present, and the gradual destruction of the bipolar world began. After that, Russia very quickly left the world scene. And the first thing that happened was that the agreement that the United States made with the Soviet Union in 1990 that NATO would not move eastward was violated, and America began to deliberately move NATO in that direction. Subsequently, America destroyed the economies of those countries that became part of Europe. (Brzezinski, 2007)

Fig. 1: NATO member states according to the years they became members



Source: (ČT24, 2017)

The Baltic states, which were integrated into Europe and the WTO, lost their entire economy and became only a donor to the European Union. Later, in 1999, there was an unprecedented destruction of Slovenes in Belgrade (the city was razed to the ground, internet sources show that nothing was left of the city, thousands of dead, etc.). The US carried out its strategy of political and economic dominance through NATO. Russia, which has always protected Europe, allowed the destruction of the Berlin Wall and allowed the US to expand its sphere of influence to the east, destroying the stability it had created. As NATO moved closer to Russia's borders, it eventually led to the conflict in Ukraine. (Historical Retrospective, 2022) (Nezavisimaya Gazeta, 2019) (Pechurov, 2018)

2 ECONOMIC VIEW

In the post-World War II period, the United States of America (US) and later the European Union adopted rules and principles for the free movement of goods and capital, the rejection of the use of military force among its members, and US military-political hegemony, where the US is the main guarantor and distributor of resources and all the benefits. When the bipolar system ceased to exist, all previously established rules and customs began to merge with the global UN system, leading to the establishment of a liberal world order. This order was theoretically stable and harmonious and based on the historical experiences that preceded it. From the very beginning, the characteristic leadership of the US and its allies, especially the European Union, came into conflict with the formal equality of states within the UN, as well as with the status of Russia and China, which were not part of the political institutions of the West formed throughout the Cold War. (Huntington, 2001)

The USD has functioned worldwide until now as a symbol of American power, high purchasing power and the influence of the American Central Bank (FED). At the beginning of the 20th century, dollar diplomacy was used in some countries (e.g. in Latin America). They trust the dollar, or it is correct to say that they trusted it, all over the world and they deposit their reserves through it in many countries. Also, even in the USSR at the time, they often preferred the USD over the ruble. US hegemony in the monetary and financial sphere is an interesting phenomenon that brings (brought) great benefits to the US and its people.

The global interdependence of countries, which has been building up for decades, is becoming more tangible for states, companies, but also citizens every day, and we are now witnessing a change in progress. There is an intensive restructuring of economic relations, which undoubtedly leads to a gradual weakening of the USD as the dominant currency. (Wallerstein, 2016)

The solvency of many countries is based to some extent on the currencies they issue. The US and other countries issuing the world's reserve currencies are trying to prevent the creation of a new world economic order in the monetary and financial spheres. However, to remove the source of the current turning point in the world economy, structural changes in this area will be necessary, and both developing regions and individual international groupings could compete for the right to issue world currencies in the medium term. Against the backdrop of general economic and political changes, financial and economic hegemony is weakening in the US. There is a reluctance to have strong competitors abroad, disrupting the economic and financial rules that have worked in the market for many decades. All this leads to a radical restructuring of the economy, politics and financial relations. Eliminating the dominance of the USD can be achieved by transforming the current world monetary system and creating new global regional currencies and international financial centers that will contribute to a multipolar arrangement in the financial sphere. (Zakaria, 2010)

The US has repeatedly used mechanisms to regulate the access of foreign companies to domestic financial markets in various countries as an instrument of foreign financial policy. And this mechanism is now losing its power. The IMF is also an instrument of US foreign policy that supports US hegemony. (Wallerstein, 2005)

The world monetary system is highly dependent on the US dollar, and this is bringing it to a point of crisis. (Eckert, 2012) The debt crisis (Stroukal, 2021) of the United States of America reflected in the devaluation of the US dollar can have a very negative impact on most of the world's economies because their foreign exchange reserves are denominated in this currency. All cross-border transactions should be denominated in the currency of the country that dominates the global economy. This again highlights the role of China and its Yuan, which immediately displaced the Japanese yen and the British pound upon its acceptance into the SDR (reserve asset in the international financial system) basket. Another consequence is the depreciation of the euro. All these key points lead to the creation of a strong argumentative plane for outlining the further development of the global direction of the world economy and the new distribution of the new centers of power of the world political order.

3 METHOD OF SOLUTION

Solving the issue of changing the distribution of political-economic forces in the world as a result of the weakening role of the US dollar brings a lot of other questions. The solution focuses on the economic boom that has been fueled by the strength of the US dollar and its rise to the role of driving force behind policy decisions, among other issues. The American dollar, the representative of American power, the hegemony of the United States, is the standard to which most of the world's economies are tied. But what led to this exceptional position? What is the true value of the dollar? What is the background to the political and economic decisions that led to the creation of the Federal Reserve Bank of the United States (FED) with its enormous importance for the financial markets of the world, even though it is a private institution? What does the Bretton Woods system mean, with all its results and consequences, and how did the world respond to its demise? We will try to find answers to these questions through perspectives from the political environment. Books by Henry Kissinger, Daniel Eckert, Michael Morris, as well as Czech author Professor Josef Jílek will be a source of inspiration.

3.1 Design of the structure and content of the solution to the problem

The final considerations must be based on strong empirical argumentation based on the study of professional texts interested in monetary and economic issues, but also demonstrate another alternative concept of the development of the world's political-economic distribution of forces with strong argumentative rhetoric.

The goal is to define the future development of the world's political-economic distribution of forces based on the position of the weakening role of the US dollar as a global reserve currency. The assumption is that the American dollar, representing the Western democratic system, is losing its dominance and the centers of the economy are moving in alternative directions.

Sub-objective 1: A historical excursion through the international monetary system to identify the political background to the rise of the US dollar as the world's reserve currency. Understanding the historical milestones behind the emergence of the US dollar as the world's main reserve currency creates prerequisites for predicting its future development. The solution will be based on a qualitative analysis of the technical texts. Using the evaluation of the described historical facts, we will try to identify the reasons for the rise in the value of the US dollar until the year 2000.

Sub-objective 2: Identifying the political and economic causes of the weakening of the value of the US dollar and the effect on the realignment of the forces of the international political and economic world. With its offensive policy, the United States of America suppress the fact that the current US dollar no longer represents its original strength and thus loses its sphere of influence. The solution will require replication of opinions presented in professional literature, comparison of generally accepted information with alternative ones, supplemented by the latest articles published on the Internet. The given currents of opinion will subsequently be contradicted by their own arguments and their defense.

Sub-goal 3: Creating a prediction of the future state of the distribution of political-economic forces within the world. The hegemon position of the United States of America in world politics and economics will be threatened by China's economic boom and Russia's resource wealth, as well as whether Russia can demonstrate and sustain its imperial ambitions. The solution will include deductions based on outputs and the creation of clear trends based on empirical data (GDP and various related comparisons, public debt, budget deficit, ratings, etc.) and deriving a prediction of the future state.

The solution to the problem will objectively evaluate the comparison of opinion trends of the mainstream with alternative texts. The mainstay is a realistic concept of the actual state of the economy, a description of simple macroeconomic indicators and their evaluation. Answers about trend deviations will be based on the already described phenomena of the authors: Fareed Zakaria, Immanuel Wallerstein, Dominko Stroukal.

The development of the already described macroeconomic indicators will be predicted, especially from the position of predicting their development with regard to the direction of the globalized political-economic trend. The definition of the individual chapters already hints at a certain harbinger of where the future of the world order can be sought. The conclusion will always be supported by an argumentative level based on the logic of empirical data. The qualitative base will confront the texts of, for example, Samuel Huntington, Francis Fukuyami, Li Kung-Jao with his latest findings and others.

4 CONCLUSION

The output of the solution should be an objective insight into the distribution of political and economic forces in the world. It is necessary to evaluate the real significance of the role of forces in the world order. The scale towards which a realistic conception of the real state of the economy can be aimed is the description of simple macroeconomic indicators and their evaluation. A comparison of the shares of individual countries in production shows that the share of Western countries, led by the USA, has been steadily declining since 1950, while the opposite trend is evident in East Asia. The strongest economies, besides the USA, can be found in China, Japan, India, Russia and Brazil. However, in addition to quantitative

consumption, Western countries and Japan also maintain a qualitative advantage. However, technology spreads very quickly and the artificial slowdown from the West is countered by the global interconnectedness of the world.

Based on the current situation on the world political scene and the increasing instability of the established world relations between countries and the gradual exit of the USD from the single world currency market, it is an important task to understand what we can expect in the near future, what will be the new economic and political order, how the political balance of power will change, what will happen to the USD and how it will affect the leading economies of countries such as China, India and Russia, strong commodity countries. Events can develop in different directions; these days there are already many different concepts of renowned political scientists and proposals for the organization of new alliances. (Lee, 2022)

The future development of the global political-economic balance of power can be assumed based on the weakening role of the US dollar as the world's reserve currency. Although the West, led by the United States of America, still has an absolute superiority in power and influence, it can be expected that this trend will gradually change. The greatest rise in power is occurring in Asian civilizations, where China is likely to be the biggest contender for global influence. This change will likely bring a rejection of Western culture as we know it.

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STRATEGIC AND TACTICAL DIRECTION OF FINANCIAL ACTIVITIES OF STATES IN THE DIGITAL ECONOMY

Igor Šarlina, Katarina Vavrová

Abstract

Most tax laws predate the digital economy. For this reason, taxation of the digital economy is on the list of priorities of the European Commission. The goal of taxation is to ensure fair and efficient taxation of the income of all companies operating in the EU. The purpose of the contribution is to comprehensively characterize the possibilities of taxation of the digital economy in selected EU states and to evaluate the already submitted proposals for solving the given problem. Subsequently, compare the proposals for solving the taxation of the digital economy and, based on the information found, assess which of the proposals is the most suitable for solving the defined problem. The paper contains a summary view of the current topic of digital tax, description of individual proposals and identification of differences between the described proposals.

Keywords: *digital economy, digitization, taxation, European Union, tax justice*

1 INTRODUCTION

"The phenomenon of digitization is considered the most important economic development since the industrial revolution and one of the main driving forces of growth and innovation" (Kahin, 2015). "The digital economy is also associated with major challenges for the international tax system. Traditional tax laws regulate new ways of doing business, but current international tax law and its underlying principles may not keep pace with changes in global business practices" (Devereux and Vella, 2014).

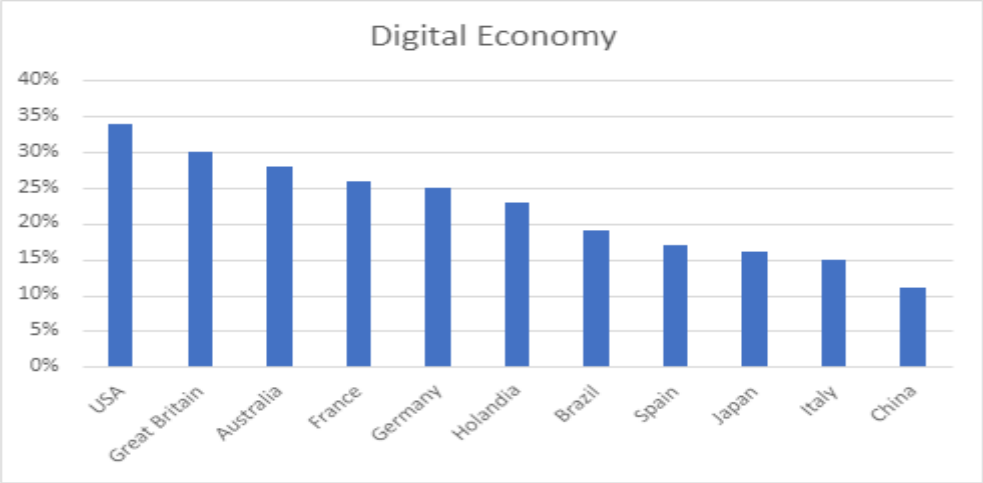
Regarding digital business models, the main tax challenges in the digital economy arise from the decreasing importance of physical presence in the customer market, the increasing importance and mobility of intangible assets and the high degree of value chain integration. Although this development is not entirely new and does not have a high-quality detection of appropriate sources, it has sparked a political and academic debate on how international taxation can be reformed to create a "reasonable and stable system of taxation of the profits of multinational companies in the 21st century". In this spirit, academic scholars and transnational political institutions are calling for comprehensive and systematic changes in international tax principles (Babčák, 2015).

"The relevant literature on the digital economy examines individual aspects such as the concept of a permanent establishment, the characteristics of income, the determination of transfer prices and the application of withholding tax or transaction taxes. There is general agreement that the digital economy cannot be "bounded" primarily for tax purposes only. At the same time, proposals for taxation of companies that operate in the digital economy differ greatly in terms of the basic goals and methods of solving challenges and opportunities. The lack of consensus also results from the fact that there is no common definition and measurement of the relevant elements in digital value chains, which are characterized by recent technological developments and the prevalence of online networks" (Brauner, 2015).

“As part of the Base Erosion and Profit Shifting (BEPS) project, the OECD has identified the tax challenges of the digital economy as the highest priority measure. It is concluded that digital business models bring significant opportunities for (aggressive) tax planning, but also raise wider challenges for the tax system. Although the OECD depicts some of the technological underpinnings and innovative business models of the digital era, the relevant implications and potential problems for taxation are not thoroughly discussed. Rather, the latest report highlights how the business models of multinational companies in the IT or e-

commerce sector can mitigate the undesirable outcomes of low or no taxation. The options for solving the tax issue presented by the OECD are characterized by mitigating BEPS risks and creating awareness of tax challenges, rather than solving long-term tax problems caused by digital business models" (Englisch, 2015).
"In the digital economy, information is digitized and transmitted through digital networks, creating a new world of opportunities for business development. More and more people and businesses are getting into the new information space. Huge amounts of information can be compressed and transmitted at high speed anywhere in the world. Information and information technology are used in all economic sectors, to a lesser extent, but ultimately, they are used everywhere. Their effective use enables companies to be competitive" (Garifova, 2014). “The general concern in this area is lack of base rather than base erosion. This is not a new area of concern. In the late 1990s, the digital economy, formerly known as e-commerce, was considered by the OECD” (Panayi, 2016).

Graph 1. Size of the digital economy in the world (%)



Source: own processing according to: https://digital-strategy.ec.europa.eu/sk

According to the chart, the estimated size of the European digital economy is 24.5% of the European Union's GDP, which corresponds to 3.6 trillion euros, and according to estimates, by 2020 it will represent 27.3% of the European Union's GDP, which means 4.4 trillion euros. Although all this money is unimaginably large, it does not reach the budgets of the respective states, but ends up in tax havens, where it is incorrectly taxed or not taxed at all. Taking the results in Chart 1 as a reference point, it is very important to think about the digital toll, because increasing household access to the Internet also increases the amount of data that the population provides to digital companies, and then this data should be rewarded in different ways.

2 THEORETICAL BACKROUND

"Digitalization of the economy is characterized by the emergence of new digital tools and their active implementation in various spheres. Scientists recognize that the digital economy is characterized primarily by the dependence on intangible assets, the extensive use of data (personal data), the extensive use of multilateral business models with income from the sale of "free" products, and the complexity of determining the jurisdiction in which such income is generated. The need to develop legal solutions in the field of taxation of the digital economy is determined by the focus on legal support for the stability of financial and legal regulation and the principles of tax certainty. In these conditions, it is necessary to talk not only about financial and legal regulations, but also about financial policy, which is aimed at setting goals

and defining tasks for the creation, distribution, and use of public funds. In this context, it seems possible to talk about two aspects of financial policy - strategy and tactics. Financial strategy is a long-term line of behavior based on the development of long-term goals, the achievement of which should lead to the financial stability of the state. Financial tactics are aimed at solving specific tasks that arise at certain stages of state development" (Gorbunova, 2005).

Due to the absence of a thorough scientific study of the problem of not securing support, the economic and legal challenges caused by the activities of actors within the EU in the conditions of the new digital reality will remain unanswered. Such consequences threaten the fiscal interests of the EU states, the essence of which also requires a reassessment, taking into account the digital transformation" (Gracheva, 2016). In the current conditions, it is important to focus on the implementation of the control function of financial law. Financial activity is intrinsically linked to financial control because finance objectively implements the control function. Financial control is carried out at all levels and in all phases of financial activity and is manifested in the control of the distribution of the gross domestic product between the relevant funds and their expenditure for the selected purpose. Feedback is the most important link in management relationships. In financial law, the principle of direct and indirect relationships has many manifestations. Especially in tax law, one of the most important areas of this principle of direct and indirect relations is ensuring the balance of public and private interests by preserving the principle of tax certainty in conditions of legal instability" (Artemov, 2021).

In the theory of tax law, there are elements of the legal structure of the tax, the summary of which determines the obligation of the payer to pay the tax. The main elements of the tax include, for example:

• The subject of taxation, which is important because the presence of the subject of taxation is directly the basis for the taxpayer's obligation to pay the tax established by law. The subject of taxation are those legal facts (activities, events, states) that determine the subject's obligation to pay tax.

• Subject (subject); legal person or a physical person, which is obliged to pay tax, is obliged by law to enter a tax-legal relationship, to suffer a specified property damage, i.e., to pay the specified amount of tax to the state. Designation of a tax subject as a taxpayer is possible in the case of an obligated or obligated subject of tax liability.

• Basis (foundation); defines the scope of tax liability within tax legal relations. It is the measure according to which the amount of tax is calculated from the tax base, it is the real culmination of the tax-legal relationship in its phase of preparation and fulfilment of the tax obligation.

• Rate (limit); the tax rate is the share of tax per tax unit. It is a measure of tax liability.

"Each tax has a separate subject of taxation. This is one of the guarantees of avoiding multiple taxation, when the same object is subject to several taxes at the same time. For example, the subject of taxation according to the income tax is traditionally defined as profit - the financial result of economic activity, which arises from the difference between income and expenses" (Pepelyaev, 2014).

3 METHODS

Literature research was a necessary step in this case. In addition to literature research, which should be the number one method within the used methodology of the paper, we also used the following methods. One of the most important methods we used when writing the paper was analysis. The analysis represents a breakdown, i.e., a theoretical breakdown of the investigated object into smaller parts. A more detailed examination of individual parts of the selected problem allowed us to better understand the given problem in its functioning. In the contribution, we used quantitative methods, empirical methods, and methods of analysis.

By using synthesis, we were able to unite the individual parts of the problem into one whole, which is the opposite of analysis. In this case, we followed the mutual and essential connections between the various components of the given problem. To compare data between countries and for the action plan, we used comparison, i.e., the method of finding identical or different features of observation.
To improve the clarity of the issue, we also used graphic analysis. In the practical part, we relied to a large extent on the so-called classification of statistical data, which represented a procedure in the form of defining a statistical set, a statistical unit and a statistical sign expressing the investigated object. The result was a reasonable amount of numerical data. To process the numerical data, we used the simplest statistical method, sorting. According to the selected symbol, which related to either overall taxation, the action plan, or individual states, we organized the files into individual relevant classes. The chosen character represented a statistical character, which was the basic criterion for the inclusion of the statistical file in the respective classes. With this method, we had to follow the principle of completeness.

4 RESULTS

Currently, digital taxation focuses primarily on the following two main aspects:

• How to ensure that tax policy remains neutral when targeting traditional and digital businesses: Digital businesses benefit from preferential tax regimes, e.g., tax benefits for income from intellectual property, shorter depreciation of intangible assets, tax credits for research and development. The risk is that preferences for digitized businesses can create windfall tax benefits that can be used in a way that distorts investment rather than focusing on innovation.

• Digital businesses can operate without a physical presence in countries where digital businesses have customers, as they can reach customers through remote sales and service platforms: The ability of digitalized businesses to generate profits through cross-border sales without a physical presence challenges the traditional rule of corporate income taxes. Until now, digital businesses paid corporate income taxes only in those countries where they had a permanent establishment, i.e., either headquarters, or a factory, or a store. This means that countries where sales are made or where online users are located do not have the right to tax the company's income.

Several tools can be used and implemented to tax digital profits. The first option consists in expanding the existing rules. For example, a country can expand its Value Added Tax (VAT) and Goods and Services Tax (GST) to include digital services or expand the tax base to include income from the provision of digital goods and services. The second option is to impose a Digital Services Tax (DST).

"In recent years, many countries have implemented DSTs and VATs on digital goods and services unilaterally, highlighting that a lack of coordination and harmonization of standards can be harmful to the global economy and potentially lead to economically damaging trade wars. The lack of international coordination in recent years has pointed to some fundamental steps that need to be taken urgently. First the VAT and GST rules need to be revised to ensure that foreign suppliers are responsible for the collection and remittance of these taxes in the countries where they sell their goods and services, even without being physically present. A lack of coordination can also lead to confusion and hamper economic activity, as digital businesses that sell in different countries where they do not have a permanent establishment must adapt to the wide variety of requirements in each of the countries where they have customers. In addition, lack of coordination can also facilitate tax avoidance, as MNEs can take advantage of differences in corporate tax rates. Finally, the risk of double taxation can easily arise as digital businesses can be taxed twice in the host country under the national CIT regime and in the countries where they have customers under the DST" (Bunn et al., 2020).

4.1 Taxation of digital income in selected countries

Countries and international organizations are developing various initiatives at the national level and, more recently, at the international level. When it comes to VAT and GST, in most OECD countries, VAT or GST primarily applies to a large set of goods and services.

"Goods and Services Tax (GST) is a Value Added Tax (VAT) levied on most goods and services sold for domestic consumption. GST is paid by consumers but paid to the government by businesses that sell goods and services. However, critics point out that the GST may place a disproportionate burden on self-reported incomes in the lowest and middle-income brackets, making the GST a regressive tax.

Most countries with GST have a uniform GST system, which means that one tax rate is applied across the country. A country with a unified GST platform combines central taxes (eg sales tax, excise tax and service tax) with state level taxes (eg entertainment tax, entry tax, transfer tax and luxury tax) and collects them as one tax. These countries tax virtually everything at one rate. France was the first country to introduce GST in 1954 and since then around 140 countries have adopted this tax system" (Young, 2022).

On the other hand, the situation in around of DST is more complex. Until now, digital businesses paid corporate income tax in the country where they had a permanent establishment, not in the country where consumers or users are located. In practice, a digital business can provide services abroad through digital means without having a physical presence abroad and generate profits without being subject to corporate income tax abroad. Several countries have decided to tax digital goods and services in recent years and unilaterally introduced DST, the rate of which varies from country to country.

"As of May 2020, Austria, France, Hungary, Italy, Turkey, and the United Kingdom have introduced a digital services tax, while a proposal for a digital services tax has been submitted in Spain, the Czech Republic, Slovakia and Poland. Some timid steps in this direction have been taken by Latvia, Norway, and Slovenia" (OECD/G20 Base Erosion and Profit Shifting Project, 2021). We describe some cases in more detail in the following text:

- France

The country decided to levy tolls on tech giants in December 2018 after talks on digital taxation across the European Union stalled that same month. The companies affected by this measure are those with an annual digital revenue of 750 million euros worldwide and 25 million euros in France. It is estimated that this tax will bring revenues to the budget of 500 million euros per year.

- Spain

The tax proposed by Spain for digital taxation represents three percent of the digital income achieved in the territory of the state. This measure affects companies with an annual digital revenue of 750 million euros worldwide and 3 million euros in Spain. The Spanish government predicts that the tax on financial transactions (DFT) and digital services (DST), which came into effect on January 16, 2021, will bring in an additional 1.818 billion. EUR (2.1 billion USD) per year, while the Independent Office for Fiscal Responsibility (IAFR) identified a lower pre-pandemic forecast of 966 million. euro

- United Kingdom

It proposed a 2% digital income tax rate for companies with around £500 million (around €580 million) of digital revenue worldwide and £25 million (around €29 million) of digital revenue in the UK. The law entered into force in January 2020.

- Belgium

It is a European Union country that has published a law on digital service tax. The country has imposed a temporary tax of 3% on digital revenue, such as the sale of user data to companies with a total revenue of 750 million euros worldwide and 50 million euros in the European Union.

- Italy

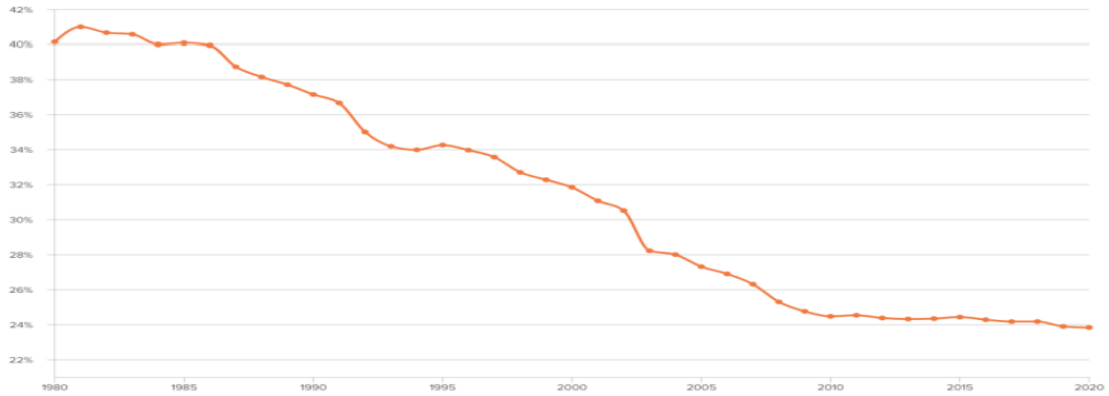
Italy proposed a digital tax since 2017 and the parliament finally approved it in 2018. Unlike the EU tax, the digital tax affects buyers of services rather than sellers. Any business that makes more than 3,000 digital business-to-business transactions in Italy per calendar year will be subject to the tax. Businesses cannot use this tax to offset Italian income tax.

Outside of Europe, other countries (e.g., India, Indonesia, and Tunisia) have adopted a tax on digital services" (Dowd, 2017).

5 DISCUSION

Another tax issue, apart from the digital economy, is the competition between tax jurisdictions to attract foreign investment. "Competition between tax jurisdictions has a major impact on the sustainability of a country's budget in the case of developed economies and economies that rely heavily on direct taxes" (Bahl et al., 2008)

Graph 2. Worldwide average statutory corporate income tax rates



Source: own processing according to: https://taxfoundation.org/2021-international-tax-competitiveness-index/

The last decade shows that taxes cannot be reduced below a certain threshold, they are unsustainable for medium- and long-term development and financial stability, which is clearly stated in graph No. 6. Due to the unsustainability of competition between tax jurisdictions, we can agree that a minimum global corporate tax of 15% seems to be the solution for the moment. There will be no financial impact on companies' investment budgets if taxes are lower than 15%. We can also note that over the last 40 years, direct taxes have decreased from more than 40% to less than 25%. This dynamic is also affected by the increase in indirect tax policies, but nevertheless, this decrease is largely due to tax competition.

6 CONCLUSION

Measures within the framework of the digital economy also include the introduction of a more efficient, modern and digital approach to capital markets. The digital economy brings a whole range of measures to modernize and make capital markets more efficient. One of these measures includes strengthening the regulated market within the capital market as a viable alternative to increasingly expensive and inaccessible bank financing, thus supporting the growth of small and medium-sized enterprises. This transparent method of financing helps stem the flow of domestic savings and capital across borders, while potentially offering higher appreciation. However, for the regulated market to function more efficiently, it is necessary to digitize and modernize the systems and processes that are its basis. This will simplify access to the Slovak capital market for members of the stock exchange, issuers (for example companies) and investors, which will lead to a better allocation of local capital, the

appreciation and growth of small and medium-sized enterprises and possibly also to the financing of local governments.

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VPLYV DANÍ NA SPOTREBU STATKOV, KTORÉ SPÔSOBUJÚ EXTERNALITY

IMPACT OF TAXES ON CONSUPTION OF GOODS THAT CAUSE EXTERNALITIES

Michal Rimeš[1], Juraj Válek

Abstrakt

Dane aj priama regulácia sa používajú na odrádzanie od správania, ktoré vedie k externalitám. Napríklad väčšina európskych krajín vyberá vysoké dane z cigariet, ktoré sú často odôvodnené z hľadiska nákladov, ktoré fajčiari cigariet spôsobujú iným vrátane zlého zdravotného stavu a obťažovania spôsobeného pasívnym fajčením a nákladov na kolektívne financovanú zdravotnú starostlivosť. Mnohé krajiny zároveň zaviedli rôzne formy priamej regulácie s podobnými cieľmi, ako napríklad zákaz fajčenia na pracoviskách a iných verejných priestranstvách zavedený v posledných rokoch v Nórsku, Írsku, Spojenom kráľovstve a inde. V tejto práci sa zaoberáme hospodárskymi otázkami, ktoré vznikajú, keď sa paralelne používajú dane z externalít a priama regulácia. Práca sa zaoberá otázkami, ako zavedenie dodatočného právneho obmedzenia fajčenia ovplyvní optimálnu úroveň dane z externality cigariet a iné.

Kľúčová slova: *externality, dane, cigarety, alkohol, riešenie negatívnych externalít*

Abstract

Both taxation and direct regulation are used to discourage behavior that leads to externalities. For example, most European countries levy high taxes on cigarettes, which are often justified in terms of the costs cigarette smokers cause to others, including ill-health and harassment caused by passive smoking and the cost of crowdfunded healthcare. At the same time, many countries have introduced various forms of direct regulation with similar objectives, such as the smoking ban in workplaces and other public spaces introduced in recent years in Norway, Ireland, the United Kingdom and elsewhere. In this work, we deal with the economic issues that arise when externality taxes and direct regulation are used in parallel. The thesis deals with questions such as the introduction of additional legal restrictions on smoking will affect the optimal level of tax on the externality of cigarettes and others.

Key words: *externalities, taxes, cigarettes, alcohol, dealing with negative externalities*

1 TEORETICKÉ POZNATKY O REGULÁCIÍ STATKOV, KTORÉ SPÔSOBUJÚ NEGATÍVNE EXTERNALITY

Väčšina ekonomických analýz daní a regulácie sa zamerala na tieto prístupy ako alternatívy. V environmentálnej politike ekonómovia zdôrazňovali výhody efektívnosti využívania "trhových mechanizmov", ako sú emisné dane alebo emisné povolenky v porovnaní s tradičným prístupom priamych nariadení, ktoré vyžadujú používanie konkrétnych výrobných technológií alebo technológií znižovania emisií alebo stanovujú limity emisií. Sandmo (2000) vyjadril konvenčný názor ekonómov nasledujúcimi slovami: "Ekonómovia sú tradične

[1] Tento projekt je výstupom z projektu APVV-20-0338 “Hybné sily ekonomického rastu a prežitie firiem v šiestej K-vlne.“

skeptickí voči politike presviedčaním, nepriateľskí voči politikám velenia a riadenia a nadšení trhovo orientovanými nástrojmi". Tam, kde sa znečisťovatelia líšia v nákladoch na znižovanie emisií, flexibilita, ktorú ponúkajú trhové mechanizmy, znižuje celkové náklady na dosiahnutie daného zníženia emisií v porovnaní s jednotne uplatňovanou reguláciou technológií znižovania emisií alebo úrovní emisií. Takýto argument je však podporený implicitnými predpokladmi o nedokonalosti nástroja. Za podmienok úplných informácií, beznákladového vykonávania a istoty možno rovnocenne najlepší výsledok dosiahnuť buď reguláciou velenia a riadenia, alebo trhovým mechanizmom.
Eskeland (1994) uvažuje o tom, ako by sa spotrebná daň a regulácia mohli skombinovať tak, aby napodobňovali inak neuskutočniteľný poplatok za emisie vozidiel. Innes (1996) modeluje vplyv širšej škály prístrojových kombinácií na emisie motorových vozidiel. Hoel (1997) poznamenáva, že zložitosť environmentálnych problémov a obmedzenia konštrukcie prístrojov zvyčajne znamenajú, že efektívna regulácia cestnej dopravy si vyžaduje, aby sa daňové nástroje kombinovali s rôznymi inými formami regulácie. Fullerton a Wolverton (1999) uvažujú o viacdielnych nástrojoch, v ktorých sa zvyčajne kombinujú dane a dotácie, aby sa dosiahol výsledok, ktorý je bližšie k prvému najlepšiemu výsledku, ako by mohol ktorýkoľvek z nich to dosiahnuť sám. Paralelná diskusia sa týka relatívnych výhod regulácie prostredníctvom cien a množstva. Weitzman (1974) ukázal, že ak existuje neistota, pokiaľ ide o náklady na zníženie znečistenia, výsledky regulácie, ktorá stanovuje cenu znečistenia, sa budú líšiť od regulácie, ktorá stanovuje množstvo znečistenia. Podmienky, za ktorých je jedno z nich nadradené druhému, závisia od citlivosti marginálnych nákladov na zníženie emisií a marginálneho znečistenia úrovne emisií. Argumentom pre kombinovanie prvkov oboch prístupov sú Roberts a Spence (1976), ktorí ukazujú, že regulácia množstva hornej a dolnej ceny môže eliminovať extrémne výsledky spojené s čistou reguláciou cien alebo množstva. V podobnom duchu Mandell (2004) tvrdil, že ak existuje neistota v oblasti znižovania nákladov, regulácia niektorých sektorov cenou a iných podľa množstva môže byť vhodnejšia ako jednotné uplatňovanie jedného alebo druhého prístupu k celému hospodárstvu.

1.1 Empirické dôkazy o účinnosti daní

Modely spotrebiteľského dopytu sa použili pri empirickom opätovnom vyhľadávaní s cieľom určiť, ako spotrebitelia reagujú na určité politiky určené na boj proti škodlivej spotrebe. Tieto kontrolné politiky zahŕňajú obmedzenia reklamy, šírenie informácií o zdravotných dôsledkoch škodlivých látok, obmedzenia konzumácie na verejných priestranstvách a pracoviskách a obmedzenia prístupu mládeže k týmto výrobkom. V tejto časti sa však náš záujem zameriava na vplyv zdaňovania dopytu po alkohole a tabaku.
Možno analyzovať niekoľko rozmerov dopytu, ako napríklad: celkovú úroveň spotreby, prevahu návykov a rozhodnutí začať a skončiť, ako sa reakcie líšia medzi skupinami s rôznymi charakteristikami (najmä mladí ľudia), účinky daní na pašovanie a cezhraničné nakupovanie a vplyv daní na nepriaznivé dôsledky závislosti. Empirické dôkazy sú hojnejšie pre tabak ako pre alkohol. Jedným z možných prípadov by mohlo byť, že vedci si uvedomujú, že problémy s chybami merania sa stávajú obzvlášť akútnymi v mikroekonomickej literatúre o dopyte po alkohole. Z problémov nie je vyňaté ani použitie makro údajov. Ako sa uvádza v Ruhmovi (2000), ktorý skúma vzťah medzi makroekonomickými podmienkami a konzumáciou alkoholu a smrteľnými nehodami na diaľniciach, použitie mikro údajov má tú výhodu, že umožňuje lepšie špecifikované modely, ale môže priniesť ďalšie problémy. Porovnanie výsledkov zo štúdií, ktoré používajú makro a mikro údaje, môže viesť k rôznym výsledkom. Príkladom toho sú Ruhm (1995) a Freeman (1999), ktorí potvrdili, že konzumácia alkoholu sa pohybuje procyklicky. Na druhej strane Thomas (2001) dospel k záveru, že stres z úzkosti z nezamestnanosti v období recesie zvyšuje úroveň konzumácie alkoholu. Tabak a alkohol sa zvyčajne zdaňujú viackrát, to znamená, že okrem dane z pridanej hodnoty existujú

aj spotrebné dane. Vzhľadom na návykový charakter tohto tovaru ponúka spotrebná daň osobitnú príťažlivosť pre zákonodarcov. Alkohol, cigarety a iné tabakové výrobky sa zdaňujú po stáročia. Neexistuje však jedinečná úroveň optimálneho zdanenia, pretože sa zameriava na okolnosti, politické ciele a ich prioritu. Úroveň zdanenia alkoholu a tabaku sa v jednotlivých krajinách značne líši, čo v Európskej únii vyvolalo zložitú otázku harmonizácie. Keďže škodlivé závislosti sú citlivé na cenu, od tohto správania možno odrádzať zdanením.
Východiskový bod tejto práce je rovnaký ako literatúra o nedokonalých daniach korigujúcich externalitu (Sandmo, 1976, Green a Sheshinski, 1976), a to konkrétne, že dostupné daňové nástroje sú nejakým spôsobom nedokonalé alebo nedostatočné. Budú sa zvažovať situácie, keď dostupné daňové nástroje možno doplniť nejakou formou priamej regulácie, ktorá je tiež nedokonalá, a preto sama osebe nie je schopná zaviesť to najlepšie riešenie. Napríklad daň z minerálnych olejov nemôže rozlišovať medzi palivom používaným na jazdu vo veľkomeste a palivom používaným na cestách, kde nehrozia dopravné zápchy. Analyzujeme vplyv kombinácie priamej regulácie s nedokonalou daňou z externality a zvažujeme, ako priama regulácia mení optimálnu daň z externality. Zvažujeme dôsledky pridania priamej regulácie do súboru nástrojov.
Ak sa externé náklady určujú výlučne na základe spotreby, spotrebované množstvo by bolo dokonalým ukazovateľom externality a daňou z komodít by sa dosiahlo rovnaké rozdelenie ako daň z externality. Celková spotreba však môže byť príliš hrubým meradlom. Možno bude potrebné rozlišovať medzi spotrebou v rôznych časoch, na rôznych miestach, rôznymi ľuďmi a za rôznych iných okolností, pretože externé náklady sa môžu líšiť podľa všetkých týchto charakteristík. Táto časť sa zaoberá prípadom, keď daň nemožno diferencovať podľa tohto druhu odchýlky. Nech jeden spotrebiteľ predstavuje homogénnu populáciu. Existujú dva spotrebné tovary, pričom ich množstvá označíme c a x. Druhý tovar sa môže konzumovať v dvoch rôznych činnostiach označených ako 1 a 2 ktoré možno interpretovať aj ako miesta alebo časové obdobia. Veličiny x^1 a x^2 vytvárajú negatívne externality. Za predpokladu kvázi lineárnej úžitkovej funkcie e_1 (x^1) a e_2 (x^2) môžeme vyjadriť užitočnosť spotrebiteľa pri absencii regulácie ako:

$$U=c+ f(x1) + g(x^2) - e_1(x^1) - e_2\, x(x^2) \qquad (1)$$

kde sa predpokladajú tieto vlastnosti: $f'(x^1) > 0$, $f''\, x(x^1) < 0$, $g'(x^2) > 0$, $g''(x^2) < 0$, $e_1(x^1) > 0$, $e'_1(x^1) \geq 0$, $e'_2(x^2) > 0$, $e''_2(x^2) 0 \geq 0$
Predpokladá sa, že spotrebiteľ má pevný príjem alebo dotáciu w. Náklady na výrobu jednotky x sú p, ktoré sa v konkurenčnej trhovej rovnováhe rovnajú výrobnej cene. Predpokladajme, že sú k dispozícii dva nástroje na korekciu externality. Jedným z nich je (jednotná) daň z x, označená t. Druhou je regulácia činnosti 1. Regulácia, reprezentovaná parametrom r, znižuje užitočnosť odvodenú od x^1 , ktorú teraz píšeme ako $f(x^1,r)$. Základným predpokladom je, že povaha nariadenia má zhoršiť okolnosti, za ktorých sa tovar získava alebo spotrebúva. Predpokladáme, že f_2 $(x^1,r) < 0$ a $f'_{12}(x^1,r) < 0$, čo znamená, že sprísnenie regulácie zníži celkovú, ako aj marginálnu užitočnosť konzumácie daného tovaru. Môžeme poznamenať, že požiadavka na zníženie by mala rovnaký účinok v rozsahu, v akom dochádza k strate užitočnosti, pretože spotrebiteľ je nútený minúť zdroje na zníženie, ale zníženie by malo aj ďalší účinok, že by znížilo emisie pre danú spotrebu, takže by došlo k posunu v $e_1(x^1)$.
Rozpočtové obmedzenie spotrebiteľa môžeme napísať ako:

$$w + T = c\,(p + t)\,(x^1\, x^2) \qquad (2),$$

kde T je paušálny prevod používaný na recykláciu akýchkoľvek vládnych príjmov spotrebiteľovi tak, aby $T = t(x^1 + x^2)$

Ak vezmeme do úvahy reguláciu, môžeme zapísať úžitkovú funkciu ako:

$$V=c + f(x^1,r,) + g(x^2) - e_1(x^1) - e_2(x^2) \quad (3)$$

Reprezentatívny spotrebiteľ, ktorý je "malým" sprostredkovateľom na trhu, maximalizuje užitočnosť podliehajúcu rozpočtovému obmedzeniu, pričom externality, cenu a vládne nástroje považuje za exogénne. Nasledujúce podmienky prvého rádu získajú:

$$f_1(x^1,r) = p + t \quad (4)$$
$$g'(x^2) = p + t \quad (5),$$

čo znamená funkcie dopytu:

$$x^1(p + t,r) \text{ a } x^2(p + t) \quad (6)$$

Jednoduchá porovnávacia štatistika prináša účinky nástrojov na dopyt spotrebiteľa. Je možné ukázať, že:

$$\partial x^1/\partial t = \partial x^1/\partial p = x^1{}_p = \frac{1}{f''11(x1,r)} < 0$$
$$\partial x^2/\partial t = \partial x^2/\partial p = x^2{}_p = \frac{1}{g''(x2)} < 0$$

Pre zmenu v r - prísnejšiu reguláciu, nájdeme:

$$f''_{12}(x^1) + f''_{11}(x^1)dx^1/dr = 0$$
$$\partial x^1/\partial r = \partial x^1 r = x^1{}_r = -\frac{f''12(x1)}{f''11(x1)} < 0 \quad (7)$$

Ak vezmeme do úvahy vládne nástroje a využijeme vzorce (2) a (3), môžeme vyjadriť užitočnosť spotrebiteľa ako:

$$V = f(x^1(p + t, r), r) + g(x^2(p + t)) + w - px^1(p + t, r) - e_1(x^1(p + t, r)) - px^2(p + t) - e_2(x^2(p + t)) \quad (8)$$

Začnime tým, že zvážime optimálnu daň a reguláciu v tomto rámci. Predpokladajme, že spočiatku je blahobyt maximalizovaný vzhľadom na sadzbu dane, ktorá zahŕňa podmienku prvého rádu:

$$V_t = f = x^1p + g'x^2p - (p + e_1)x^1p - (p + e_2)x^2p = 0 \quad (9)$$

a podmienku druhého rádu:

$$V_{tt} < 0 \quad (10),$$

kde sa na označenie prvého a druhého derivátu používajú jednoduché a dvojité dolné indexy v uvedenom poradí. Odvolávajúc sa na podmienky prvého rádu maximalizácie spotrebiteľa, môžeme napísať podmienku prvej objednávky pre t ako:

$$tx^1p(p + t,r) + tx^2p(p + t) - e_1x^1p(p + t, r) - e_2x^2p(p + t) = 0 \quad (11),$$

z ktorého dostaneme vzorec:

$$t = \frac{e1x1p(p + t,r) + e2x2p(p + t)}{x1p(p + t,r) + x2p(p + t)} \quad (12),$$

pričom má rovnakú formu ako vzorec váženého priemeru, v ktorom sa charakterizuje optimálna jednotná sadzba dane na činnosti, ktoré vytvárajú nejednotné externé náklady, ak neexistuje regulácia. (Diamond, 1973). Pokiaľ ide o reguláciu a rozlišovanie životných podmienok s ohľadom na regulačný parameter, získame:

$$V_r = f'x^1r + f'_2 - (p + e_1)x^1r = (t - e_1)x^1r + f'_2 \qquad (13)$$

Vychádzajúc z neregulovanej situácie, prísnejšia regulácia bude užitočná, ak je znamienko (13) kladné. Aby sa tak stalo, marginálne externé náklady na tovar 1, e'_1, musia prekročiť sadzbu dane t, a hraničné reálne náklady na reguláciu, $-f'_2$ nesmú byť príliš vysoké. Keďže sadzba dane je váženým priemerom marginálnych sociálnych nákladov na tieto dva tovary, tovar, ktorý by sa mal regulovať, je tovar s väčšími hraničnými sociálnymi nákladmi. Je potrebné zvážiť, ako prísnejšia regulácia ovplyvní sadzbu dane. Ak je pigouvská daň doplnená reguláciou, mala by sa regulovať spotreba spôsobujúca väčšie hraničné externé náklady. Tam, kde sú marginálne externé náklady a cenová odozva harmonogramov dopytu, neustále prísnejšia regulácia ponecháva sadzbu dane nezmenenú. Tam, kde sa marginálny vonkajší efekt zvyšuje (neklesá) v spotrebe a regulácia spôsobuje, že dopyt už nie je (menej) citlivý na ceny, účinkom prísnejšej regulácie je zníženie sadzby dane. Tam, kde sa marginálne externé náklady zvyšujú v spotrebe a regulácia spôsobuje, že dopyt lepšie reaguje na ceny, dochádza k nejednoznačným účinkom na sadzbu dane. Vo všeobecnosti môžu byť predpisy mnohých typov a je ťažké uložiť ďalšie obmedzenia funkcie f.

Charakteristické je, že nariadenie má rovnaký účinok na dopyt ako aj na cenu. Môžeme si predstaviť niekoľko prípadov, kde to môže byť hodnoverný opis. Predpokladajme, že nariadenie vyžaduje okrem peňažných výdavkov aj vynaloženie skutočných zdrojov, aby sa tovar získal alebo spotreboval. Potom sa zvýšia náklady na každú jednotku spotreby. Predpokladajme, že nariadenie má znížiť rýchlostné limity na ceste. Potom sa náklady na cestovanie z časového hľadiska zvýšia.

Zmena sadzby dane bude závisieť od rozsahu, v akom znížený dopyt po tovare 1 vytvára zvýšený dopyt po tovare 2, od váh a od zmien hraničných externých nákladov. Okolnosti, ktoré vedú k vyššej sadzbe dane, sú, že krivka marginálnych externých nákladov tovaru 2 je strmšia ako krivka tovaru 1, krížové účinky na dopyt sú silné a váha tovaru 2 je veľká. Ak regulácia fajčenia na verejných miestach odkláňa fajčenie na iné miesta a výrazne zvyšuje hraničné externé náklady, je potrebná väčšia daň, aby sa zohľadnili vyššie externé náklady na neregulovanom mieste. Ak však druhé miesto nie je veľmi ovplyvnené alebo nariadenie dokonca podnecuje ľudí, aby sa úplne vzdali fajčenia, optimálna daň sa zníži. Okrem krížových účinkov na dopyt môžu existovať krížové účinky na externé náklady, ak hraničné náklady nie sú konštantné. Z každej činnosti môžu pochádzať nielen externé náklady, ale môžu existovať aj externé náklady, ktoré závisia od celkovej spotreby. Kombinácia všeobecných externých nákladov a externalít špecifických pre danú činnosť môže byť vyjadrená ako:

$$e(x^1 + x^2) + e_1+(x^1) + + e_2+(x^2) \qquad (14)$$

Napríklad fajčenie môže nielen spôsobiť pasívne fajčenie iným v rôznych časoch a na rôznych miestach, ale môžu existovať externé náklady v dôsledku účinkov na zdravie, ktoré súvisia so záznamom o fajčení osoby nezávisle od okolností, za ktorých sa fajčenie uskutočnilo. Ak nedôjde k presunu spotreby z jednej činnosti do druhej, obmedzenie znižujúce spotrebu v jednej činnosti potom zníži hraničné externé náklady v oboch činnostiach a existuje dôvod na zníženie dane. Ak dôjde k určitému, ale menej ako úplnému vyrovnaniu nárastu spotreby v inej činnosti, budú existovať protichodné účinky. Okrajová "všeobecná" externalita sa zníži, ale iná externalita špecifická pre činnosť, ak je prítomná, sa

zvýši na okraji. Tam, kde obmedzenia fajčenia na verejnosti vedú ľudí k tomu, aby fajčili menej celkom, ale viac doma, kde neexistuje špecifická externalita, existuje dôvod na zníženie dane. Zákaz činnosti. "Jemná" regulácia vyššie uvedeného typu nie je vždy uskutočniteľná. Niekto by mohol chcieť priamo obmedziť spotrebu tovaru na konkrétnom mieste, povedzme obmedziť množstvo fajčenia, pitia, motorizovanej dopravy, spaľovania uhlia atď. Niekto by mohol byť rád, keby každý znížil spotrebu o tridsať alebo päťdesiat percent, aby zmiernil externalitu, ale toto obmedzenie je ťažké presadiť tam, kde nie je možné presne monitorovať úroveň spotreby. Jediným nariadením, ktoré možno presadiť, môže byť zákaz, pretože regulačný orgán potom bude musieť len poznamenať, že niekto konzumuje tovar, aby vedel, že nariadenie sa porušuje. S výhradou tohto obmedzenia je problémom nákladov a prínosov to, či zníženie externality preváži stratu prebytku spotrebiteľa spôsobenú zákazom (a náklady regulačného orgánu). Predpokladajme, že zákaz činnosti i je spoločensky žiaduci. Potom sa upustí od činnosti i a daň sa určí tak, že sa prirovnáva k hraničným externým nákladom na činnosť j (kde $j \neq i$). Zákaz zvýši alebo zníži daň v závislosti od toho, ktorá činnosť je zakázaná. To nie je zrejmé. Aj keď činnosť A spôsobuje väčšiu externalitu na jednotku, nevieme, v ktorej činnosti externé náklady prevyšujú prebytok spotrebiteľa. Predpokladáme, že sa to nestane v oboch činnostiach, čo by ospravedlnilo úplný zákaz dobra. Takže aj keď "mäkká" regulácia bude vždy zameraná na činnosť s väčšími hraničnými vonkajšími nákladmi, nemusí to tak byť v prípade zákazu (aj keď si myslíme, že to tak bude často).

2 APLIKAČNÉ PRÍKLADY

Anderson vo svojom diele *Spotrebiteľské dane z alkoholu: medzinárodné porovnanie v čase* (2020) skúmal na príklade vína najjednoduchší spôsob, ako modelovať účinky jeho spotrebiteľského zdanenia (alebo piva, liehovín alebo akéhokoľvek iného obchodovateľného produktu) v otvorenom národnom hospodárstve, pričom použil diagram čiastočnej rovnováhy. Predpokladal, že krajina je vývozcom prijímajúcim ceny, pričom sa budú skúmať účinky na premenné, ako sú domáce ceny, množstvá spotrebované na domácom trhu a národný hospodársky blahobyt. Ďalej predpokladal, že neexistujú žiadne externality spojené s výrobou, konzumáciou alebo obchodovaním s vínom, takže marginálne súkromné a sociálne prínosy sa zhodujú rovnako, ako marginálne a sociálne náklady domácej výroby. Daň ad valorem pre domácich spotrebiteľov vo výške 100 percent (alebo ekvivalentná objemová daň) by znížila domácu spotrebu (zvýšila vývoz) a zvýšila vládne príjmy podľa oblastí, ale znížila by blahobyt spotrebiteľov prostredníctvom správcu dane.

Existujú rôzne spôsoby, ako skonštruovať spotrebiteľské dane z vína a iných alkoholických nápojov. Keďže opatrenia zahŕňajú dane ad valorem, ako aj osobitné dane (buď z nápoja alebo alkoholu na 1 liter), a keďže ceny, na ktoré sa vzťahujú a obsah alkoholu na liter nápoja sa v jednotlivých druhoch nápojov líšia, je užitočné porovnať jednotlivé krajiny.

Závery sú také, že víno sa vo vzorke 42 krajín zdaňuje o niečo menej ako pivo a oveľa menej ako liehoviny. Nevážený priemer v 42 krajinách a počas dvoch rokov 2008 a 2018 bol 11,40 USD za liter alkoholu pre víno v porovnaní s takmer 14 USD za pivo a 25 USD za liehoviny. Ako percentuálny podiel veľkoobchodnej ceny pred zdanením dosiahla daň z vína v priemere 22 %, z piva 29 % a z liehovín 75 %. Hodnotový odhad kombinovaného súboru daní platených maloobchodným spotrebiteľom ad valorem možno nájsť nasledovne za predpokladu, že domáci výrobok je blízkou náhradou dovážaného výrobku a veľkoobchodno-maloobchodné rozpätie je ad valorem:

$$CTE = (1+m)(1+t)(1+v) \tag{15}$$

Ukázal, že dane zo všetkých troch alkoholických nápojov (pivo, víno, lieh) sa v priebehu desaťročia do roku 2018 zvýšili. Objemové priemery vzrástli o jednu devätinu v prípade piva a o niečo viac ako štvrtinu v prípade liehovín a vína. V hodnotovom vyjadrení sa priemerné dane z vína a piva zvýšili o viac ako tretinu. Priemery však skrývajú veľkú rozmanitosť daňových sadzieb medzi krajinami a v rámci nich. Krajiny severozápadnej Európy majú najvyššie celkové sadzby zdanenia spotreby alkoholu, zatiaľ čo Spojené štáty, Nemecko, Taliansko a Japonsko majú najnižšie dane. Zmeny za desaťročie sú tiež značne rôzne a to od malých poklesov v niekoľkých krajinách až po výrazný nárast v severských krajinách. Vo všeobecnosti sa víno zdaňuje najmenej (takmer 0 % v európskych vinárskych krajinách a vôbec nie v Argentíne) a liehoviny najviac. Keďže vnútroštátna výroba a objemy spotreby vína na obyvateľa sú vysoko korelované, naznačuje to, že existuje negatívny vzťah medzi daňami z vína a podielom vína na spotrebe alkoholu. Napokon existujú rozdiely v sadzbách dane zo šumivých oproti tichým vínam a podľa druhu dane.

Adda a Cornaglia v štúdií *Dane, spotreba cigariet a intenzita fajčenia* (2006) predpokladali jednoduchý model fajčenia a intenzity fajčenia. Predpokladali, že užitočnosť spotrebiteľa závisí od nikotínu n, zloženého tovaru q a od intenzity fajčenia. Tá je definovaná ako množstvo nikotínu extrahovaného na cigaretu. Spotrebiteľ dostane neužitočnosť zvýšenia intenzity fajčenia najmenej z dvoch dôvodov. Po prvé, posledná časť cigarety chutí horšie ako prvá časť, pretože tabak bol zahriaty dymom. Po druhé, pre daný príjem nikotínu zvýšená intenzita znamená, že spotrebiteľ vyfajčí menej cigariet denne. To vedie k vrcholom a minimám hladín nikotínu počas dňa, ktoré sú nepríjemné. Ak by cena nebola problémom, spotrebiteľ by radšej fajčil často, ale s nižšou intenzitou. Jeho problém je nasledovný:

$$max_{\ n,i}\, u(n.i.q) \qquad (16)$$

kde: $n = c,i;\ y = pc + q$

kde p je relatívna cena tabaku, c počet cigariet, i intenzita fajčenia, q zložený tovar a y je celkový príjem. Spotrebiteľ maximalizuje užitočnosť výberom množstva nikotínu a intenzity. Existuje kompromis medzi fajčením menej intenzívnym spôsobom a počtom cigariet, ktoré si môžete kúpiť. Predpokladá sa, že funkcia užitočnosti sa zvyšuje a je konkávna. To znamená, že títo fajčiari kompenzujú vyššie ceny intenzívnejším fajčením. Jednotlivci, ktorí si môžu dovoliť minúť viac na cigarety, fajčia menej intenzívne. Ak je príjem nikotínu výsledkom záujmu, či už z dôvodu jeho návykovej povahy, alebo z dôvodu zdravotných účinkov iných látok inhalovaných súčasne, potom regresii počtu cigariet v cenách unikne skutočný účinok. Je pravdepodobnejšie, že budeme pozorovať kompenzačné správanie u pravidelných alebo ťažkých fajčiarov.

V empirickej časti autori testovali a porovnávali vplyv spotrebných daní na počet vyfajčených cigariet ako aj na množstvo spotrebovaného nikotínu. Namiesto cien používajú dane, pretože tie sú potenciálne endogénne. Okrem toho je z politického hľadiska relevantnou premennou spotrebná daň. Pre jednotlivca i, žijúceho v štáte s a v období t, dávajú do súvislosti logaritmický počet cigariet so spotrebnými daňami v danom štáte a roku. Regresia tiež podmieňuje súbor individuálnych charakteristík, ako aj stavové a časové rady:

$$log\ c_{ist} = \alpha_0 + \alpha_1\ log\ tax_{st} + \alpha_2 X_{ist} + \alpha_s + \alpha_t + u_{ist} \qquad (17)$$

Podobne dávajú do súvislosti logaritmickú koncentráciu kotinínu s rovnakými premennými:

$$log\ cot_{ist} = \beta_0 + \beta_1\ log\ tax_{st} + \beta_2 X_{ist} + \beta_s + \beta_t + v_{ist} \qquad (18)$$

Intenzita logaritmu je daná log Cot_{ist} -log c_{ist}. Ak majú dane podobný relatívny vplyv na počet vyfajčených cigariet a na koncentráciu kotinínu ($\alpha_1=\beta_1$), intenzita fajčenia nereaguje na daňové zmeny. Vplyv daní na fajčenie sa identifikuje prostredníctvom štátnych variácií po odstránení súhrnného časového efektu. Štandardné chyby pre klastrovanie upravujú na úrovni štátu a roka. Klasická chyba merania ovplyvňujúca fajčenie (obzvlášť výrazná pre počet vyfajčených cigariet) neskresľuje odhad účinku daní, keďže príslušná premenná je závislá. Ak chyba merania nie je klasická, odhad je objektívny za predpokladu, že chyba merania nie je v korelácii s daňami, keď sa kontrolujú stavové a časové účinky. Odhad modelov prostredníctvom metódy najmenších štvorcov môže byť skreslený. Je možné, že jednotlivci s nízkou intenzitou fajčenia s väčšou pravdepodobnosťou prestanú fajčiť, pretože sa zvyšujú dane. So zvyšujúcimi sa daňami by sa zloženie skupiny fajčiarov posunulo smerom k intenzívnejším fajčiarom. Ak by to tak bolo, koeficient OLS týkajúci sa účinku daní na intenzitu by bol posunutý smerom nahor. Na kontrolu tejto endogenity je možné použiť nástroj ovplyvňujúci účasť fajčiarov, ale nie priamo intenzitu fajčenia. Nájsť takýto nástroj sa však ukazuje ako náročná úloha. Efekt potenciálnej zmeny zloženia autori riešia dvoma spôsobmi. Buď posudzujú spoľahlivosť výsledkov OLS obmedzením vzorky na jednotlivcov, u ktorých je menšia pravdepodobnosť, že prestanú fajčiť. Používajú buď jednotlivcov, ktorí začali fajčiť v ranom veku, alebo silných fajčiarov. Predpokladá sa, že títo jedinci sú buď viac závislí od tabaku, alebo majú vyššie preferencie pre fajčenie. Druhý spôsob je, že k výberu z fajčiarov pristupujú formálnejšie. Táto metodika nevyžaduje žiadne identifikačné obmedzenia. Zahŕňa informácie o pravdepodobnosti ukončenia fajčenia medzi dvoma obdobiami, ako aj o rozložení intenzity fajčenia v týchto dvoch obdobiach. Metóda umožňuje skúmať, či dane majú vplyv na intenzitu nad rámec akýchkoľvek selekčných účinkov.
Prínosom tejto analýzy je použitie biomarkerov na štúdium zdravotného správania a toho, ako reagujú na ekonomické premenné a vládne zásahy. Zameriavali sa na intenzitu fajčenia definovanú ako pomer koncentrácie kotinínu k počtu vyfajčených cigariet. Toto je široká definícia fajčenia, ktorá zahŕňa mnoho kompenzačných správaní. Preto sa môže lepšie analyzovať, ako fajčiari menia svoje správanie v reakcii na zmeny v spotrebných daniach na štátnej úrovni. Použitím rozdielov v rámci štátov a v priebehu času v spotrebných daniach je zrejmé, že fajčiari zvyšujú intenzitu fajčenia v reakcii na zvýšenie daní. Upravujú nielen počet alebo typ vyfajčenej cigarety (Evans a Farrelly, 1998); Farrelly a kol. (2004) ukazujú, že fajčiari prechádzajú na cigarety s vyšším obsahom dechtu a nikotínu), ale aj príjem nikotínu na cigaretu. Výsledky preto spochybňujú užitočnosť spotrebných daní ako nástroja na reguláciu príjmu fajčenia, najmä keď lekárska literatúra ukázala, že zvyšovanie intenzity fajčenia je škodlivé pre zdravie (Thun et al 1997). Existencia kompenzačného správania znamená, že odhad modelov fajčiarskeho správania, ako je model racionálnej závislosti, môže podliehať nesprávnej špecifikácii. Ich výsledky si vyžadujú ďalšiu analýzu s použitím podobných údajov na lepšie pochopenie zložitosti fajčenia a jeho dôsledkov na zdravie. Ekonomická literatúra o fajčení môže veľa získať využívaním informácií o koncentrácii kotinínu. Tento zdroj údajov možno použiť na lepšie pochopenie procesu závislosti, v ktorom nikotín zohráva dôležitú úlohu. Kotinín môže byť tiež užitočný pri pochopení rozdielov v miere odvykania od fajčenia medzi etnickými alebo sociálno-ekonomickými skupinami kvôli rozdielom v intenzite fajčenia. Nakoniec, prirodzeným rozšírením tejto práce je analýza pasívneho fajčenia, ktorého význam pre verejné zdravie bol uznaný rozsiahlou lekárskou a epidemiologickou literatúrou.

3 ZÁVER

Efektívne nastavenie spotrebných a environmentálnych daní je náročný komplexný proces. Nastavenie týchto daní tak, aby spotrebitelia boli motivovaní zmeniť svoje správanie, vyžaduje komplexné poznanie na makroekonomickej úrovni a nestačí vedieť len čiastočné

dáta, ktoré predstavujú spotrebiteľské správanie vybraných jednotlivcov. Autori, ktorých analýzam sme sa venovali v aplikačných príkladoch, dokázali, že správne a efektívne nastavenie daní by malo mať nie len preventívny charakter, ale mali by priniesť aj štatisticky významný príjem do štátneho rozpočtu jednotlivých krajín. Spotrebitelia citlivo reagujú na zmenu cien statkov, ktoré spotrebujú. Je dôležité, aby sa pri zavádzaní spotrebných daní pristupovalo k spotrebe všeobecne, aby sa v čo najväčšej miere zamedzilo substitúcií za iný statok, ktorý bude spotrebiteľovi prinášať rovnaký alebo podobný účinok. Zdaňovanie by malo priniesť pozitívnu substitúciu statkov – napríklad zámena spotreby cigariet za spotrebu žuvačiek, aj keď žuvačky obsahujú cukor, ktorého nadmerná konzumácia je taktiež považovaná za negatívnu externalitu. Tým pádom by tu hrozilo riziko prejdenia z jednej závislosti do druhej. Je však ťažko odhadnuteľné, do akej miery nastavenie dane a s ňou spojené zvýšenie cien je pre konečného spotrebiteľa motivujúce k zmene svojho spotrebiteľského správania a či vôbec by bol ochotný sa zmeniť po zavedení dane. Toto by mohlo byť predmetom následného experimentu v teréne avšak s rizikom dostupnosti relevantných údajov.

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PERCEPTION OF THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE IN THE ACCOUNTING PROFESSION FROM THE PERSPECTIVE OF EMPLOYEES IN THE LIBEREC REGION OF THE CZECH REPUBLIC

Pavlína Petrová

Abstract

Digitisation in accounting has been a big topic for many years and not only represents a technological advance that is driving the global economy forward, but also a revolution in the use of the human factor, which is being ever more often replaced by machines that can do the same job more cheaply, quickly and efficiently. The digital change within accounting is mainly created by systems based on the principle of artificial intelligence, as they can mimic human behaviour and decision-making based on data and experience. Thanks to such systems, routine and repetitive activities that accountants have to perform during the day can be eliminated. Some employees who do jobs where AI can be used see it as competition to replace their jobs. On the other hand, some employees see AI as an assistant that relieves them of routine tasks.

Key words: *artificial intelligence, robotic process automation, accounting profession, Liberec region*

1 INTRODUCTION

This article focuses on how selected employees from the accounting profession in the Liberec region perceive artificial intelligence with regard to their profession.

Artificial intelligence is one of the most debated topics of our time. The term is frequently used in many contexts, industries and applications. Artificial intelligence is a system that expresses intelligent behaviour.

It is advanced technology that is capable of predicting, learning and understanding cognitive human processes. In recent times the concept of artificial intelligence has been gaining increasingly more prominence, but the discipline itself is based on neural networks that were invented in 1944. Artificial intelligence is intelligence that is real, but artificially created. The term can be defined as a series of interconnected computer systems that analyse and compare new information with information from the past. (Hurbans, 2020)

Artificial intelligence, robotics and automation can be seen as the first significant substitution for human knowledge. (Greenspan and Matthews, 2020) Some employees are concerned about the implementation of AI and its components into the ranks of professions, and the accounting profession is no exception. These employees see AI as competition that may cost them their jobs in the near future. In contrast, other employees view AI as an assistant that helps them with many tedious routine tasks that they have to deal with in their profession.

2 DEFINITION OF ARTIFICIAL INTELLIGENCE AND ITS COMPONENTS

Artificial intelligence is the study of computer agents that act intelligently. (Poole and Mackworth, 2010) Artificial intelligence belongs to the field of computer science. It uses algorithms that can handle reasoning, perception, learning, language comprehension and problem solving. These algorithms are used to develop computer programs enabling the performance of tasks that would otherwise require human labour. Such a program is a software robot that can work independently to complete a virtual task. And in doing so it mimics a certain level of human intelligence. (BDO, 2020)

Artificial intelligence refers to the ability of computer programs and robots to mimic human intelligence. This ability to mimic human intelligence mainly concerns cognitive functions like the ability to learn from experience or to understand natural languages and solve problems. (Jagare, 2022) Artificial intelligence is a term that is used to describe the automation of intellectual tasks. (Ashenden, 2021) Artificial intelligence can be used to analyse financial data and thereby, for example, enables a reduction of the need for manual work in accounting processing. (Novak, 2023)

Artificial intelligence is the name given to systems or machines that mimic human intelligence to perform given tasks. Unlike process automation using robots, which can substitute humans to perform routine work, artificial intelligence replaces the human operator for more complex tasks. (Gracey, 2022)

An AI system can be divided into two components. One component is machine learning and the other is robotic process automation. Machine learning involves two techniques. These techniques are unsupervised learning and supervised learning. Unsupervised learning is not managed and largely consists of a clustering of machine learning techniques. Supervised learning includes machine learning algorithms such as classification, regression and deep learning. Robotic process automation is performed using specialised tools or scripting languages. (Sekar, 2022)

3 MACHINE LEARNING

Machine learning can be classified in the field of computer science. It focuses on computer systems so that they can perform specific tasks without explicit instructions. Machine learning is based on neural networks. These are based on the simulation of connected neural units, which represent the way neurons interact in the brain. (Chojecki, 2020) Machine learning supports artificial intelligence systems by using historical data to make decisions or optimise processes. (Hurbans, 2020)

Machine learning is considered a subset of artificial intelligence. It can be defined as the use of computer algorithms to create a mathematical model based on sample data. Machine learning algorithms are used in a large number of applications. (Jagare, 2022).

4 ROBOTIC PROCESS AUTOMATION (RPA)

Microsoft published an article remarking that an RPA tool is software for defining workflows and configuring bots to perform specified tasks in a logical order. (Microsoft, 2023)

With the help of RPA, software robots perform tasks on a computer just as a human would. This makes it possible to eliminate more than 60% to 90% of repetitive activities. Employees therefore do not engage in routine tasks and their productivity is higher. Bringing robots into companies also means lower costs for these companies to process tasks, as robots cost approximately one-third to one-fifth the cost of an employee. The robots perform their assigned tasks with 100% accuracy, reducing possible reworking. Since RPA activities are logged, they can be checked at any time. This allows for a higher level of supervision and control over individual operations. (Mullakara et al., 2020)

According to some estimates the cost of running RPA is 30% of the cost of an offshore worker (with a low wage), assuming the same task is performed. Given this advantage, the implementation of RPA will reduce job positions where repetitive tasks are performed. Employees in such positions will be able to develop themselves further in more creative tasks. For companies and employees, the implementation of RPA represents a potential increase in efficiency and productivity. (Ryder, 2017).

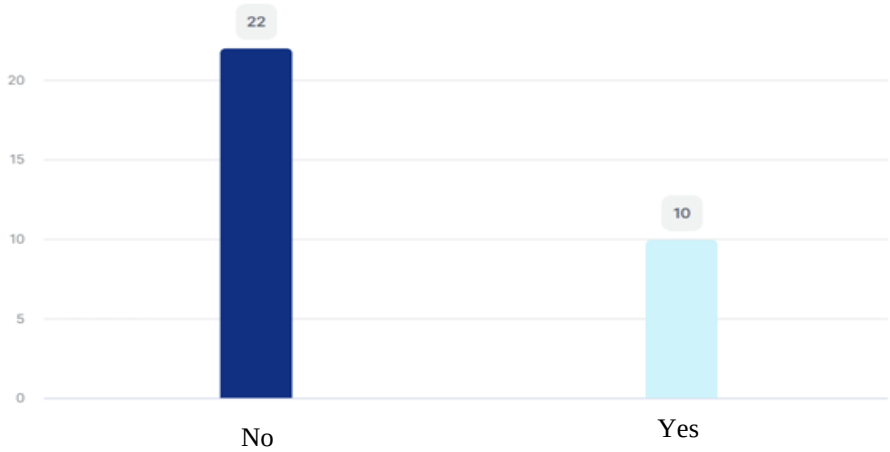
Robotic process automation is rapidly changing the world of work, especially for accountants. The potential for automating accounting processes with RPA is high and forms a basis for

robots to take over a significant portion of primarily manual tasks from accountants. Data collection and entry, which takes up a large part of the working day, is automated through programmed software robots. When implementing robots, it is advisable to consider the issues that arise in relation to risks and compliance with regulations. As part of the implementation, checks must be made to ensure that only authorised and tested robots are deployed. (Jouzová, 2018)

5 RESEARCH PART

With regard to this issue, we have conducted research on the influence of artificial intelligence on the perception of employees in accountant positions in the Liberec region. Within the scope of this research we contacted three companies in the Liberec region, from which 32 respondents working in the accounting profession participated in the survey. All respondents answered that they use an SAP program for accounting processing. The questionnaire was created using the Survio program.

Graph 1: As an employee in an accounting position, are you concerned about the development of artificial intelligence due to your profession?



Source: (own processing)

22 respondents answered that they are not worried by the development of artificial intelligence with regard to their profession. The remaining 10 respondents are concerned about this development.

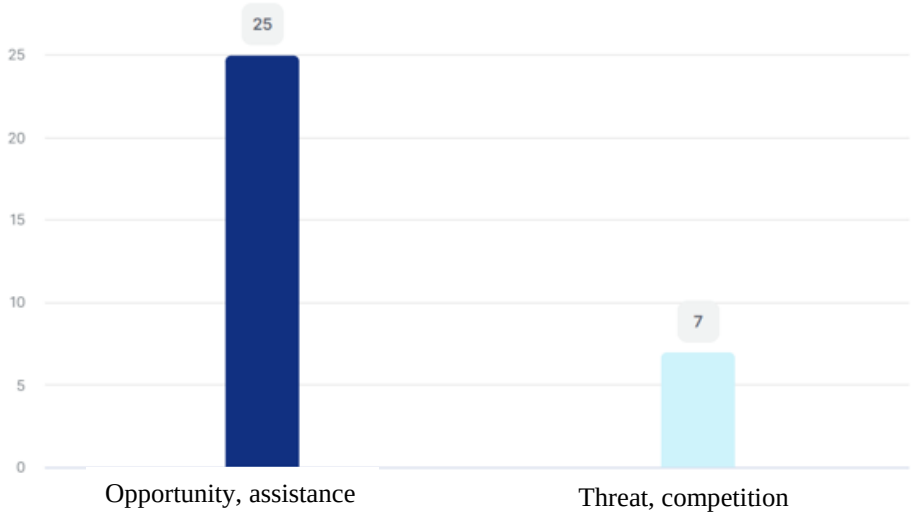
Table 1: The effect of age on employees concerns about AI development in the accounting profession

Age	Yes	No	Total
18-25	3	1	4
26-30	4	7	11
31-40	2	10	12
41-50	0	4	4
51-60	0	1	1
61 and more	0	0	0
Total	9	23	32

Source: (own processing)

In terms of age category, employees aged 31-40 were the least worried about the development of AI. On the other hand, employees aged 26-30 were the most worried.

Graph 2: Do you see the involvement of robots in the accounting profession as a threat or an opportunity? (assistance vs. competition)



Source: (own processing)

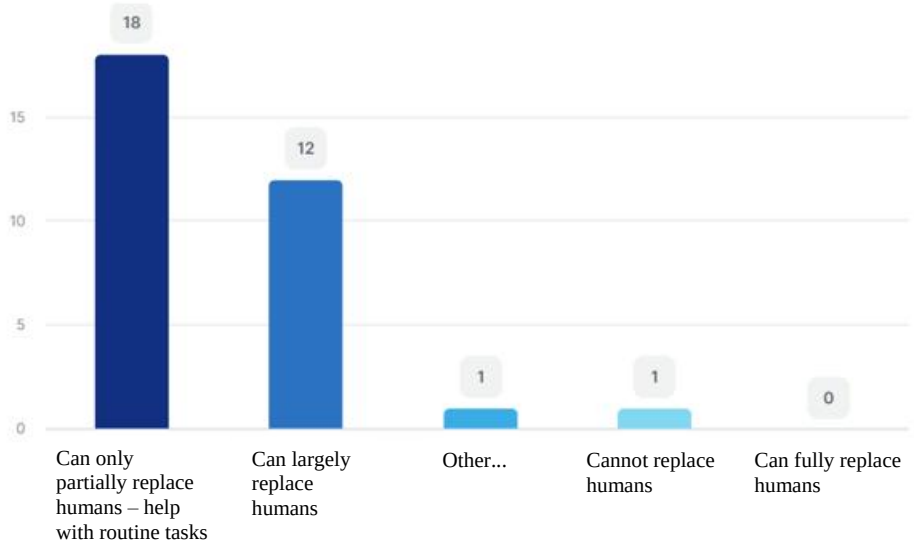
25 respondents answered that they see the involvement of robots in the accounting profession as an opportunity, while the remaining seven respondents see it as competition.
As regards attained education we can observe that most respondents who see the involvement of robots in the accounting profession as an opportunity have graduated from university.

Table 2: The impact of employees attained education on their perception of the involvement of robots in the accounting profession

Type of school	Threat, competition	Opportunity, assistance	Total
Primary school	0	0	0
Secondary school	1	6	7
Grammar school	0	1	1
Higher vocational school	0	1	1
University	6	16	22
Other	0	1	1
Total	7	25	32

Source: (own processing)

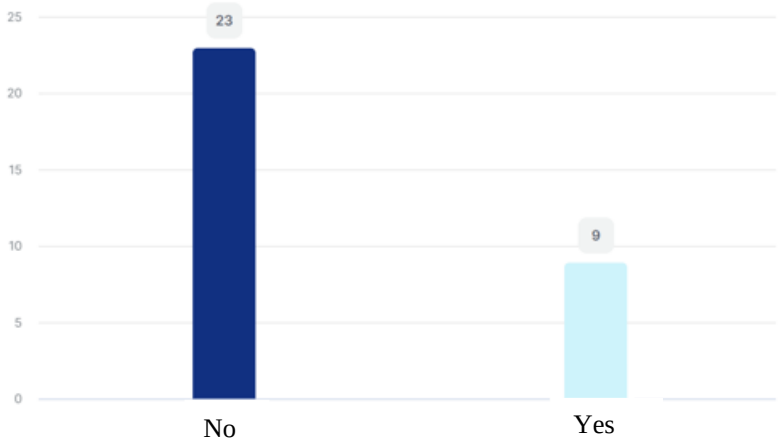
Graph 3: Do you think AI can fully replace humans in accounting tasks? Or is human labour irreplaceable?



Source: (own processing)

The largest number of respondents (18) answered that AI can only partially take over the work of accountants, e.g., by helping them with routine tasks.
A high number of respondents (12) answered that AI can replace humans for the most part. No one answered that AI could fully replace accountants in their work.

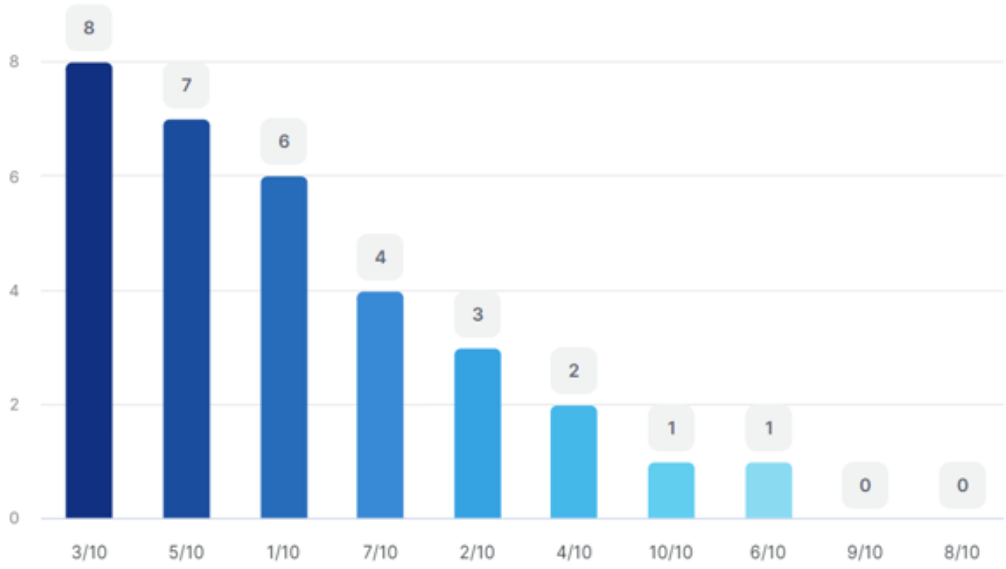
Graph 4: Are you afraid of losing your job due to the full automation of the accounting profession? (now and or the future)



Source: (own processing)

The vast majority, 23 respondents, answered that they were not afraid of losing their jobs due to the full automation of the accounting profession.

Graph 5: To what degree are you concerned about the full automation of the accounting profession?



Source: (own processing)

From the chart above, we can see that most respondents indicated their degree of concern about the full automation of the accounting profession on a scale of 1 to 10 as 3. This number suggests a low level of concern.

6 CONCLUSION

Based on the undertaken research we can conclude that the majority of respondents, specifically 22 of the 32 respondents employed in accounting positions, are not concerned about the development of artificial intelligence. Respondents aged 31-40 are the most worried. Considering the responses, it can be claimed that employees aged 31-40 are most concerned about the development of AI with respect to their job position.

We also found that 25 of the 32 respondents perceive the involvement of robots in the accounting profession as an opportunity or a means of assistance rather than as a threat or as competition. In relation to this question, we found that most of the respondents who see the involvement of robots in the accounting profession as an opportunity have graduated from university. These responses suggest that a university education has an effect on the way employees view robots. Specifically, that they see them as assistants or as an opportunity.

More than half of the respondents in the survey, specifically 18, answered that artificial intelligence can only partially replace accountants in their work, for example, by helping them with routine tasks.

The next question was about the fear of job loss due to the full automation of the accounting profession. In response to this question, the majority of respondents (23) answered that they were not afraid of losing their jobs due to the full automation of the accounting profession. We can therefore see that the majority of respondents from the three selected companies in the Liberec region are not afraid of losing their jobs due to the full automation of the accounting profession.

The last question in the questionnaire focused on the respondents' degree of concern, where we found that most respondents demonstrated a low degree of concern about full automation of the accounting profession.

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REVIEW OF SELECTED CLIMATE DATA MODELS AND THEIR LIMITATIONS

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Abstract

The article provides an overview of research in the field of climate models and their limitations. Traditional regression models focus on predicting the values of a dependent variable based on independent variables. Modern machine learning models employ algorithms to automatically identify patterns and relationships in data. These models are based on neural networks and are efficient in handling large volumes of data. Research shows that modern machine learning can be effective in predicting device lifetimes and addressing issues related to forest fires and floods. However, it is important to note that climate models have their limitations and require careful data processing and validation of results through observations. These models can contribute to a better understanding and prediction of climate change, but their use demands caution and critical evaluation of the outcomes.

Keywords: *drones, climate models, regression, machine learning*

1 INTRODUCTION

Climate data models are necessary to understand the nature of the Earth's climate and to forecast climate changes in the future. There are three kinds of computer models used to model climate: weather and climate simulation models, reanalysis models and data-based models. Simulations are used to predict climate variables in the future, while climate reanalysis models are used to restore the history of climate based on historical weather data. Data-based models are used to combine and process observations from various sources. [1]

The most frequently used climate models are models developed within Coupled Model Intercomparison Project Phase 5 (CMIP5) and Paleoclimate Modelling Intercomparison Project 3 (PMIP3). These models are used by researchers in various fields, including macroecology and biogeography, for the purpose of studying and forecasting biological reactions to climate change on large temporal and spatial scales, based on the top-down approach using ensembles of different models to understand climate patterns and changes, make informed climate change-related predictions. CMIP5 and PMIP3 models are collections of climate models (atmosphere, ocean, Earth surface and sea ice models) which provide multitemporal climate datasets for past, present, and future periods with global scope and with spatial resolution of 0,5°. CMIP5 is a joint effort between groups dealing with global scope climate modeling with a goal of improving the understanding of climate change and its impacts through development and application of innovative climate models. PMIP3 is a subsection of the CMIP5, the goal of which was to explore the predictability of climate by comparing the results of the PMIP3 model with paleo-data to detect why similar models produce chains of climatic reactions. These models are based on mathematical equations that describe interactions between different components of the Earth's climate system. Models are validated by observations and this approach allows researchers to study global climate change impacts and develop strategies for mitigating and adapting to climate change. [2, 3]

Researchers participated in building the CMIP5 model in two ways. They can contribute to the development and improvement of the climate model, and they use the models to create simulations of potential future climate scenarios. That requires designing and running the

simulations, analyzing the results of these simulations, and comparing these results with other simulation models. Another way of participating in the building of the CMIP5 is analyzing the data acquired from the simulations to understand the Earth's climate system better. This involves processing tremendous amounts of data, creation of statistical models and detection of patterns and trends in the data. Besides that, researchers evaluate simulations of climate models, and they compare them with other models and real climate data with the intent of identifying strengths and weaknesses of these models and improving their accuracy and reliability.

2 LITERATURE REVIEW

Climate data models play a crucial role in understanding and predicting the complex dynamics of the Earth's climate system. This literature review examines a selection of climate data models and provides an overview of the limitations of these models. Climate models are divided into three categories: traditional regression-based models, modern machine learning models and models using drones for collecting data necessary for modelling.

We examined a wide range of scientific articles focused not only on climate change modelling, but also the economic impacts of climate change, to register as many model limitations as possible.

2.1 Traditional regression-based models

Traditional regression models focus on predicting the values of the dependent variable based on the input independent variables. They use statistical methods and mathematical relationships to identify relationships between variables. Examples of traditional regression models include linear, logistic, and polynomial regression, and similar models. These models rely on assumptions about the properties of data, such as normality or homoscedasticity.

In the first article we reviewed, the author examined the economic costs linked with extreme weather conditions caused by climate change in New Zealand between the years of 2007 and 2017. The study focused on droughts and floods with a simple modelling approach being necessary because of funding constraints. The study was based on the Hadley Centre Atmosphere Model version 3P and CMIP5, however, new models were not created for the study, only new ways of using the existing models were developed. The obtained estimates are not accurate and represent an underestimate of the total economic cost of climate change. This study demonstrates the potential development of a new stream of information, relevant for many interested parties and research communities. The method mentioned in this study is intended to be a preliminary top-down approach to supplement the bottom-up Integrated Assessment Models approach. Furthermore, the authors describe the process of complex extreme weather database construction, expansion of the analysis to various kinds of damage and assessment of potential bias in the analysis. The study provides a rough estimate of climate change related costs caused by droughts and floods in New Zealand. [4]

The study conducted by Wu [5] examined the economic impact of natural disasters with the help of a country-level panel dataset with observations from the year 1997 until 2018. The study develops the structural transformation index from a trade balance perspective in both low and high skill industries and examines the impact of natural disasters in different environments. In the study, the author used regression analysis to create the structural transformation equation. The analysis reveals that natural disasters, hydrological disasters caused by climate factors, have a deep impact on structural transformation. Besides that, the state of economic development and the openness of trade are considered as key factors in damage mitigation and economic robustness. The study proposes several ways to improve and expand research, including the examination of exchange rates and global collaboration with regards to natural disasters, a review of the effects of government policies introduced because

of natural disasters and the consideration of alternate explanatory variables for the research of natural disasters.

The study of Fortunato, et al. [6] uses a statistical and econometric approach to examine the connection between climate change and natural disasters, focusing on long-term dynamics and predictions of CO_2 accumulation and the incidence of hydrometeorological disasters. The main goal of the study was to contribute to more efficient and cheaper preventive and mitigative measures using flexible simulation techniques including Bayesian MCMC. First, the study specifies the global trend in natural disaster occurrence, considering various climatic, socio-economical, and country-specific factors. These are then analyzed using Zero-Inflated Poisson to find a link between CO_2 levels and the probabilities. Statistical data on atmospheric concentrations of CO_2 can be used as a meaningful, statistically valid, and politically useful hydrometeorological disaster predictor. The study points out, that, with regards to the specifics of individual countries and depending on the emission scenarios, most of the countries will be affected by at least one disaster per year with probability of 50% or higher.

The research conducted by Gao, et. al. [7] was focused on the impact of the physical risk of climate change, measured by the occurrence of catastrophic and unusual events at the enterprise level. The authors found an association between exposure of establishments to abnormal climatic events and total, systematic, and idiosyncratic risk. The results indicate that the risk related to these events influences most of the companies. Climatic events affect some industries more than others, and the unpredictability of the events and the heterogeneity of their impacts in individual companies influences the idiosyncratic risk. The authors pointed out the geographic dispersion, that is more likely to increase than to decrease the impact of climate disasters on companies' risk levels. The effect of geographic dispersion is decreasing when various kinds of natural disasters are considered. Aside from that, the unpredictability of these events can lead to the opposite effect, with the probability of a company being affected by any natural disaster growing with the number of locations the company operates in. Companies affiliated with more locations are exposed to larger amounts of more diverse natural disasters. Industry diversification was found to increase the influence of climate disasters on company risk level, however, this influence decreases, or sometimes entirely disappears, when considering the significance of environmental problems in the industry. The research helps to better understand the impact of climate change on the assets of establishments. The findings provide investors with vital information about the exposition of businesses to climate risks and they help managers with assessing the company's vulnerabilities to climate change and suggest risk management strategies to mitigate the impact of natural disasters on the activity of companies and their market value.

The study by Sun, et. al. [8] conducted on listed companies demonstrated that the risk of climate change influences the financial performance of electro-energetic companies in two segments – electricity supply and transmission and distribution of electricity. The study verified the correlation between climate change risk and the financial performance of listed companies using a mediating effects model for empirical analysis on panel data. The results demonstrated that the complex risk of climate change positively influences financial performance of electro-energetic companies. Precipitation index and drought index had a positive impact on financial performance, while the cryogenic frost index negatively influenced financial performance of the listed companies. The operating cost indicator has a mediating effect on the correlation between the cryogenic freezing index and the return on equity of companies. The share of clean energy supply has a mediating effect on the correlation between the comprehensive climate change risk index and return on equity. Power companies must therefore consider the impact of climate change risk and develop different

strategic responses to diverse types of meteorological conditions (for example, market-oriented reforms considering the ambient climate conditions).
The article by Hartvig, et. al. [9] aggregated textual information from online news articles to provide a new data source for carbon prices prediction. The authors used a TF-IDF function to track the relative occurrence of climate change-related keywords in online EU-related news. They then derived an index of EU climate change news as an aggregated TF-IDF keyword score. The index accurately reflects the ongoing debate on climate change in the EU. It outlines the most influential events in this area, such as the annual UN climate change conferences or the approval of the EU's target to reduce emissions by at least 55% by 2030 compared to 1990 levels. Finally, the study showed that the index brings valuable additional information and predictive power to forecasting returns on ETS prices compared to a baseline model that includes traditional carbon price predictors. The increasing ambition of the EU's climate targets brings considerable uncertainty to carbon prices. The market is subject to frequent adjustments of supply and demand for emission allowances. This means that market participants must constantly adapt their strategies to keep pace with changing market conditions. Therefore, news articles on EU climate issues are particularly important for their market expectations. Therefore, the proposed ECCNI could also help in managing volatility in the EU ETS. By incorporating the index into forecasting models, companies can more accurately forecast ETS prices.

2.2 Modern machine learning models

Modern machine learning models are based on algorithms that can automatically identify patterns and relationships in data. These models are often called deep learning algorithms and can work efficiently with large volumes of data. Modern machine learning models are based on neural networks and use a multilayer structure to represent the relationships between variables. Popular modern machine learning models include convolutional neural networks (CNNs), recurrent neural networks (RNNs), and transformers. These models can be more powerful for complex tasks such as image recognition, natural language processing, and mostly for time series prediction.
According to a study conducted by Betz et. al. [10] the proposed enhanced decision tree model provides more accurate estimates of equipment life than other investigated methods. Research has shown more accurate equipment predictions than industry cost book estimates, Weibull models, and inspection-based models. The presented model is easy to interpret, and it also showed better performance compared to other machine learning techniques, such as Bagged Random Forest and Neural Networks. The model can capture the effects of climate and, when combined with climate models, can provide managers and equipment designers with more accurate lifetime estimates in changing climate conditions. Improved lifetime estimates are necessary because they underline many repair and replacement decisions in facility management, and such maintenance issues contribute significantly to facility budgets. These findings suggest that factors such as "equipment type" and "environmental stressors" are fundamental predictors of component life generation, even though they are not present in typical models. A case study on air handling units in Yuma, Arizona showed a significant monetary impact due to the impact of climate change on the life of the equipment. The authors recommend focusing on increasing the availability of data from meteorological inspection stations and improved climate forecasting models to increase the accuracy of equipment lifetime estimates.
Arif, et. al. [11] focused on focused on summarizing trend-based methods in the field of forest fires. Namely, methods for their prediction, detection, speed of expansion and mapping of affected areas. They also focused on the impact of emissions from these fires on the environment. Several types of datasets from 2007 to 2018 were used, some containing

information about fires such as temperature, wind speed, size of the area burnt or distance from roads. Other datasets contained satellite images of fires. In the paper, the authors compared multiple machine learning methods applied to several forest fire problems. Deep convolutional neural networks, convolutional neural networks, random forest, and fuzzy inference system have been applied to the problem of fire detection and prediction based on wireless sensor network. The deep convolutional neural network had the best accuracy of 95%. Furthermore, several image processing methods, support vector method, enhanced regression tree, random forest, and many others were used to monitor fire development using satellites. Methods have been applied to this problem for various purposes, such as outbreak detection, mapping of burned areas, or forest fire susceptibility. These methods were evaluated according to their accuracy and most of them had over 90% success rate. As the last problem, the authors chose forest fire risk prediction. Several methods have been used with different purposes. Among the methods that have been investigated are neural networks, support vector method, random forest, linear regression, and several others. The accuracy of these models ranged from 70% to 90%. The authors of the article summarized, that these models can help with the issue of forest fire both in the short and long term and that they can help us understand the dependence between the occurrence and spread of forest fires and changes in the weather better. They further mentioned that it is not easy to obtain relevant data for forest fire prediction and researchers must extensively search for it.

The study by Anisha, et. al. [12] is focused on the assessment of damage to buildings caused by floods, using machine learning methods in comparison with the standard flood depth-damage function. The data used in this study was from 2018 and contained information about damaged homes after a flood that occurred in the Indian state of Kerala. Among the information that has the greatest influence on the results of the models are the duration of the flood, the area where the dwelling is located, the age of the building, the depth of the flood and the material from which the walls and roofs were built. In total, there are 270 observations in the dataset. The study looked at different machine learning methods used to predict damage, which was divided into three categories: mild, moderate, and severe. The specific methods that were used are: Naive Bayes, K-Nearest neighbors, decision tree, random forest, Adaptive Boosting, XG Boost, Light GBM, Cat Boost and SVM. The most accurate model turned out to be random forest with an accuracy of 84%. Furthermore, the Cat Boost method had 83% accuracy, the Ada boost and XG boost methods had 81% accuracy, and the other methods used had accuracy below 80%. The authors of the study summarized that machine learning methods can be used as a quality alternative to standard methods used to predict damage after floods.

2.3 Use of drones for data collection for modelling purposes

Accurate channel modeling is critical to the effective use of unmanned aerial vehicles (UAVs) in environmental modeling, as they can provide valuable data on several environmental factors such as air quality, temperature, and vegetation cover. In addition, UAVs can also be deployed to track land use changes and monitor wildlife populations. [13, 14]

UAVs can be used to create 3D models of the environment that can be used for disaster planning and disaster response. [15]

Using unmanned aerial vehicles (UAVs) for environmental monitoring has several advantages over conventional approaches. Unmanned vehicles can be deployed rapidly at low cost and without the need for dedicated airstrips, can operate in contaminated or hazardous environments, and can perform systematic, high-resolution surveys in three-dimensional space with high repeatability. UAVs can be used for atmospheric gas sensing, climate monitoring, pollution detection and hazard scene assessment. [16] In addition, lighter-than-air (LTA) systems have made it possible to carry a suite of sensors to high altitudes for long-term

and temporary data collection, making them an attractive option for environmental monitoring. [17]

Unmanned aerial vehicles (UAVs) can collect diverse types of data for environmental monitoring. UAVs can be equipped with sensors to collect data on atmospheric gases for climate monitoring, pollution detection, volcanology, and hazard assessment. [18] Using unmanned aerial vehicles (UAVs) for climate change research has several advantages. UAVs are cheaper than traditional platforms such as crewed aircraft and satellites, making them more accessible for research purposes. UAVs are also more operationally versatile and visible compared to ground-based approaches or other airborne methods such as crewed aircraft and satellites, allowing for atmospheric measurements at remote locations and surveying of large areas. [19]

UAVs equipped with specific sensors and instruments can provide reliable, accurate and timely information to support evidence-based planning and spatial data collection for agriculture that is affected by climate change. [20] In addition, UAVs can effectively collect data from small, low-power buoys with previously unknown locations in complex coastal or remote ocean regions with air restrictions for oceanographic research, marine biology, and climate change research. [21]

3 DISCUSSION

The article “Human and economic impacts of natural disasters: can we trust the global data” [22] focused on the critical analysis of existing datasets on natural disasters and the identification of problems with these datasets. The authors focused on a range of factors that contribute to the inadequacy and unreliability of data on the impact of natural disasters. A three-stage procedure was used to diagnose missing data in this study. In the first step, the proportions of missing data for all variables in the dataset were described. In the second step, patterns of missing data were analyzed. In the third step, logistic regression analysis was used to examine the relationships between the probability of missing observations and the observed values in the dataset. The analysis was limited to disasters caused by natural hazards from 1990 to 2020. The program used was STATA version 16.1 and the "cleanplots" scheme was used to generate visualizations. A variety of statistical methods were used to create indicators of missing data, including the t-test, Pearson's chi-square test, Little's MCRA test, and binary probability models. Several predictors of missing data, such as type of disaster, income classification of the affected country, and year of disaster, were examined in logistic regression analysis. To evaluate the robustness of the results, a probit model and a conditional (with fixed effects) logit regression model were also used. Deficiencies in handling missing data in disaster databases have serious implications for the reliability of disaster research and policies. It is essential that we deal with diagnostics and proper accounting of missing data. Further research efforts are needed to develop better methods to handle missing data in disaster databases to achieve reliable and evidence-based disaster policies.

Following Jones et al.'s work, the authors of this review article thought about the use of data collection and the methods of their processing. The best option is the use of modern data collection technologies, such as drones and modern AI-based data processing methods better suited for creating models that benefit climate data modeling.

4 CONCLUSION

This article reviews articles on climate data modelling. The reviewed articles were split into two categories, namely works using traditional modeling approaches and works with modern AI-based models. In these categories are described machine learning algorithms used on different problems and data, authors used. The authors of the work also looked at the use of drones in the collection of climate data. In conclusion, they followed up on the work of Jones

et al., where he emphasized the inadequacy of methods in processing missing climate data, which can lead to faulty models. The answer to this problem seems to be the practice of using modern technologies for data collection, as well as using advanced models based on machine learning, which are more accurate and can handle errors in datasets better.
With the text in this contribution, we also, wanted to point out the importance of climate data modeling in connection with economic impacts in individual countries and regions. Due to the current development and rapidly changing conditions due to climate change, the prevention (early warning) of disasters is undoubtedly of great importance, but also the minimization of the consequences for the population and the economy. As we pointed out above, new technologies enable extensive and better data collection, processing, analysis, and modeling of contexts, and from this the formulation of relevant conclusions for decision-making processes in economic contexts.

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MINISTRY
OF TRANSPORT
AND CONSTRUCTION
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ETF JAKO PROSTŘEDEK INVESTOVÁNIÍ

ETF AS AN INVESTMENT TOOL

Radoslav Bajus

Abstrakt
Na trhu existuje množstvo investičných možností, z ktorých je možné si vyskladať investičné portfólio a ETF fondy sú jedným z nich. Svet ETF je pomerne mladý, ale veľmi rýchlo sa rozrastá. Aktuálne na trhu máme niekoľko stoviek ETF, z ktorých si môže investor vybrať tie správne a vhodné pre svoje portfólio. So zvyšujúcou sa popularitou ETF sa zvyšuje aj dôvera v tento investičný prostriedok. Príspevok s názvom „ETF ako prostriedok investovania“ sa venuje téme ETF fondov, prečo stúpa popularita investovania do ETF fondov, v čom vidia investori výhody a nevýhody investovania do ETF fondov. Cieľom je poukázať na existujúce ETF fondy a aké sú možnosti aktuálne dostupné na trhu.
Kľíčová slova: *ETF, investovanie, investičné portfólio, zhodnotenie financií*

Abstract

There are many investment options on the market from which to build an investment portfolio, and ETF funds are one of them. The world of ETFs is relatively young, but it is growing very quickly. We currently have several hundred ETFs on the market, from which an investor can choose the suitable ones for his portfolio. As ETFs grow in popularity, so does confidence in this investment instrument. The post entitled "ETF as an investment tool" deals with the issue of ETF funds, why the popularity of investing in ETF funds is increasing, and what investors see as the advantages and disadvantages of investing in ETF funds. The aim is to point out existing ETF funds and what options are currently available on the market.

Key words: *ETF, investment, investment portfolio, appreciation of finances*

1 STAV SKÚMANEJ PROBLEMATIKY

Exchange Traded Funds (ETF) označuje investičný nástroj, ktorý je moderný a jeho názov môžeme doslova preložiť ako „fondy obchodované na burze“. ETF podobne ako akcie sú ľahko dostupné, vytvárajú a spravujú ich finančné inštitúcie, ktoré sú na to špecializované. Tieto fondy, na rozdiel od otvorených podielových fondov, vydávajú svoje akcie a s tými obchodujú na burzách ako s bežnými akciami. ETF sú veľmi výhodné, pretože prostredníctvom nich možno rýchlo, jednoducho a lacno portfólio diverzifikovať. O zloženie podkladových aktív sa starajú manažéri fondu. Mnoho ETF vypláca dividendy. Existujú dva typy ETF - akumulačný a distribučný. Pri distribučných ETF sa dividendy vyplácajú a slúžia ako zdroj príjmu. Pri akumulačných sa automaticky dividendy reinvestujú a majú preto viacero výhod. ETF, ktorých dividendy sa priamo reinvestujú a nevyplácajú investorom, nespadajú pod prípadné dodatočné daňové zaťaženie investora. ETF sú cenné papiere, ktoré sú obchodované, podobne ako akcie, cez maklérsku firmu. Sú obchodované investormi, ktorí tiež investujú prostredníctvom maklérskych firiem, ktoré im uľahčia transakcie. Výhodou obchodovania s ETF je celodenné obchodovanie, je to flexibilnejšie ako s ich príbuzenskými podielovými fondami, kde musí investor čakať do konca dňa, aby mohol kúpiť a predať cenné papiere priamo s podielovým fondom spoločnosti. ETF môžeme kúpiť a predať kedykoľvek počas dňa, kedy sa obchoduje a sú sprístupnené výmeny akcií.

Fondy obchodované na burze (ETF) patria medzi najrýchlejšie rastúce typy inovatívnych finančných produktov. Vznik a rozšírenie týchto nástrojov uľahčila digitálna revolúcia. Informačné a komunikačné technológie (IKT) zásadne pretvárajú globálnu ekonomickú scénu, kladú pevné základy pre neobmedzené toky informácií a znalostí, odstraňujú informačné asymetrie a podporujú rýchle šírenie finančných inovácií po celom svete. Napriek rozvoju trhov ETF v globálnom meradle zostali Spojené štáty americké najväčším svetovým trhom pre tieto investičné fondy (podľa ETFGI začiatkom roku 2020 predstavoval americký trh približne 70 % celkových globálnych aktív držaných v ETF). Vo svojej najbežnejšej forme je ETF pasívny investičný nástroj, trochu pripomínajúci indexové podielové fondy s cieľom porovnávať (sledovať) výkonnosť nejakého benchmarku, zvyčajne indexu akciového trhu. Existujú však rozdiely, najmä v procese vytvárania a vyplácania podielových listov fondu (v prípade ETF sa to deje na primárnom aj sekundárnom trhu), z čoho vyplývajú rozdiely v nákladoch, likvidite a možnostiach sledovania.

Počet ponúk fondov obchodovaných na burze sa každým rokom zrýchľuje. Od roku 2004 sa počet ETF dostupných na investovanie zdvojnásobuje v priemere každých 18 mesiacov. Nie je možné predikovať, kedy sa tento nárast spomalí. Avšak sú tu dôvody na to, že sa celkový počet ETF znovu zdvojnásobí alebo strojnásobí po tom, ak by došlo k spomaleniu rastu. Na konci roku 1993 bolo na trhu len jedno ETF s aktívami vo výške 464 miliónov dolárov. Do konca roku 1997 boli len dve ETF obchodované na amerických burzách s aktívami v celkovej výške 6,2 miliardy USD. Potom sa tento nápad začal udomácňovať. Emisia ETF sa začala zrýchľovať, čím viac investičných spoločností vstúpilo na trh.

Počet ETF sa neustále zvyšuje s najväčším rastom v posledných rokoch. Sú tri hlavné organizačné formy pre ETF: trusty, podielové fondy a držitelia. Pôvodný ETF bol organizovaný ako trust. Táto organizačná forma mala mnohé nevýhody a v súčasnosti existuje len osem ETF organizovaných ako trust. Najpopulárnejšia forma ETF je podielový fond a prevažná väčšina ETF je organizovaná týmto spôsobom. Forma ETF „držitelia“ sa líši od iných typov ETF v tom, že vlastníctvo držiteľa dáva investorovi priame vlastníctvo cenných papierov držaných držiteľom a investor si ponecháva všetky práva ako napr. hlasovacie právo. Trhu ETF dominujú tri organizácie, ktoré sú obchodované pod názvami SPDR, Vanguard a IShares. Vanguard je jedinečný v tom, ako vyvinul svoje ETF. Vanguard ETF je trieda akcií svojho indexového fondu. Pre všetky ostatné ETF organizované ako podielové fondy, je ETF vedený ako samostatný fond. ETF môže selektovať cenné papiere s nízkymi nákladmi na dodanie a čo je najdôležitejšie, výmena nie je transakciou, ktorá podlieha zdaneniu. To znamená, že nákladová základňa držby ETF je vo všeobecnosti blízka trhovej cene. Preto majú ETF málokedy kapitálové zisky.

Hlavnou výhodou investovania do ETF sú nízke náklady. Toto je jedna z najväčších výhod investovania do ETF. Pasívne spravovanie ETF zaisťuje to, že nemusíme platiť vysoké poplatky za manažovanie našich peňazí. Síce je väčšina ETF denominovaná v USD, ale je možné nájsť aj veľa kvalitných ETF aj v mene EUR. Vďaka tomu je možné znížiť náklady spojené s menovými konverziami. ETF je výborný nástroj diverzifikácie, pretože investor má možnosť nakúpiť celý index alebo skupinu podkladových aktív. Vzhľadom na to je výnosnosť počítaná ako vážený priemer výnosnosti všetkých podkladových aktív a investor tu nie je odkázaný na výsledky jednej spoločnosti. Tým, že sa ETF obchodujú počas obchodných hodín rovnako ako akcie, je veľkou výhodou aj pri krátkodobejšom investovaní táto flexibilita ETF. Aby boli uvedené aj nevýhody, resp. riziká, tak na druhej strane nevýhodou pri investovaní do ETF môže byť práve kurzové riziko. Existujú ETF, ktoré sú menej likvidné a práve o tie je menší záujem. Ako ďalšou z nevýhod môže byť nespočetné množstvo ETF, ktoré má investor na výber. Nie každý je ochotný venovať dostatok času a schopností zorientovať sa v tomto obrovskom množstve ETF a preto títo investori musia využiť služby

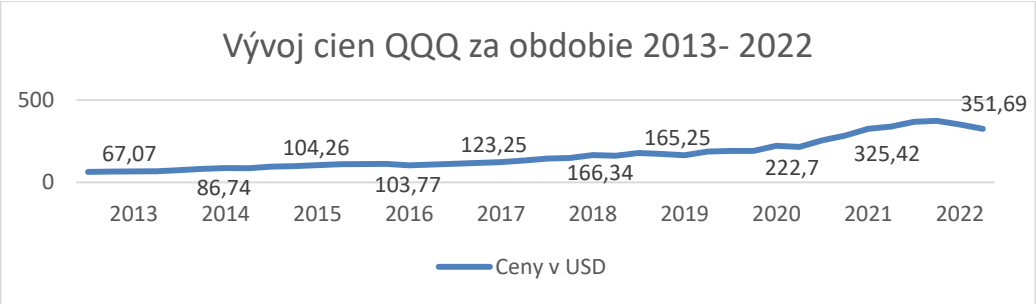
tretej strany. Pri investovaní na burze je to jeden z najlepších nástrojov. Najväčšou prekážkou môže byť práve ten čas, ktorý je potrebný venovať výberu najvhodnejšej investície.
ETF sú považované za relatívne bezpečný nástroj, ktorý je prevažne nízko až stredne rizikový a ktorý sa skladá z rôzneho koša aktív, napr. indexy, sektory, dlhopisy, jednotlivé akcie a iné. Predsa len môže byť ETF spojené s určitými rizikami a to daňové riziko, riziko obchodovania či tracking error. ETF je založené na pasívnom investovaní. Tento typ investovania je lacný a hrozí tu ďalšie riziko a to, že sa investor zmení na obchodníka. Väčšina aktívne riadených hedge fondov je profesionálne riadená a nedokáže dosahovať dlhodobú lepšiu výkonnosť než trh, ale potenciálni obchodníci majú za to, že dokážu dosiahnuť lepšiu výkonnosť. Avšak práve pri pasívnom investovaní a občasnom rebalancovaní portfólia sa dá znížiť riziko a maximalizovať výnos. Niektoré ETF podliehajú likvidnému riziku kvôli nízkym objemom a tu hrozí, že budú obchodované za horšiu cenu. Pre ETF je kľúčový práve likvidný trh. Tracking error je chyba kopírovania indexu alebo koša aktív. Je potrebné sledovať, ako sa darí jednotlivým ETF a zohľadňovať poplatky či zmenu kurzu.

2 ANALÝZA VYBRANÝCH ETF FONDOV

V tejto kapitole sú analyzované vybrané konkrétne ETF fondy, ktoré sú momentálne na trhu k dispozícií a ktoré majú predpoklad, že budú vynášať a prinášať investorom očakávaný úžitok. Výber ETF fondov bol stanovený na základe rôznych kritérií a to celkový dojem z investície, sledovaný vývoj za posledných desať rokov, dosiahnuté výnosy, poprípade straty, objem obchodovania, popularita daných ETF. Čo sa týka sektorových ETF, ktoré sú analyzované, nachádzajú sa práve v odvetviach, ktoré majú perspektívu pre rozvoj do budúcna, určite technologický sektor, ale aj zdravotnícky či energetický sektor. Dôležité je pri analýze brať do úvahy krajinu, odkiaľ ETF pochádza, menu, v ktorej sa obchoduje. Ďalším článkom do analýzy je zistenie, z čoho sa ETF skladá, čo obsahuje vybrané ETF, napríklad akcie akých firiem sú obsiahnuté vo fonde. Stabilnou investíciou by mohli byť ETF, v ktorých sa nachádzajú akcie známych, veľkých a svetových spoločností, ktoré sa snažia, aj napriek už terajšiemu úspechu, rozvíjať, investujú peniaze do výskumu, do pokroku, majú víziu a snahu inovovať výrobky, aj proces výroby.

2.1 Invesco QQQ Trust (QQQ)

Invesco QQQ Trust je fond obchodovaný na burze, ktorý nasleduje index Nasdaq - 100. Nasdaq - 100 je jedným z popredných svetových rastových indexov s veľkou kapitalizáciou. Zahŕňa 100 najväčších domácich a medzinárodných firiem na základe ich trhovej kapitalizácie.
Invesco QQQ Trust vznikol v roku 1999 a má pod správou okolo 170 miliárd dolárov aktív. Je to z polovice technologický fond, ale obsahuje podiely z viacerých iných sektorov a odvetví. QQQ zahŕňa spoločnosti, ktoré sú v popredí a zahŕňa spoločnosti, ktoré sú uvedené v indexe Nasdaq - 100. Medzi najznámejšie svetové spoločnosti patrí Apple, Microsoft, Amazon.com, Tesla, PepsiCo, Facebook, PayPal a ďalšie. Vo fonde QQQ je 102 rôznych podkladových podielov, ide o spoločnosti uvedené v indexe Nasdaq - 100. Najväčších 10 holdingov, ktoré majú vo fonde miesto, tvorí až 53,4 % celkových aktív. Spoločnosť Apple má podiel vo fonde približne 12 %, Microsoft má 10%, Amazonu patrí podiel 8%, Alphabet má 4% a Facebook 4%.
Obrázok 1 zobrazuje vývoj cien akcií ETF fondu QQQ za posledných 10 rokov. Cena je uvedená v amerických dolároch a v sledovanom období má rastúci charakter. Číselné údaje sú zbierané kvartálne z každého roku. Údaje sú vždy z januára konkrétneho roku. Od roku 2013, kedy v polovici januára bola cena približne 67 USD, je možné vidieť mierny nárast až do roku 2019, kedy cena dosahovala približne 160 USD.



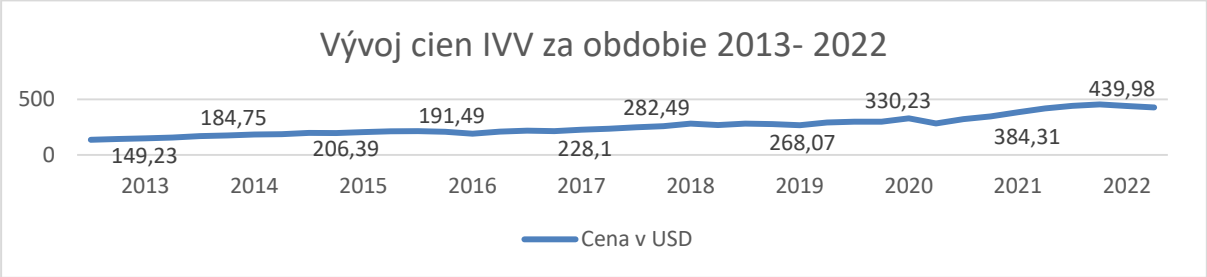
Obr. 1 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Od roku 2020 je zrejmý prudší nárast ceny až do roku 2022, kedy cena stúpla z 218 až na 380 dolárov. Keďže QQQ je z veľkej časti technologický fond, rapídnejší nárast ceny od roku 2020 môže byť spôsobený práve nástupom Covid krízy, kedy sa veľmi automatizovala výroba, technológie sa museli posunúť vpred, ľudia, ktorí mohli, pracovali z domu a využívali počítače a internet na prácu. Tendenciami bola predovšetkým automatizácia a digitalizácia. Keďže bol zvýšený dopyt po technológiách, stúpali aj ceny akcií, čo sa premietlo aj do cien QQQ. V prvom kvartáli roku 2022 je zreteľný pokles cien, ktorý môže byť spôsobený ustálením situácie a práve v obdobiach krízy klesajú ceny akcií, celkovo klesá akciový trh.
V roku 2020 dosahoval celkový ročný výnos hodnotu 48,6 %. Významnejší prepad cien je možné pozorovať od roku 2022, kedy je celosvetová kríza Covid a zároveň vojna na Ukrajine, ktorá sa týka celého sveta. Zatiaľ má QQQ klesajúcu tendenciu. Naposledy taký významný pokles výnosov bol zaznamenaný v roku 2008, kedy bola celosvetová finančná kríza a vtedy výnosy dosahovali zápornú hodnotu -41,68 %. Naopak, v roku 2009, po finančnej kríze prišlo oživenie a celkový ročný výnos bol na úrovni 54,45 %. Vzhľadom na tú situáciu je možné predpokladať veľké výnosy po skončení súčasnej krízy.
Pomer P/E dosahuje hodnotu 3,86 súhrnom údajov za posledných 12 mesiacov. Hodnota vypovedá o tom, že aká je cena v pomere k zisku a to, o koľko viac je trh ochotný zaplatiť za akciu s daným ziskom. Táto nízka hodnota je zapríčinená aktuálnou nepriaznivou situáciou. Čím je P/E nižšie, tým je hodnota zisku vyššia v pomere k cene akcií. Priemerná hodnota P/E však je 33,89. Z priemernej hodnoty P/E je zrejmé, že ide o rastový typ fondu, keďže je P/E vysoké. Pri vysokom P/E sú akcie fondu nadhodnotené, investori majú vysoké očakávania ohľadom budúcnosti akcie.
Čistá hodnota aktív NAV dosahuje hodnotu 306,27 USD. NAV sa môže líšiť od ceny, za ktorú sa ETF obchoduje, môže byť vyššia alebo nižšia a vďaka NAV je možné rozpoznať obchodné príležitosti.

2.2 iShares Core S&P 500 ETF (IVV)

IVV je jedným z najväčších ETF na svete, ponúka expozíciu k jednému z najznámejších indexov - S&P 500. Index S&P 500 sleduje veľké a známe americké spoločnosti, zahŕňa 500 popredných spoločností. Je to veľmi rozmanitý index, ktorý má rozdelené spoločnosti do odvetví ako sú energetika, zdravotníctvo, financie, IKT a podobne. IVV je príťažlivým prostriedkom na dlhodobé investovanie, môže tvoriť hlavný podiel v dlhodobom portfóliu typu buy and hold. Ponúka relatívne lacnú a vyváženú expozíciu k mnohým veľkým spoločnostiam. Pomer nákladov IVV fondu je 0,03 %.
Fond IVV je zložený z akcií, ktoré tvoria až 99,74 %. Takmer 25 % aktív je v technologických spoločnostiach, 13 % patrí spoločnostiam s finančnými službami, 14 % zdravotnej starostlivosti, spoločnosti orientované na spotrebiteľské produkty sú zastúpené cca 11 %, ďalej sú tam spoločnosti orientované na priemysel, komunikačné služby, nehnuteľnosti

či energie. Spoločnosť Apple má vo fonde IVV zastúpenie 6,2 %, Microsoft 5,9 %, Amazon takmer 4 %, Facebook 2,4 %. 10 najlepších holdingov obsadilo 28,4 % celkových aktív fondu IVV.

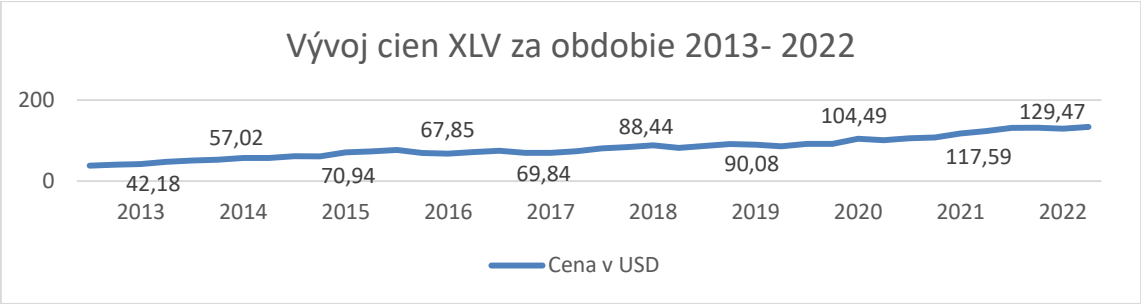


Obr. 2 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Obrázok 2 zobrazuje vývoj cien IVV za obdobie posledných 10 rokov. Ceny fondu IVV sú zbierané do grafického zobrazenia kvartálne a zaznačené číselné údaje sú vždy z januára daného roku. ETF fond IVV vznikol v roku 2000 a od jeho vzniku možno pozorovať rastúci charakter. V roku 2008, počas finančnej krízy je pozorovateľný prepad cien fondu, kedy celkový ročný výnos dosahoval zápornú hodnotu -36,95 %. Od finančnej krízy fond vykazuje kladné ročné výnosy, väčšinou okolo 20 %. V roku 2019 je celkový ročný výnos na úrovni 31,44 %, v roku 2020 na úrovni 18,37 % a v roku 2021 je to hodnota 28,66 %. Od roku 2020 je pozorovateľný prudký nárast cien, čo môže byť spôsobené príchodom Covid krízy, ktorá pôsobí celosvetovo. Keďže fond sleduje známe veľké spoločnosti, ktoré sú v popredí a sú schopné sa prispôsobovať flexibilne novým situáciám a vedia vytvoriť zisk aj v nepriaznivej situácií aktuálnej Covid krízy, tak aj fond podľa toho vytvára výnos.
Pomer P/E predstavuje hodnotu 2,81 za posledných 12 mesiacov. Priemerné P/E, priemerný pomer trhovej ceny k čistému zisku však predstavuje hodnotu 25,32. Čistá hodnota aktív NAV je v máji 2022 na úrovni 391,25 USD.

2.3 Health Care Select Sector SPDR Fund (XLV)

XLV je fond, ktorý vznikol v roku 1998, má takmer 25 ročnú históriu. XLV je možné zaradiť medzi sektorové ETF, je orientovaný na sektor zdravotníctva. Sektor zdravotníctva je neustále prosperujúci, nakoľko veda a výskum sa vyvíja, zdravotnícke techniky idú dopredu. Zdravotníctvo je potrebné stále inovovať, hľadajú sa nové postupy, nové lieky, vakcíny, čo prináša zdravotníckemu sektoru zisky. Postupom času mutujú choroby, vytvárajú sa nové varianty chorôb a v týchto prípadoch nastupuje zdravotnícky sektor s možnými riešeniami a zarábajú na tom peniaze. Napríklad aj súčasná Covid kríza. Nikto nečakal, že nastane táto situácia a farmaceutické spoločnosti či spoločnosti vyrábajúce zdravotnícke potreby museli urýchlene konať, prijať a flexibilne reagovať, prispôsobiť sa situácií. Choroby tu sú a aj budú, práve preto zdravotnícky sektor nikdy nezmizne. Investovanie do zdravotníctva neprináša extrémne zisky, ale skôr stabilné výnosy.
Investovanie finančných prostriedkov do fondu XLV prináša stabilný výnos, kde nie je predpoklad veľkých výkyvov v cenách. XLV je vhodné kvôli svojej relatívnej stabilite pre krátkodobých, ale aj dlhodobých investorov. Je to vhodné pre investorov, ktorí nemajú radi vysoké riziko, pretože XLV patrí do odvetvia s nižším rizikom. Ak má investor náklonnosť k zdravotníckemu sektoru, je XLV dobrou voľbou. Až 99,82% fondu tvoria akcie zdravotníckych spoločností.

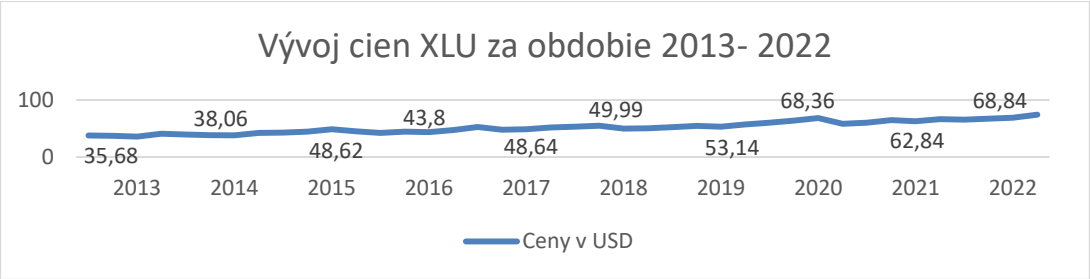


Obr. 3 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Na Obrázku 3 je zobrazený vývoj cien akcií XLV za posledných 10 rokov. Údaje sú zozbierané kvartálne z jednotlivých rokov 2013 - 2022, no zaznačené sú len údaje z januára daných rokov. rastúci Tento ETF fond má rastúci charakter a je možné predpokladať aj naďalej stúpajúcu tendenciu cien. Od vzniku fondu má fond charakter postupne stúpajúcich cien akcií, nie sú zachytené veľké výkyvy vo výnosoch. V roku 2021 je prudší nárast cien, pravdepodobne kvôli nastupujúcej Covid kríze, kedy sa zvýšil dopyt po zdravotníckych potrebách, liekoch a vakcínach. Dopyt bol po novo vyvinutých vakcínach proti COVID 19 od firmy Johnson & Johnson a od Pfizeru. V roku 2021 bol celkový ročný výnos 25,93 %. Najväčší celkový ročný výnos bol zaznamenaný v roku 2013, kedy dosahoval 41,24 % úroveň. Počas finančnej krízy v roku 2008 padli ceny akcií a vtedy je zaznamenaný pokles, negatívny ročný výnos -23,15 %.
Hodnota P/E je za posledných 12 mesiacov na úrovni 6,02, no priemerná hodnota P/E dosahuje 27,2. Nižšia hodnota P/E za posledný rok môže byť spôsobená aktuálnou nepriaznivou situáciou vo svete, kedy toto obdobie nepraje akciovému trhu. Čistá hodnota aktív NAV k máju 2022 je približne 128 USD, čo predstavuje hodnotu fondu na akciu.

2.4 Utilities Select Sector SPDR Fund (XLU)

XLU je sektorový ETF fond, ktorý sa orientuje na sektor verejných služieb v USA. Tento sektor má relatívne nízku volatilitu a relatívne vysoké distribučné výnosy. XLU je príťažlivý pre investorov, ktorí sú sektorovo orientovaní alebo rozmýšľajú takticky. Portfólio fondu sa však opiera o akcie s veľkou kapitalizáciou. XLU sa vyznačuje veľkou likviditou a to je obľúbené medzi investormi, ktorí chcú rýchlo kúpiť alebo predať akcie fondu.
Portfólio fondu XLU tvoria z 99,8 % akcie. V portfóliu sa nachádzajú akcie orientované iba na jeden sektor, a to sektor verejných služieb. Najlepších top 10 holdingov obsadzuje 64 % celkových aktív fondu. Vo fonde sú obsiahnuté spoločnosti ako NextEra Energy, ktoré tvorí 17 % celkových aktív, Duke Energy s 8 % aktív, Southern so 7 %, Dominion Energy 6,5 % a Exelon tvorí 5 % fondu.

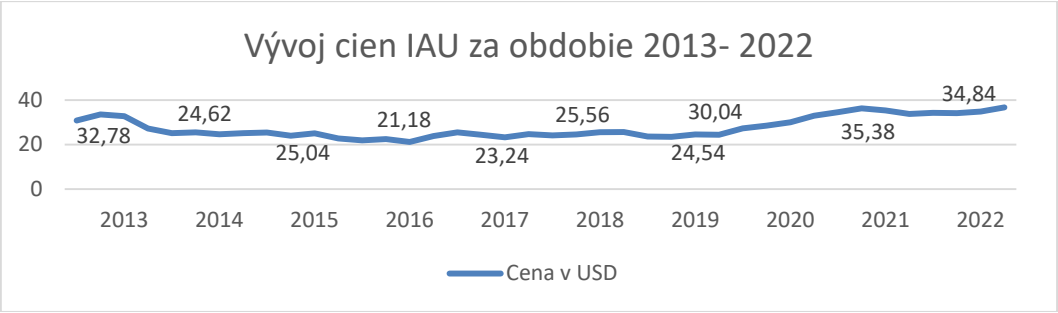


Obr. 4 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Na Obrázku 4 je zobrazený pohyb cien za obdobie posledných 10 rokov. Pre detailnejšie zobrazenie pohybu cien sú údaje zbierané kvartálne za obdobie rokov 2013 - 2022, číselné údaje sú z januára každého sledovaného roku. ETF fond XLU vznikol v roku 1998 a jeho 25 ročná história sa vyznačuje rastúcim trendom cien. Negatívny celkový ročný výnos bol zaznamenaný v roku 2008, kedy bol fond v strate o 29,08 %. Tento negatívny výnos bol zapríčinený pravdepodobne finančnou krízou, ktorá nepriaznivo pôsobila celosvetovo. Od roku 2013 je vidieť prevažne rast cien fondu, no prítomné sú menšie výkyvy pôsobiace v krátkom období. V roku 2019 bol celkový ročný výnos na úrovni 26 %, v roku 2020 to bolo 0,5 % a v roku 2021 takmer 18 %. V rokoch 2019 a 2020 je možné pozorovať najskôr prudší rast a následne pokles cien fondu, ktorý mohol byť opäť spôsobený prichádzajúcou krízou, tentokrát krízou Covid-19. Fond XLU v dlhodobom horizonte 10 rokov dosahuje výnos 11,04 %.
Pomer P/E zaznamenal hodnotu 7,17 za posledných 12 mesiacov, no priemerná hodnota P/E dosiahla hodnotu 25,95. Čistá hodnota aktív NAV má v máji 2022 hodnotu 71,73 USD.

2.5 iShares Gold Trust (IAU)

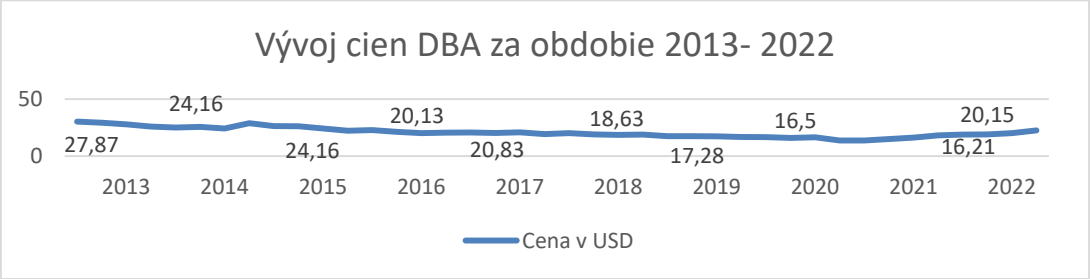
IAU je fond, ktorý vznikol v roku 2005 a je možné ho zaradiť do sekcie komoditných ETF. Tento fond poskytuje možnosť investovať do jedného z najznámejších kovov na svete - zlata. IAU sleduje okamžitú cenu zlata a všetko zlato je držané v trezore, čiže sa investuje do fyzického zlata prostredníctvom fondu. Tu je výhoda pre investorov, že nemusia hľadať miesto, kde by si svoje fyzické zlato uskladnili. Síce IAU nie je najviac likvidnou možnosťou, ako získať expozíciu voči zlatu, ale má jeden z najnižších pomerov nákladov.
Všetky aktíva fondu sú práve v zlate, takže celý fond sa odvíja od cien zlata. Zlato je komoditou, vzácnym kovom, ktorý sa považuje za uchovávateľa hodnoty v čase, nepodlieha inflácií a chráni počas kríz. Keď je kríza, či už to bola finančná kríza v roku 2008 alebo aj súčasná Covid kríza, zlato stúpa na hodnote. Aj v dnešnej dobe je možné pozorovať rapídne rasty cien zlata, ktoré dosahuje svoje historické maximá. Zlato nestratí svoju hodnotu, pretože je to vzácny kov, ktorého je na Zemi obmedzené množstvo.
Na Obrázku 5 vidieť, že cena fondu IAU je za obdobie posledných 10 rokov relatívne stála bez väčších výkyvov. Údaje sú zbierané kvartálne za obdobie rokov 2013 - 2022 a zaznačené číselné údaje sú z januára jednotlivých rokov. Od vzniku fondu si ceny držia stabilnú hodnotu, nie sú pozorovateľné šoky, nejaké nadmerné rasty či straty. Investor by nemal od fondu očakávať vysoké zárobky, zisky, pretože fond sa snaží aspoň poraziť infláciu, udržať vnútornú hodnotu investovaných finančných prostriedkov. Od roku 2013 do roku 2019, kedy sa nediali vo svete veľké významné udalosti, sú ceny komodít na optimálnej úrovni pri stabilnej ekonomike. Práve v časoch, kedy je vo svete kľud, kedy je svet bez vojen a kríz, sú ceny zlata a komodít na nižšej úrovni. Keď sa rozpúta vojna, ceny komodít rastú a naopak ceny akcií klesajú. Od roku 2019 je vidieť nárast ceny zlata, od toho obdobia sa pomaly začala zvyšovať inflácia predovšetkým kvôli celosvetovej kríze Covid-19 a vojne na Ukrajine. V roku 2019 boli celkové ročné výnosy na úrovni 18,54 %, v roku 2020 23,86 %. V roku 2021 dosahujú zápornú hodnotu -3,99 %. Najväčší pokles celkových ročných výnosov bol zaznamenaný v roku 2013 s hodnotou -27,96 %. Naopak, najväčší rast celkových ročných výnosov bol v roku 2007 s hodnotou 30,95 %, kedy bolo obdobie finančnej krízy .
Čistá hodnota aktív NAV fondu IAU v máji 2022 je 35,04 USD. Momentálne nie sú ceny ani nadhodnotené, ani podhodnotené.



Obr. 5 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

2.6 Invesco DB Agriculture Fund (DBA)

ETF fond, DBA, je veľmi populárnou možnosťou pre investorov, ktorí chcú dosiahnuť expozíciu voči poľnohospodárskym komoditám. DBA investuje do rôznych poľnohospodárskych zdrojov, tým môže byť dobrým diverzifikačným prostriedkom alebo ako prostriedok na zabezpečenie inflácie.



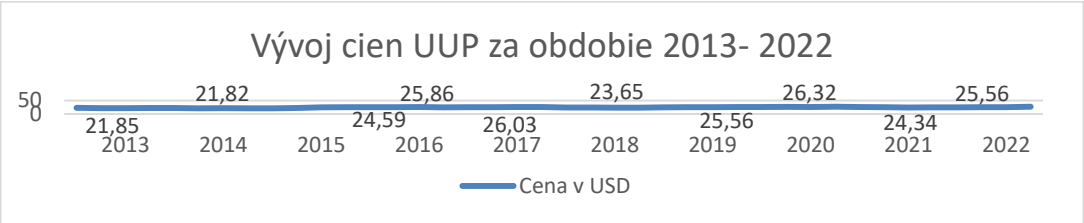
Obr. 6 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Na Obrázku 6 je zobrazený vývoj cien fondu DBA za obdobie posledných 10 rokov. Fond vznikol v roku 2007, čiže má za sebou 15 ročnú históriu. Číselné údaje sú zbierané kvartálne za obdobie rokov 2013 - 2022, údaje sú z januára každého sledovaného roku. Od roku 2013 vidíme klesajúci charakter fondu, no v období krízy od roku 2020 je viditeľný značný rast. Rastúcim charakterom od roku 2020 sa fond snaží o porazenie inflácie a udržanie hodnoty. Tu sa opäť ukazuje, že komodity v čase krízy stúpajú na hodnote, no v obdobiach medzi krízami, v pokojnejších časoch, dosahujú nižšie ceny. V rokoch 2011 až 2020 DBA dosahuje záporný celkový ročný výnos, no v roku 2021 je celkový ročný výnos 22,33 %, ktorý môže byť spôsobený aktuálnou Covid krízou. Taktiež v období finančnej krízy a po finančnej kríze fond zaznamenal rast výnosov, v roku 2010 bol celkový ročný výnos na úrovni 22,48 %.
DBA je vhodný ako aj pre krátkodobejšie investovanie pri taktizovaní, ale aj pre investorov, ktorí si budujú dlhodobejšie portfólio. 71,55 % celkových aktív je rozložených medzi 9 holdingov. Fond zastrešuje rôzne komodity ako káva (7,43 % z celkových aktív), kukurica (6,82 %), cukor (6,71 %), sója (6,66 %), fazuľa (4,54%) a ďalšie. Až 24,11% celkových aktív DBA patrí fondu Invesco Shrt-Trm Inv Gov&Agcy Instl. Pomer P/E je dosahuje pri fonde DBA hodnotu 9,39. Hodnota P/E ukazuje, koľko je trh ochotný zaplatiť za zisk spoločností. Nižšia hodnota P/E môže tiež ukazovať, že trh moc nedôveruje akciám fondu.

2.7 Invesco DB US Dollar Index Bullish Fund (UUP)

UUP je ETF fond, ktorý sa zaraďuje medzi menové fondy. UUP je americký fond a obchoduje sa v USD. Fond ponúka expozíciu voči košu mien vo vzťahu k americkému

doláru. Hodnota ETF klesá, keď vážený kôš mien posilňuje a zvyšuje sa, keď sa dolár zhodnocuje.



Obr. 7 Vývoj cien QQQ za obdobie 2013- 2022
Zdroj: vlastné spracovanie

Obrázok 7 zobrazuje vývoj cien fondu UUP za posledných 10 rokov. Údaje sú zbierané kvartálne a cena je v amerických dároch. Zaznamenané číselné údaje sú z januára každého sledovaného roku. Pri sledovaní cien je možné pozorovať relatívne stabilný pohyb cien, bez rapídnych výkyvov. Fond UUP vznikol v roku 2007, má 15- ročnú históriu. Od polovice roka 2014 stúpli ceny fondu, dolár sa zhodnotil voči ostatným menám. Celkový ročný výnos v roku 2014 bol 11,44 %. Od roku 2015 až po súčasnosť sa cena pohybuje okolo 25 USD. V máji 2022 stúpla cena na 28 USD. 37,13 % celkových aktív je rozložených medzi 3 holdingy. Takmer 30 % celkových aktív patrí Invescu Shrt -Trm Inv Gov&Agcy Instl, ktorý tvorí podstatnú časť aktív aj predošlého, DBA, ETF fondu. V rámci fondu sú aktíva rozložené medzi 9 holdingov. Fond UUP je veľmi likvidný, veľmi ľahko sa obchoduje. Čo sa týka nákladov, tak celkový čistý ročný poplatok, ktorý platí majiteľ fondu emitentovi je na úrovni 0,78 %. Fond UUP má pod správou 1,5 miliardy dolárov aktív a denne sa zobchoduje priemerne 59 miliónov dolárov. Riziko, že emitent zatvorí fond, je nízke.
Hodnota NAV je v máji 2022 27,57 amerických dolárov, čo predstavuje cenu za akciu fondu, je to cena, za ktorú sa obchodujú akcie fondu. Čistá hodnota aktív sa používa na identifikáciu potenciálnych investičných príležitostí.

2.8 Porovnanie analyzovaných ETF fondov

Spomínané ETF sú vybrané na základe relevantnosti, vybrané sú reprezentatívne vzorky z jednotlivých kategórií, fondy, ktoré majú predpoklad prosperovať aj naďalej.
Každý investor by si mal investičné produkty vyberať na základe toho, aké riziko je ochotný podstúpiť, podľa toho aký výnos očakáva a aj zohľadniť to, na aké časové obdobie sa chce vzdať dočasne voľných finančných prostriedkov, či si je vedomý toho, že bude financie potrebovať za určité obdobie alebo plánuje investovať dlhodobo. Či chce investovať pravidelne rovnakú menšiu čiastku alebo chce nárazovo, jednorazovo vložiť do investičného prostriedku finančný obnos, ktorý má k dispozícií.
V Tabuľke 1 je zobrazený súhrn analyzovaných ETF fondov, kde je prehľadne uvedené, o akú kategóriu ETF sa jedná, na čo sa fond orientuje a na aký časový horizont je daný ETF najvhodnejší. ETF fond QQQ a IVV sú indexové fondy, ktoré sa však zameriavajú na rozdielne indexy. Jeden nasleduje index Nasdaq - 100 a druhý nasleduje S&P 500. Fondy XLV a XLU sa orientujú na sektory, XLV je orientovaný na sektor zdravotníctva a XLU sa orientuje na sektor verejných služieb v USA. Ďalej fondy IAU a DBA sa zaraďujú do kategórie komoditných, prostredníctvom IAU sa investuje do fyzického zlata a DBA môžu využiť investori naklonení poľnohospodárskym plodinám. Fondy sú rozdielne aj z hľadiska voľby vhodného časového horizontu. Kým pre ETF fondy QQQ, UUP platí, že sú vhodnejšie na krátkodobejšie investovanie, fond IVV je vhodnejší na dlhodobé investovanie. Zvyšné fondy XLV, XLU, IAU, DBA sú otvorené aj krátkodobému, tak aj dlhodobému investovaniu.

Názov ETF	Kategória ETF	Vhodný časový horizont
QQQ	Indexový: Nasdaq-100	Krátkodobé investovanie
IVV	Indexový: S&P 500	Dlhodobé investovanie
XLV	Sektorový: zdravotníctvo	Krátkodobé/ dlhodobé investovanie
XLU	Sektorový: verejné služby v USA	Krátkodobé/ dlhodobé investovanie
IAU	Komoditný: zlato	Krátkodobé/ dlhodobé investovanie
DBA	Komoditný: poľnohospodárstvo	Krátkodobé/ dlhodobé investovanie
UUP	Menový: USD	Krátkodobé investovanie

Tabuľka 1 Súhrn analyzovaných ETF
Zdroj: vlastné spracovanie

Príspevok vznikol v rámci projektu VEGA č. 1/0444/23.

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PUBLIC EXPENDITURE ON AFFORESTATION OF AGRICULTURAL LAND IN THE ASPECT OF SUSTAINABLE DEVELOPMENT IN POLAND

Magdalena Jarczok-Guzy

Abstract

The aim of this paper is to assess the impact of fiscal expenditure instruments used to stimulate the process of afforestation of agricultural land in Poland. The financial data for the analysis were obtained from the implementation reports of the Rural Development Program in Poland for the years 2014-2020. Detailed information on direct payments for individual voivodeships was made available by the Ministry of Agriculture and Rural Development at the individual request of the Author. Data on the afforestation area of agricultural land in Poland in the analyzed period were taken from the information resources of the Central Statistical Office. The impact of expenditure instruments was examined by correlating the amount of subsidies paid and the number of beneficiaries with the dynamics of forest area growth in individual voivodships in Poland.

Keywords: *direct payments, afforestation, sustainable development*

1 LITERATURE REVIEW

The loss of genetic, species, and habitat biodiversity is a problem observed all over the world. The exact number of species inhabiting the Earth is still unknown, but there is no doubt that currently humans, as the dominant species, contribute to the decline of biodiversity by chemicals-based approach to the environment, combating unwanted species (so-called weeds and pests), modifying ecosystems, introducing non-native species that destroy local species, land grabbing for living, production and transport purposes, hunting, collecting, tourism. The extinction of species is a natural phenomenon but the scale with which we are dealing today has prompted scientists to call this process great extinction for anthropogenic reasons. It has even been accepted to define the present stage in the history of Earth as the "Anthropocene." Destruction of tropical forests and coral reef systems as well as overfishing of particularly attractive maritime areas are considered particularly dangerous for biodiversity (Burchard-Dziubińska, 2012, p. 321). The problem of deforestation mentioned here inspired this research work. Bearing in mind the goals of sustainable development, the growth of newly forested areas seems to be a matter of great importance.

1.1 Sustainable development and sustainable finance

According to the definition of the European Commission, sustainable finance refers to the process of taking into account environmental, social, and management aspects when making investment decisions in the financial sector. Environmental aspects refer to such issues as climate change and its consequences, protection of biodiversity, and prevention of environmental pollution. Social aspects refer to issues of social inequality, integration, human rights, and investment in human capital. Management aspects (corporate governance) are related to the transparency and compliance of activities with the law, also with management structures, issues of management staff remuneration, or gender parities in the composition of management boards of companies. Sustainable finance plays a key role in the so-called European Green Deal and constitutes a funding mechanism for sustainable growth. Sustainable finance is understood as finance that supports sectors of the economy or activities in providing or enhancing at least one of the pillars of sustainable development, or as finance

designed for sustainable development. Sustainable finance – compared to the conventional approach to finance – is distinguished by the following features: long-term decision perspective; more types of return rates taken into account in decision making; considering ESG (Environmental, Social and Governance) risk; disclosure of financial and non-financial information; the belief that finance and economics are strongly socially and environmentally embedded; economic and financial analysis taking into account environmental and social factors (Zioło, 2021, p. 17).

The state also creates the organizational and legal framework for the functioning of entities and ecosystems that stimulate activities toward sustainable development. The state's actions for sustainable development and its financing are particularly important in developing countries and are not without significance at the level of developed countries. The state introduces legal provisions supporting the concept of sustainable development and – in the case of EU Member States – implements EU regulations into national legislation. The state develops strategies and public policies that ensure the achievement of sustainable development goals. It decides on the appropriation of public funds and their allocation to individual sectors and activities, including those of strategic importance for sustainable development (Zioło, 2020, p. 117). Afforestation of agricultural land is part of SDG 15, Life on Land.

1.2 Common agricultural policy objectives and rural areas

There is no official definition of rural areas in Polish law. The Act of March 7, 2007, on promoting the development of rural areas supported by the European Agricultural Fund for Rural Development does not bridge this gap in Polish law. It is limited to technical regulations governing the management of EU funds, not framing the definition of "rural areas." To compare, the postulate to upgrade the rural areas was included in Austrian law as early as the 1960s. The Agriculture Act of 1969, as amended in the 1970s, aimed at creating functional rural areas. It was emphasized that agricultural policy is only part of the rural population activity, and the economy, social relations, and the environment play an important role in maintaining the right proportion between rural and urban areas (Milanowska, 2012, p. 44).

The objectives of the common community policy laid down for agriculture in the treaty documents of the Community are funded through its budget. The basis for this is laid in Art. 40 of the Treaty of Rome, which provides: "In order to enable the common organization referred to in paragraph 2 of [a common organization of the agricultural markets] to attain its objectives, one or more agricultural guidance and guarantee funds may be set up." The first legal regulation, in this case, was Council Regulation (EEC) No. 729/70. The European Agricultural Guidance and Guarantee Fund (EAGGF) was established by Council Regulation (EEC) No. 25/62. The form in force until 2006 was set out in Council Regulation (EC) No. 1258/99. In the years 2007-2013, there were already two funds related to the funding of objectives dedicated to agriculture. One was the European Agricultural Guarantee Fund, established by Council Regulation (EC) No. 1782/03, and the other – the European Agricultural Fund for Rural Development, established by Council Regulation (EC) No. 1698/05. The evolution under the Common Agricultural Policy (CAP), from agricultural support instruments using price-market methods to supporting agriculture and rural areas through a complex of instruments, enabled the final distinction of these two funds (Szumski, 2007, p. 90).

Under priority axis 2 "land resources management," aimed at implementing the new agricultural policy, the following instruments for supporting rural development are distinguished from the European agricultural fund for rural development (EAFRD) (Puślecki et al., 2010, p. 56). The following are of particular importance for this work:

Sustainable use of agricultural land:

- payments for less-favored mountain areas and other such lands,
- NATURA 2000 payments,
- agri-environmental payments and animal welfare,
- non-productive investments.

Sustainable use of land near forests:

- first afforestation of agricultural land,
- establishment of forest systems on agricultural land,
- first afforestation of non-agricultural land,
- NATURA 2000 payments,
- forest-environmental payments
- restoration-prevention actions in forestry production potential,
- non-productive investments.

1.3 Public expenditures on agriculture

There are 6 main areas of theoretical considerations and practical research related to public spending. These areas include (Owsiak, 2018, p. 295):

- justification of public spending, expressed in collective needs and in the state's social and economic policy,
- the size of public spending and the related issue of the limits of public spending, i.e. determining to what extent public spending does not interfere with the functioning of the market mechanism,
- distribution of public spending burdens among particular social groups or even specific ways,
- participation of individuals, professional groups, local communities, etc. in the benefits resulting from public spending,
- rationality of spending public funds achieved by using appropriate methods of planning and distributing these funds,
- efficiency of public spending.

Since the emergence of the Keynesian theoretical perspective on macroeconomic management, government expenditure has been an important instrument in regulating and spurring the economy on the desired growth path both in the developing and developed countries (Nwosa & Tijani, 2020, p. 75). According to the Keynesian theory, government spending has a positive impact on economic growth. The Keynesian theory postulates that the more a government spends, the higher the economic growth is as a result of expansionary fiscal policy. The premise is that as the government spending trends up, production will follow suit, leading to aggregate demand stimulation, and therefore, increased levels of GDP. Private investment is another channel through which government spending can exert positive effects on economic growth. Increasing government expenditure encourages private investment, which will translate to higher economic growth. On the extreme end of the theorists' continuum are the Classicals, the Neoclassicals and the public choice theorists, who claim that government expenditure is bad for economic growth as a result of the crowding-out effect – as spending by governments' displaces critical investments by the private sector due to resource constraints. Hence, the relationship between the two is negative. It is the viewpoint of public choice theorists that as government size increases, and given the distortionary effects of taxation, government levels of inefficiencies are bound to increase, hence government spending is bound to reduce economic growth. Finding the compromise S. Ram Said that, expenditure on the core areas of government has positive effects on economic growth, Chile government spending on non-core areas has a negative impact on economic growth (Nyasha & Odhiambo, 2019, p. 84).

The concept of EU revenue corresponds to the cash method. This means that the income of a given budget year is recognized in the accounting books based on the amounts collected during the given budget year. The total EU budget per year is slightly more than 1% of EU GNI and needs to be balanced. This means that there is no possibility of permanent accumulation of debt. On the other hand, budgeting under EU funds covers diversified funds under which authorizations to incur liabilities and payments are made, as well as non-differentiated appropriations related to covering expenditure financing interventions on agricultural markets, administrative expenses or direct payments. As a result, the method of budgeting in the EU is called a commitment-based budgeting system and relies on managing the expenditure side of the budget by incurring liabilities and paying off the payments (Kolek, 2018, p. 255).
Agriculture is particularly important for national economy. The fundamental rationale for public spending in and for the agriculture derives directly from the core reasoning underlying public-sector intervention in the economy. The role of government in agriculture is present permanently in each step from the farm to the market. Government expenditures on public goods, including rural public goods, are indispensable in agriculture. It is due to the fact that public financing of rural public goods, i.e.: education, health care, infrastructure, and social services, could generate important benefi ts for agriculture and boost its contribution to economic growth, poverty and hunger reduction, promoting sustainable development, and enhancing agricultural productivity. Thus, public expenditures allocated to agriculture are recognized as an important tool for promoting economic growth and alleviating poverty in rural areas (Wielechowski & Grzęda, 2019, p.70).That why farmers are enhancing by subsidies to afforest rural areas.
Even after joining the EU and the change in their status to post-transition countries, there are some remaining common grounds between European transition and post-transition countries. Currently, the impact of the COVID-19 pandemic has highlighted the remaining burning issues that (post-) transition countries faced even before the pandemic. These especially relate to the size and the share of the state in the economy in (post-)transition countries, the lack of good governance, and the detrimental consequences poor governance brings, such as the inability of the government to curtail the grey economy, corruption, and (e)migration issues. Faced with these burning issues, very few post-transition European countries focused their local economic policies on efficient local development. European Commission reports as well as the UN Sustainable Development Goals 2030 focus on, interalia, issues related to migration and providing sustainable cities and communities. Regardless of their size and status (for example, small and rural communes face population decline and rapid aging whereas urban and large communes are faced with greater population inflow), all communes in countries across Europe are under pressure to provide ‘value for money’ at all levels of government, and therefore at the local level as well. Hence, the significance of measuring the (in)efficiency of communes in a large country such as Poland, especially in terms of the urban and rural division of communes (Lazovi Ć c-Pita, Skica, Šceta, 2022, p. 96).

1.4 RDP in 2014-2020

The Rural Development Program for 2014-2020 (RDP 2014-2020) was set forth in European Union regulations, in particular, Regulation (EU) No. 1305/2013 of the European Parliament and of the Council of December 17, 2013, on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No. 1698/2005. The program is integrated into the comprehensive system of Poland’s development policy, in particular, through the mechanism of the Partnership Agreement. This agreement defines the principles governing the use of EU funds to meet common objectives for the European Union, as set out in the EU growth strategy “Europe 2020 – Strategy for smart, sustainable and inclusive growth,” taking into account the development needs of a given

Member State. The main objective of RDP 2014-2020 was to enhance the competitiveness of agriculture, sustainable management of natural resources and climate action, and sustainable territorial development of rural areas. The program implements six priorities set for the EU rural development policy for 2014-2020, namely (https://prow.slaskie.pl/czytaj/info_prow_2014_2020):

1. Fostering knowledge and innovation transfer in agriculture, forestry, and rural areas.
2. Enhancing the competitiveness of all types of agriculture and increasing the profitability of farms.
3. Enhancing food chain organization and promoting risk management in agriculture.
4. Restoring, protecting, and enhancing ecosystems dependent on agriculture and forestry.
5. Supporting resource efficiency and the transition to a low-carbon and climate-resilient economy in the agriculture, food, and forestry sectors.
6. Increasing social inclusion, reducing poverty, and promoting economic development in rural areas.

A natural person, legal person, or an agency without legal personality, being the owner of a farm, is entitled to direct payments to agricultural land specified by the provisions of the European Union, for agricultural land held by it, maintained in good agricultural condition, while maintaining environmental protection requirements (Izdebski, Szewczak, 2006, p. 134).

Under the measure "Afforestation of agricultural land" in RDP, the main objectives of this measure are the expansion of forest areas and the maintenance and enhancement of the ecological stability of forest areas. Beneficiaries of this aid are divided into three groups (Pawlonka, Trojanowska, 2005, p. 89):

- agricultural producers, being a natural person, earning at least 20% of income from running that farming business;
- owners (natural persons) of agricultural land located within the territory of the Republic of Poland, owned by them or owned by their spouses, earning income over 80% from non-agricultural activities;
- groups of farmers or owners of agricultural land (at least 3 persons running agricultural activity on a total area of at least 3 ha).

Payments are made annually and are determined on the basis of the land area (per 1 ha). Types of payments (Pawlonka, Trojanowska, 2005, p. 89):

- one-off payment for afforestation – the premium amount covers the cost of setting up a forest plantation;
- maintenance premium for 5 years – it is a premium granted for the upkeeping of newly planted woodland;
- afforestation premium paid for 20 years – it is an equivalent of excluding land from field cultivation.

2 RESEARCH METHODOLOGY AND DISCUSSION

In order to achieve the aim of the article, a financial analysis was carried out using statistical indicators of dynamics and correlations. The following variables were selected for the analysis: share of forest in %, forest area in voivodships in Poland in 2013-2020, direct subsidies for agricultural land afforestation in Poland under sub-measure M8.1 of RDP 2014-2020, number of beneficiaries under sub-measure M8.1 of RDP 2014-2020 in Poland.The financial data for the analysis were obtained from the reports on the implementation of the Rural Development Program (RDP) in Poland for the years 2014-2020. The Ministry of Agriculture and Rural Development provided detailed information on direct payments for individual voivodeships at the Author's request. Furthermore, data on the agricultural land afforestation area in Poland in the analyzed period were gained from the information

resources of the Central Statistical Office. The analysis of the afforestation in the European Union countries indicates the leader in this area. It is Finland with an indicator of 69.9% share of forest area. Sweden is close behind Finland (67%). Countries such as Slovenia (62.5%) and Estonia (58.3%) are ranked as the next high. On the other hand, most countries are characterized by an indicator close to the arithmetic mean (40.4%) and the median (39.6%). For Poland, the afforestation share of forest area is 36.4%. The lowest afforestation rate was recorded in Malta (10.4%), the Netherlands (10.9%), and Denmark (16.4%). The data for the analysis performed were up-to-date as of the end of 2018 (https://ec.europa.eu/eurostat/data/database).

In Poland, the forest area varies considerably in individual voivodeships. This is largely the consequence of the terrain conditions and the administrative area of a given voivodeship. According to the data at the end of 2020, the most forested areas in Poland had the following voivodeships: Mazowieckie (845,000 ha), Zachodniopomorskie (842,000 ha), Wielkopolskie (788,000 ha) and Warmińsko-Mazurskie (787,000 ha). Among the least forested regions, the following should be mentioned: Opolskie (257,000 ha) and Świętokrzyskie (337,000 ha).

The analysis is complemented by the measurement of change dynamics in the forest area in individual voivodeships in 2020 in relation to 2013. The results of the calculations are presented in Table 1. Data on the forest area are expressed in thousands of hectares. Over the analyzed period, a decrease in the forest area was observed only in the Małopolskie Voivodship. The forest area increased in all other voivodships. The highest increase was recorded in the following voivodeships: Warmińsko-Mazurskie (100.024), Mazowieckie (100.019), and Lubelskie (100.014).

Table 1. Change dynamics in forest area in voivodships in 2013-2020

Voivodeship	2013	2020	dynamics
DOLNOŚLĄSKIE	608.00134	611.76892	100.006
KUJAWSKO-POMORSKIE	430.98297	432.23912	100.003
LUBELSKIE	587.84969	595.97915	100.014
LUBUSKIE	708.63805	710.34406	100.002
ŁÓDZKIE	394.81625	397.50357	100.007
MAŁOPOLSKIE	440.10395	439.29383	99.998
MAZOWIECKIE	829.39785	845.32861	100.019
OPOLSKIE	256.89219	257.8638	100.004
PODKARPACKIE	685.9343	691.841	100.009
PODLASKIE	629.01835	634.83271	100.009
POMORSKIE	682.91933	684.99281	100.003
ŚLĄSKIE	402.92132	405.75132	100.007
ŚWIĘTOKRZYSKIE	335.96803	337.99762	100.006
WARMIŃSKO-MAZURSKIE	768.84588	787.06343	100.024
WIELKOPOLSKIE	786.68127	788.84617	100.003
ZACHODNIOPOMORSKIE	833.99486	842.56476	100.010

Source: own elaboration based on: https://bdl.stat.gov.pl/bdl/dane/podgrup/tablica (retrieved April 15, 2022)

The next stage of the analysis was to examine the relationship between RDP 2014-2020 expenditure and the forest area in individual voivodeships and the number of beneficiaries. Data on the value of subsidies paid under sub-measure M8.1 from the RDP and the forest area in individual voivodeships as of December 31, 2020, are shown in Figure 1. Most funds under sub-measure M8.1 “Afforestation and creation of forested areas ” were paid to farmers from the

Mazowieckie and Warmińsko-Mazurskie Voivodships. The range of measures used makes the forest area data not very clear. However, taking for analysis the data on forest area as of December 31, 2020, in individual voivodeships and the value of subsidies paid, it is clear that the Mazowieckie Voivodeship is the only voivodeship that received the most funds (PLN 136,321.04 thousand) and also had the largest forest area (845.3 thousand ha). The second voivodeship in terms of the value of received funds is the Warmińsko-Mazurskie Voivodship (PLN 111,033.07 thousand) with forest area ranked fourth (787.1 thousand ha). On the other hand, farmers from the Opolskie Voivodeship (PLN 7295.44 thousand) received the least amount of funds. The Opolskie Voivodeship is characterized by the smallest forest area (257.9 thousand ha).

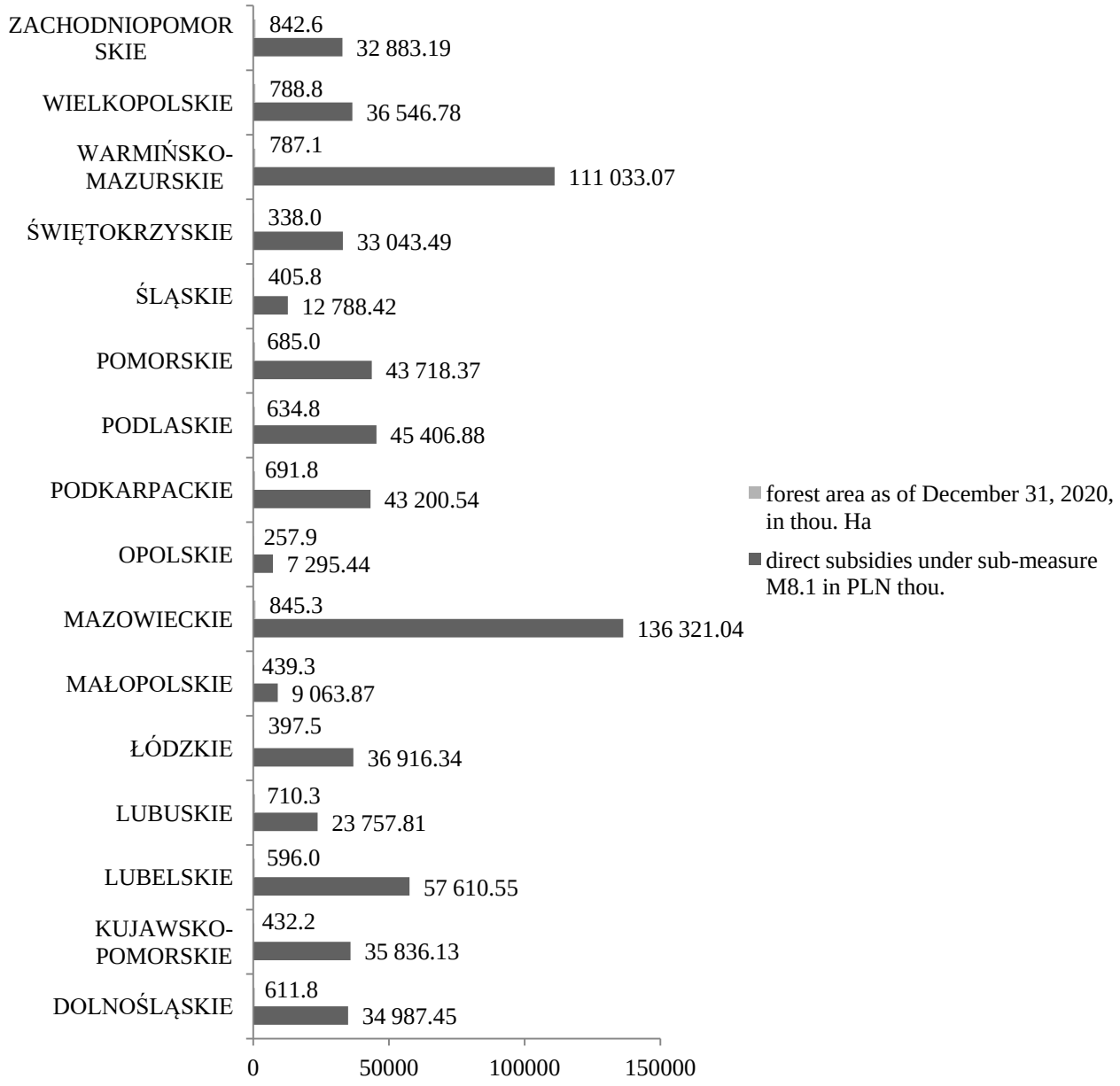

Figure 1. Direct subsidies for agricultural land afforestation in Poland under sub-measure M8.1 of RDP 2014-2020 and forest area as of December 31, 2020
Source: own elaboration based on data obtained from the Department of Direct Payments of the Ministry of Agriculture and Rural Development

The greatest number of beneficiaries procured RDP funds under sub-measure M8.1 in the Mazowieckie Voivodship (3,205). The next voivodeships in this respect were Podkarpackie (2,426) and Lubelskie (2,090). On the other hand, the lowest number of beneficiaries was in the Opolskie Voivodeship (207) (data obtained from the Department of Direct Payments of the Ministry of Agriculture and Rural Development).

Table 2. Indicator of 15 goal of sustainable development

Indicator of 15 goal of sustainable development – forest area in %	2009	2012	2015	2018
Poland	33,2	34,6	36,1	36,4
change dynamics in forest area in % to the previous year				
Poland	-	4,2%	4,3%	0,8%

Source: own elaboration based on data from https://ec.europa.eu/eurostat/data/database (data dostępu 13.03.2023)

If we look at the forest area in %, which is one of the indicators of sustainable development, we can see that this indicator is constantly increasing. In 2018, growth slowed down, but the most important will be the data for the current period, which unfortunately are not yet available.
The final step in the analysis was to examine the interrelationships between the selected variables. The effectiveness of support instruments related to encouraging farmers to afforest agricultural land can be measured by examining the relationship between the value of subsidies paid and the number of beneficiaries in individual voivodeships. The correlation between these data is clearly moderate 0.699149. Another set of variables subject to the study of dependencies is the value of subsidies paid in individual voivodeships and the forest area. As a result of these calculations, the indicator of 0.601545 was obtained. In this case, we say that the variables are dependent moderately. Comparing the number of beneficiaries with the forest area in individual voivodeships as of December 31,2020, the result was a dependency ratio of 0.2426987. This result pointed out a weak relationship. The last step of the analysis was to check the relationship between the value of subsidies disbursed in individual voivodships and the rate of change dynamics in the forest area calculated in Table 1. The dependency ratio for this data set is 0.8626073. A strong correlation is demonstrated here, which proves that with the increase in the subsidies paid out, the obtained indicator of forest area growth also increases.

3 CONCLUSION

The results of the analysis showed that direct payments to farmers for the purposes strictly defined under the RDP as “afforestation and creation of forested areas” had a significant relationship with the afforestation dynamics of agricultural land throughout Poland. The correlated data showed a very strong positive relationship. These and other obtained indicators prove that the active state policy in the field of public expenditure influences the increase in the forested area in Poland and their impact should be regarded as effective. Naturally, this is not the only factor contributing to afforestation, if for no other reason than the geographic diversity of our country’s terrain. It should also be borne in mind that the vast majority of subsidies paid to farmers came from EU funds (EAFRD).
From year to year, the sustainable development indicator in terms of Poland's afforestation improved. In connection with this fact, the policy in the aspect of public support for afforestation of agricultural land should be assessed positively. However, the weaker growth dynamics indicator in 2018 shows that financial support could be increased to encourage farmers to afforest agricultural land.

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APPLICATION OF PENROSE'S LAW IN SLOVAKIA

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Abstract
In 1939, Lionel Sharples Penrose proposed the hypothesis that the number of prisoners and the number of mental hospitals have an inverse relationship. The aim of this work is to look at the application of the Penrose hypothesis in Slovakia. Several studies have found that the decline in the number of psychiatric hospital beds has occurred at the same time as the increase in the number of prisoners. Using Pearson's correlation coefficient and a linear regression model, we demonstrated the validity of Penrose hypothesis of an indirect relationship. The best availability of the network of psychiatric beds is in the east and south of Slovakia. It turns out that increasing the number of psychiatric beds may have its justification in Slovakia.
Key words: *Penrose hypothesis, mental health, psychiatry, prison*

1 INTRODUCTION

Lionel Sharples Penrose was a psychiatrist, mathematician and medical geneticist from the United Kingdom who is considered a pioneer in the field of the genetics of mental retardation. In British psychiatry, the so-called "Penrose's Law", which states that the populations of prisons and mental hospitals are inversely proportional, applies, although it is generally considered to be oversimplified. This law originated in 1939 from a cross-sectional study "Mental desease and crime: outline of a comparative study of european statistics" (Penrose, 1939), in which the aforementioned issue was studied in 18 European countries, including Czechoslovakia. He demonstrated an inverse relationship between the number of beds in psychiatric hospitals and the number of prisoners. It also found a strong negative correlation between the number of beds in psychiatric hospitals and the number of deaths attributed to homicide.

It has been argued that by increasing the number of beds in mental hospitals, society can reduce the number of serious crimes and prison sentences. The population of any country may be assumed to contain a small section composed of people whose behavior is so socially undesirable as to require segregation for a greater or lesser period of their lives. Such people must be restrained if necessary against their will in order to protect the interests of the rest of the community. Standards of social undesirability vary widely from country to country, and even from one part of the same country to another. In agricultural areas, for example, intellectual deficiencies are more easily tolerated than in industrial centres. There are two types of segregation of the socially undesirable.

One is to wait until a civil right is violated, which means until a crime is committed. The other is to regard the socially unfit person, whether or not he has offended against the law, as material for medical treatment and to provide him with institutional care. If the second way is of greater value than the first, it will be largely because the undesirable person can be recognized before he injures the community, and by appropriate medical treatment he can be prevented from doing so.

The main hypothesis and scientific goal of this study is to look at Penrose Act registration in the country and thus examine whether the inverse relationship between the number of prisoners and psychiatric beds, as well as the correlation between the number of psychiatric

beds and the number of recorded homicides, is confirmed. As a secondary hypothesis, we will examine the statistical significance of these variables. The remainder of this paper is organized as follows. In the second section we describe the review of the foreign literature, the third section illustrates our model and data description, the fourth and fifth sections present the results and discussion, and in the final section we draw our conclusions.

2 LITERATURE REVIEW

In recent decades, the declining number of beds, often referred to as 'deinstitutionalization', has affected mental health in many countries in a big way (WHO, 2011). The solution is offered in the form of expanding psychiatric inpatient services (La et al., 2016).

Globally, the burden of mental and substance use disorders is one of the highest in the world (Whiteford et al., 2013). As mental health and substance use disorders are highly prevalent among the prison population, incarceration rates can be an indicator of the institutionalization of mentally ill people (Mundt et al., 2013; Lovett et al., 2019). Many individuals experience repeated incarcerations and psychiatric hospitalizations (Mundt et al., 2015).

Many factors influence the number of psychiatric hospitalizations and prison populations. In six South American countries, a study (Mundt & Chow, 2015) showed that, in association with the Penrose hypothesis, each psychiatric bed closed was associated with five new inmates. The number of psychiatric beds decreased while the number of inmates increased.

The impact of Penrose's Law has been addressed in several countries around the world. An extensive study using data from 1930-2004 comes from Norway. Remarkably, it showed that between 1930-1959, there was a 2% increase in the number of beds in mental institutions while there was a 30% decrease in the number of prisoners. Between 1960-2004, there was a 74% decrease in the number of beds in mental institutions and a 52% increase in the prison population (Hartvig & Kjelsberg, 2009).

Another study from Hungary, using data from 1989-2017, found that statistics over three decades support Penrose's original observation of psychiatric beds and prison population, while Penrose's claim of an inverse relationship between the number of crimes and psychiatric beds has not been demonstrated (Kalapos, 2020). Studies from Ireland show that a decrease in psychiatric inpatient admissions can increase the prison population (Kelly, 2007; O'Neill et al., 2021).

An analysis of data from 30 countries in Eastern Europe and Central Asia showed an inverse relationship between the number of psychiatric beds and the inmate population for 17 countries (Mundt et al., 2021). Penrose's hypothesis was partially supported by a study of 12 countries in Central and Eastern Europe, which showed a decreasing trend in the number of psychiatric beds in all countries between 1990 and 2009 and an increase in the prison population in half of the countries (Mundt et al., 2012).

Examining the relationship between psychiatric bed capacity and prison population, (Gao, 2021) examined the relationship between psychiatric bed capacity and prison population in America and concluded that a decrease in local psychiatric bed capacity was associated with an increase in the local prison population. Similarly, an inverse relationship was found where an increase in the number of psychiatric beds led to a decrease in the number of prisoners.

3 METHODOLOGY

We used publicly available data from Eurostat and Statiste on the number of psychiatric beds as well as data on crime and criminal offences in Slovakia per 100,000 inhabitants. The data can be seen in Table 1. After 2019, the data could include the impact of the COVID-19 pandemic, which was and still is very challenging for people both psychologically and financially.

Table 1: Data on psychiatric beds, number of prisoners and number of murders per 100,000 population. Source: Eurostat

Year	Number of psychiatric beds	Number of prisoners	Number of murders
1996	90.52	152.01	2.46
1997	92.97	142.22	2.60
1998	92.66	127.95	2.37
1999	92.57	127.95	2.61
2000	93.36	132.42	2.65
2001	93.01	139.60	2.40
2002	94.11	145.98	2.38
2003	89.91	164.31	2.72
2004	86.91	176.91	2.27
2005	83.79	172.89	1.97
2006	84.01	161.12	1.66
2007	82.80	153.22	1.66
2008	81.41	154.60	1.75
2009	80.50	170.40	1.56
2010	80.05	186.80	1.65
2011	76.84	198.70	1.78
2012	77.65	204.90	1.39
2013	81.59	187.60	1.44
2014	81.77	187.90	1.33
2015	80.81	186.10	0.89
2016	81.30	187.60	1.11
2017	81.45	186.00	1.47
2018	81.02	184.20	1.23
2019	80.67	188.90	1.39

Figure 1. shows the status of the network of psychiatric beds in Slovakia per 100 000 inhabitants. The Košice and Nitra regions appear to be the best and the Trnava region the worst.

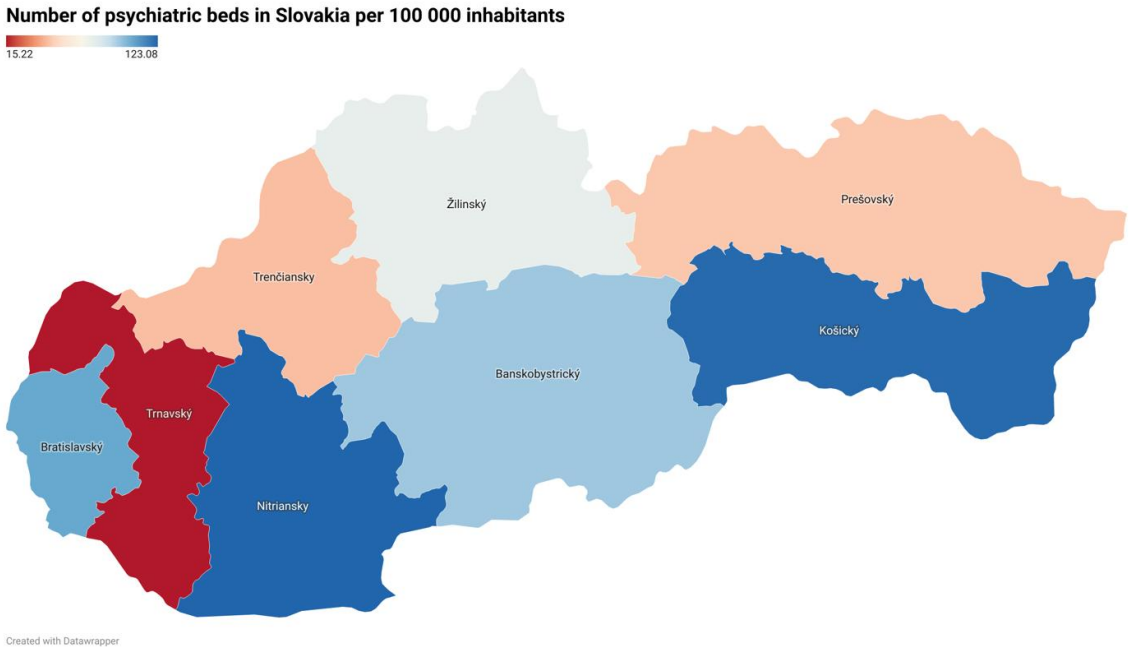

Figure 1: Geographical distribution of psychiatric beds by regions in Slovakia.

We use a linear regression model to examine the effect of the number of psychiatric beds on variables such as the number of prisoners and the number of crimes classified as homicide. We implement the estimated coefficients of covariates using OLS method. A linear regression model is given:

$$y = \beta_0 + \beta_{\text{Psych}} X_{\text{Psych}} + \varepsilon$$

where y is the number of prisoners or the number of homicides, X is a 1-dimensional vector of the exogenous variable number of psychiatric beds. We use Pearson's correlation coefficient for the potential of the Penrose hypothesis itself.

4 RESULTS

First, we used Pearson's correlation coefficient to confirm or reject Penrose's hypothesis of an inverse relationship between the number of psychiatric beds and the number of prisoners. This relationship was confirmed ($r = -0.868$, $p<0.001$), with a ratio of 4.5 psychiatric beds cancelled for each prisoner added. The negative relationship between the number of psychiatric beds and the number of homicides was not confirmed; on the contrary, a strongly positively correlated relationship emerged ($r = 0.852$, $p<0.001$). The decrease in the number of psychiatric beds versus the increase in the number of prisoners and the decrease in the number of homicides can be seen in Figure 2.

Figure 2: Trends in psychiatric beds and prison population in Slovakia.

Data on expenditure for psychiatric hospital admissions, available for 2012-2019, shows an increase from 31 million euros to 37 million euros. Figure 3. shows the correlation between the number of psychiatric beds over time with the number of prisoners and the number of homicides. The correlation matrix is shown in Table 2. We can see that the variables are independent and the diagonal represents the histogram of each variable.

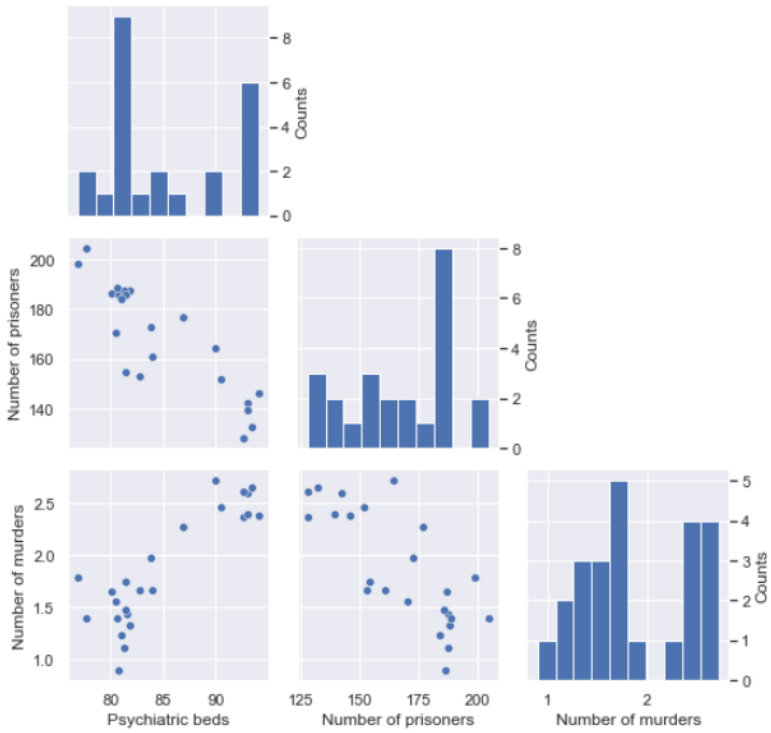

Figure 3: Pairwise plot of correlations between variables and their distributions.

Table 2: Correlation matrix of variables.

	number of psychiatric beds	number of prisoners	number of homicides
number of psychiatric beds	1	-0.88	0.87
number of prisoners	-0.88	1	-0.78
number of homicides	0.87	-0.78	1

After examining these dependencies, we will see which variables may be affected by the number of psychiatric beds and whether this effect is statistically significant. The results of the regression models are shown in Table 3 and Table 4. All coefficients and the model are statistically significant.

Table 3: The impact of the number of psychiatric beds on the number of inmates.

OLS Regression Results	
Variable name	**Estimate and statistics**
Intercept	474.39(35.23)***
number of psychiatric beds	-3.61(0.41)***

Standard error in brackets. $*p < 0.10$, $**p < 0.05$, $***p < 0.01$.
Number of observations: 20, Adj. R-squared: 0.766, AIC: 186.2, BIC: 188.5, Durbin-Watson: 0.538

Table 4: The impact of the number of psychiatric beds on the number of homicides.

OLS Regression Results	
Variable name	**Estimate and statistics**
Intercept	-5.34(0.87)***
number of psychiatric beds	0.08(0.01)***

Standard error in brackets. $*p < 0.10$, $**p < 0.05$, $***p < 0.01$.
Number of observations: 20, Adj. R-squared: 0.747, AIC: 8.58, BIC: 10.94, Durbin-Watson: 1.006

5 DISCUSSION

We tested the primary hypothesis by Pearson correlation coefficient in Table 2. The Penrose hypothesis of an inverse relationship between the number of psychiatric beds and the number of prisoners was confirmed. The negative correlation between the number of psychiatric beds and the number of homicides was not confirmed. On the contrary, a strong positive correlation was found.

Similar results have been presented in several studies (Gunn, 2000; Hartvig & Kjelsberg, 2009; Kalapos, 2020; Kelly, 2007; O'Neill et al., 2021; Priebe et al., 2005; Raphael, 2000; Wild et al., 2021). However, controversial statements are circulating. (Large & Nielssen, 2009) point to the inappropriateness of the data often used in analyses and also that the Penrose hypothesis of a relationship between psychiatric beds and prison population holds with a positive correlation, and only in low to middle income countries, whereas no relationship has been shown in higher income countries.

In terms of the geographical distribution of the availability of psychiatric beds from Figure 1, the Nitra and Košice regions appear to be the best. The worst performing region appears to be Trnava, whose residents seem to visit surrounding counties with better accessibility.

We tested the secondary hypothesis with the linear regression model in Table 3 and Table 4. In both cases, the number of psychiatric beds was a statistically significant variable influencing both the number of prisoners and the number of homicides.

Our study is limited by the small number of available data, as the history of Slovakia dates only back to 1996. Further research could include more comprehensive data to study Penrose's hypotheses to investigate possible mechanisms that could influence this relationship or it could be the influence of economic factors or even changes in the health care system (Ceccherini-Nelli & Priebe, 2007; Large & Nielssen, 2009; Blüml et al., 2015).

6 CONCLUSION

In this study, we have looked at Penrose's Law in Slovakia. It turns out that the model proposed in 1939 is still showing its strength today, as the hypothesis of a negative correlation between the number of psychiatric beds and the number of prisoners has been confirmed. The correlation confirming that an increasing number of psychiatric beds reduces the number of homicides is not confirmed, but instead shows a strong positive correlation. As has been shown around the world, deinstitutionalization in the mental health sector should not continue, and strengthening the number of psychiatric beds may have merit (Mundt et al., 2012; Winkler et al., 2016).

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QUAERE

ENVIRONMENTAL EFFICIENCY OF THE EU COUNTRIES BASED ON A DEA APPROACH

Peter Tóth, Andrea Tkáčová, Jana Zaicová

Abstract

Measuring environmental efficiency is a key tool for monitoring the progress of EU countries in achieving common environmental policy goals. The presented study deals with this issue on a sample of 27 EU countries in the period 2000-2020 using the DEA method. The results point to persistent differences between member countries, with new member states achieving better values compared to old member states. Despite the significant reductions in greenhouse gases, sulphur oxides and nitrogen oxides that have been recorded for all EU countries, there is no improvement in environmental efficiency over time for countries with average and low efficiency, which represent eight Member States. The study also confirmed that it is possible to achieve high environmental efficiency even while achieving economic development.

Keywords: *environmental policy, efficiency, EU countries, DEA.*

1 INTRODUCION

The concept of sustainable development makes more sense today than ever before. Increased concerns about the global impacts of environmental pollution in countries such as China have made environmental efficiency analysis a central topic of much research. At the level of European Union (EU) countries, environmental efficiency represents the ability of Member States to produce goods and services while minimizing the negative impact on the environment. The EU actively works to promote environmental efficiency through various policies and regulations, including the EU's commitment to reduce greenhouse gas emissions, increase the use of renewable energy and promote resource efficiency (Duľová Spišáková et al. 2020; Beltrán-Esteve & Picazo-Tadeo, 2017). However, the EU's environmental policy faces a serious problem, which stems from significant differences in the ability of countries to apply these principles and goals at the national level, from the fear that the country will not be able to achieve sufficient economic development. An example is Poland, which, as the largest producer of hard coal in the EU, prioritizes the national interests of economic development (Marcinkiewicz & Tosun, 2015). Many EU member states changed their decision-making priorities after the economic crisis of 2008, during which their concerns about economic development were much greater (Slominski, 2016). The reason was also increasing public spending on environmental policy (Zhu et al. 2022). Thus countries promote a concept whereby environmental efficiency grows while increasing economic performance (Mardani et al. 2017). Current studies also point to a different level of environmental efficiency between the old and new member states. The results of some research concluded that old members have higher environmental efficiency (Beltrán-Esteve et al., 2019; Matsumoto et al., 2020; Sanz-Díaz et al., 2017; Zhu et al., 2022), while some studies claim the opposite, namely that new Member States have score higher in environmental efficiency (Duman & Kasman, 2018). The question remains whether states can increase their environmental efficiency at the same time as achieving economic development in the country and whether there are significant differences in

environmental efficiency between new and old Member States. The answers to these research questions will be the subject of the present study.

2 ENVIRONMENTAL EFFICIENCY IN THE EU

In recent years, many research papers on environmental efficiency have appeared, with long-term greenhouse gas emissions at the centre of interest. Some studies focus on solving the problem at the micro level (Dirik et al., 2019; Park et al., 2018), but significantly more studies focus on the macroeconomic level of countries, regions and economies (Chen et al., 2019; Iram et al., 2020; Mardani et al., 2017). At the national level, these are studies focused on environmental efficiency, primarily in China and the USA (Li et al., 2021; Chen et al., 2019), at the transnational level, they are groupings of EU or OECD countries (Halkos & Petrou, 2019; Czýzewski et al., 2020; Hermoso-Orzáez et al., 2020; Puertas et al., 2022; Zhu et al., 2022). Scholars have examined the environmental efficiency of the EU from different perspectives. For example, Sanz-Díaz et al. (2017) used the DEA and Malmquist method to measure environmental efficiency in 28 EU countries and compared the results of Spain with other EU members as a priority. Beltrán-Esteve and Picazo-Tadeo (2017) integrated Luenberger productivity indicators, DEA, and the directional distance function (DDF) to assess the environmental performance of the EU and compared the environmental efficiency of members in different periods. They found that the environmental performance of all member states improved and there were differences in the environmental performance of older and newer members over the period under review. Moutinho et al. (2017) evaluated the environmental performance of 26 EU countries in two steps. In the first step, the DEA method is used to measure each country's efficiency. In the second step, the quantile regression technique was used to explain the different efficiency scores through the selected variables. Duman and Kasman (2018) used parametric hyperbolic distance functions to analyse the environmental efficiency of EU member and candidate countries in the period 1990–2011. They concluded that the EU-15 countries, in contrast to the new members and candidate countries, have a greater potential for reducing CO2 emissions while simultaneously increasing GDP and reducing energy consumption. Hermoso-Orzáez et al. (2020) monitored a sample of 28 EU countries in the period 2005-2012 using two selected variants of the DEA method. The authors' results show that there are 14 out of 28 countries that have high relative environmental efficiency. Among the countries with very low environmental efficiency were the last acceding countries, where environmental policies are not yet implemented effectively with positive results. Puertas et al. (2022) on the analysis of 20 European countries in the period 2014-2018 confirmed that countries with low environmental efficiency are concentrated in the East of Europe. For this purpose, they used the DEA method and the Malmquist Index (MI). Zhu et al. (2022) applied the DEA method to investigate three different objectives of environmental policy in EU countries in the period 2013-2019. He confirmed that there are significant differences between states. where countries that joined the EU earlier have higher efficiency values. Czýzewski et al.'s (2020) study came up with interesting results, which examined EU countries from 2005-2016. The authors concluded that the highest efficiency of environmental spending in the context of "deadweight loss" was recorded in the countries of Central and Eastern Europe, the Scandinavian countries and Spain.

3 METHODOLOGY

The presented study's main goal is to measure EU countries' environmental efficiency. The essence of the research is the verification of the following two hypotheses, the determination of which is based on theoretical foundations:

H1: Old Member States have higher environmental efficiency compared to new Member States.

H2: Member States with high GDP per capita achieve higher levels of environmental efficiency.

The subject of the study is 27 EU Member States in the period 2000-2020. The Data envelopment analysis (DEA) method implemented in R studio was chosen to measure efficiency, which is among the most used methods for evaluating environmental efficiency (Wei et al., 2021; Tian et al. 2020). Its use in the given area can be confirmed by several studies, see for example Moutinho et al. (2017), Park et al. (2018), Wegener and Amin (2019), Matsumoto et al. (2020) or Zhu et al. (2022) etc. DEA is a mathematical programming approach that evaluates the performance of decision-making units (DMUs). In this evaluation, the inputs that were invested in the process are compared with its achieved results (outputs) (Charles et al. 2018). In the area of environmental efficiency, the division of outputs into desirable and undesirable is added (Goto et al., 2014). In the context of environmental efficiency, DMUs can be countries, regions, organizations or firms, and inputs and outputs can be environmental indicators such as greenhouse gas emissions, water consumption, energy consumption or waste generation. DEA has been widely accepted in the scientific community due to its great flexibility in defining the problem: it accepts different measurement units for inputs and outputs and allows direct comparison of some DMUs with others as well as with their combination (Lotfi et al., 2020). Based on previous studies, the inputs and outputs were defined, which formed the basic data sample for the DEA analysis. It is recommended that the total number of inputs and outputs does not exceed 1/3 of the number of examined DMUs.

Table 1 Variables for DEA analysis

Input/ Output		Indicator	Unit	Database	Source
Inputs	X_1	Total public expenditure	% GDP	Eurostat	Czýewsky et al. (2020), Melledu and Pulina (2018)
	X_2	Public expenditures for environmental protection	% GDP	Eurostat	
	X_3	Total labour force per capita	Thousand inhabit.	OECD	Halkos and Petrou (2019), Mavi et al. (2019)
	X_4	Primary energy consumption	Tonnes per GDP	Eurostat	Jiandong et al., (2015), Mavi et al. (2019)
	X_5	Income from environmental taxes	% GDP	Eurostat	Štreimikienė et al. (2022)
Undesirable outputs	X_6	Sulphur oxides (SOx)	Tones per GDP	Eurostat	Halkos and Petrou (2019), Yang et al. (2014)
	X_7	Greenhouse gases (CO2) per capita	Tonnes per HDP	Eurostat	Zhu et al. (2022)
	X_8	Nitrogen oxides (NO2)	Tonnes per HDP	Eurostat	Halkos and Petrou (2019)
Desirable outputs	X_9	GDP per capita	EUR	Eurostat	Puertas et al. (2022), Apergis and Garcia (2019)

Source: own processing

Input variables X_3 to X_8 were subsequently adjusted and expressed as a ratio indicator concerning GDP per capita in constant prices or as a % of GDP in the case of environmental taxes. The robustness of the DEA model is affected by the degree of correlation between the variables. Before creating the correlation matrix, a normality test is performed using the Jarque-Bera and D'Agostino tests. A value of 0.8 is a high degree of correlation and testing takes place at a significance level of 0.01; 0.05; 0.1. Based on the study by Hermoso-Orzáez (2020), an evaluation scale of environmental efficiency was compiled for the median values of EU countries as "• excellent environmental efficiency" (0.99-1), "• good environmental efficiency" (0.8-0.99), "• average environmental efficiency" (0.5-0.79), " • low environmental efficiency" (0-0.49).

We applied a model based on Seiford and Zhu (2002). Let DMU_j denotes n independent decision units ($j = 1,2,\ldots,n$), each DMU_j needs m inputs x_{ij}, ($i = 1,2,\ldots,m$) to produce s_1 desirable outputs $y^g_{\bar{r}j}$ ($\bar{r}$ = 1, 2, ..., s_1) and s_2 undesirable outputs $\bar{y}^b_{\bar{\bar{r}}j}$, ($\bar{\bar{r}}$ = 1, 2, ..., s_2). Model is given by the following expressions:

$$
\begin{gathered}
Max\ ß_p \\
\sum_{j=1}^{n} \lambda_j x_{ij} \le x_{ip,} \qquad \text{i = 1,2 ...,m,;} \\
\sum_{j=1}^{n} \lambda_j y^g_{\bar{r}j} \ge ß_p y^g_{\bar{r}p}\ , \quad \bar{r}\text{=1,2,...}s_1, \\
\sum_{j=1}^{n} \lambda_j \bar{y}^b_{\bar{\bar{r}}j} \ge ß_p \bar{y}^b_{\bar{\bar{r}}p}, \quad \bar{\bar{r}}\text{=1,2,...,}s_2, \\
\sum_{j=1}^{n} \lambda_j = 1, \lambda_j \ge 0, \ \ j = 1,2\ldots n \\
where\ \bar{y}^b_{\bar{\bar{r}}j} = -\bar{y}^b_{\bar{\bar{r}}j} + w_{\bar{\bar{r}}} > 0
\end{gathered}
\tag{1}
$$

3 RESULTS

Based on the results of the Jarque-Bera and D'Agostino tests in our R study, the hypothesis of the normality of the set was rejected, leading to the use of non-parametric correlation tests such as Kendall's and Spearman's correlation coefficient, which are robust to outliers and do not assume data normality. The results of the correlation matrix are presented in Table 2.

Table 2 Correlation matrix

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
X_1	1	-0.02	-0.07	**-0.35*** **	**0.23*** **	**-0.44*** **	**-0.45*** **	**-0.38*** **	**0.41*** **
X_2	-0.01	1	**-0.27*** **	-0.10**	-0.03	-0.02	0.08*	-0.08	0
X_3	-0.04	-0.19***	1	-0.23***	-0.02	**-0.32*** **	-0.25***	-0.25***	**0.35*** **
X_4	**-0.25*** **	-0.06**	-0.16***	1	0	**0.82*** **	**0.78*** **	**0.74*** **	**-0.87*** **
X_5	0.15***	-0.03	-0.02	0	1	-0.01	0.07*	0.13***	0.016
X_6	**-0.23*** **	-0.01	-0.22***	**0.64*** **	-0.006	1	**0.86*** **	**0.82*** **	**-0.79*** **
X_7	**-0.32*** **	0.06*	-0.17***	**0.61*** **	0.05*	**0.67*** **	1	**0.74*** **	**-0.75*** **
X_8	-0.26***	-0.06**	-0.17***	**0.58*** **	0.09**	**0.66*** **	**0.57*** **	1	**-0.74*** **
X_9	**0.29*** **	0.01	0.25***	**-0.68*** **	0.02	**-0.61*** **	**-0.56*** **	**-0.57*** **	1

Source: own processing

Based on the correlation matrix, variables X_1 and X_4 were selected as inputs to the model. Variables X_2 and X_3 and X_5 were discarded due to low values of correlation coefficients with the considered outputs. Indicators X_7, X_8 and X_9 were selected as outputs for the DEA model. Indicator X_6 was excluded due to the high correlation coefficient with indicators X_7 and X_8. By excluding the variables, the conditions for DEA analysis, which requires a low correlation between selected inputs and a high correlation between inputs and outputs, were met. The complete results of the DEA analysis for the

years 2000-2020 are presented in Table 3. The results in Table 3 show a significant difference in the environmental efficiency of the EU countries. During the entire observed period, Bulgaria was among the countries with the lowest environmental efficiency, whose values did not change even after joining the EU. On the opposite side are countries like Denmark, Germany, Ireland, Luxembourg, Sweden, and the Netherlands. For better interpretability of the results, median values were calculated from the values for the period 2000-2020, which more accurately depict the position of the countries compared to the average values reported, for example, by Zhu et al (2022).

Table 3 Results from DEA

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Austria	1.00	1.00	1.00	1.00	0.99	0.97	0.97	0.97	0.98	0.97	0.97	0.97	0.97	0.95	0.95	0.94
Belgium	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.95	0.95	0.96	0.96	0.95	0.96	0.95
Bulgaria	0.32	0.31	0.32	0.30	0.33	0.35	0.37	0.33	0.42	0.41	0.42	0.40	0.41	0.40	0.31	0.29
Croatia	0.78	0.79	0.78	0.79	0.80	0.80	0.79	0.77	0.77	0.75	0.75	0.76	0.77	0.77	0.77	0.76
Cyprus	0.93	0.92	0.92	0.91	0.92	0.91	0.91	0.91	0.96	0.98	0.97	0.91	0.86	0.89	0.83	0.87
Czechia	0.74	0.73	0.75	0.74	0.75	0.76	0.74	0.74	0.77	0.77	0.76	0.80	0.73	0.73	0.74	0.73
Denmark	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Estonia	0.64	0.64	0.66	0.70	0.70	0.75	1.00	1.00	0.69	0.65	0.64	0.96	0.72	0.66	0.62	0.64
Finland	0.92	0.92	0.92	0.91	0.91	0.94	0.91	0.91	0.92	0.91	0.88	0.91	0.91	0.88	0.90	0.91
France	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.97	0.97	0.97	0.97	0.97	0.96	0.97	0.96
Germany	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.97
Greece	0.78	0.77	0.78	0.79	0.77	0.75	0.75	0.72	0.70	0.67	0.69	0.71	0.67	0.64	0.65	0.68
Hungary	0.79	0.79	0.81	0.81	0.81	0.81	0.79	0.77	0.77	0.77	0.76	0.79	0.76	0.74	0.76	0.75
Ireland	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Italy	0.99	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	1.00	0.99	0.98	0.98	0.98	0.97
Lithuania	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.77	0.88	0.96	0.91	0.79	0.79
Latvia	0.83	0.80	0.81	0.85	0.85	0.82	0.83	0.84	0.83	0.85	0.94	0.94	1.00	1.00	1.00	0.90
Luxembourg	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Malta	0.90	0.90	0.91	0.90	0.89	0.87	0.85	0.85	0.85	1.00	1.00	0.91	0.87	0.92	0.92	0.94
Netherlands	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	0.98
Poland	0.63	0.63	0.66	0.67	0.66	0.63	0.58	0.58	0.59	0.62	0.57	0.64	0.59	0.57	0.63	0.62
Portugal	0.89	0.89	0.89	0.88	0.87	0.85	0.86	0.87	0.87	0.84	0.83	0.86	0.85	0.83	0.82	0.81
Romania	0.65	0.64	0.66	0.66	0.68	0.70	0.66	0.69	0.76	0.78	0.68	0.70	0.66	0.69	0.76	0.78
Slovakia	0.74	0.75	0.78	0.82	0.82	0.81	0.82	0.85	1.00	0.85	0.88	0.93	0.92	0.87	0.87	0.84
Slovenia	0.85	0.84	0.86	0.88	0.88	0.87	0.87	0.89	0.86	0.85	0.82	0.83	0.84	0.79	0.80	0.82
Spain	0.93	0.95	0.96	0.96	0.95	0.94	0.94	0.92	0.94	0.94	0.93	0.92	0.88	0.90	0.90	0.87
Sweden	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

1.00	0.89	0.82	0.85	0.78	0.81	0.60	0.99	0.98	1.00	0.88	0.84	0.97	1.00	0.76	0.66	0.97	0.97	0.90	0.62	1.00	0.74	0.88	0.75	0.32	0.96	0.94	**2016**
1.00	0.89	0.81	0.84	0.79	0.79	0.55	0.99	0.97	1.00	0.87	0.87	0.97	1.00	0.73	0.67	0.97	0.96	0.91	0.59	1.00	0.73	0.88	0.76	0.32	0.96	0.94	**2017**
1.00	0.88	0.82	0.84	0.76	0.82	0.57	0.98	0.96	1.00	0.86	0.78	0.96	1.00	0.74	0.66	0.97	0.97	0.89	0.59	1.00	0.73	0.87	0.76	0.31	0.96	0.95	**2018**
1.00	0.87	0.84	0.83	0.74	0.83	0.59	0.98	0.94	1.00	0.82	0.82	0.95	1.00	0.74	0.66	0.97	0.97	0.88	0.65	1.00	0.73	0.84	0.74	0.31	0.96	0.95	**2019**
1.00	0.84	0.85	0.83	0.70	0.79	0.59	0.98	0.92	1.00	0.75	0.68	0.95	1.00	0.74	0.63	0.97	0.97	0.90	0.68	0.98	0.74	0.87	0.68	0.32	0.97	0.95	**2020**

Source: own processing

For comparability with other studies, the median values were also calculated for the period 2005-2012, which corresponds to the monitored period of the Hermoso-Orzáes (2020) study and are listed in Table 4.

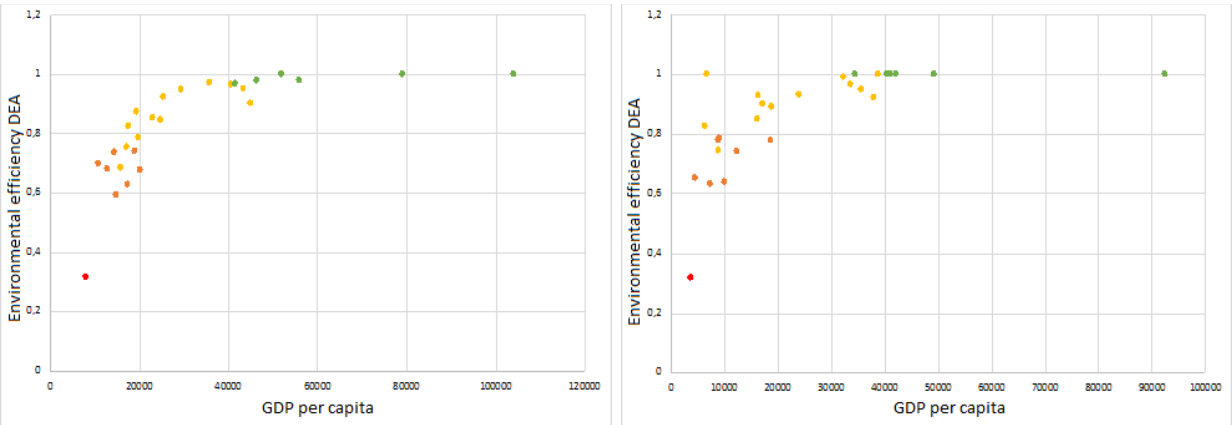
Table 4 Results from DEA and their comparison

Hermoso-Orzáes et al. (2020)		**Own results**		**Own results**		**Own results**	
Country	Median 2005-2012	Country	Median 2005-2012	Country	Median 2013-2020	Country	Median 2000-2020
Denmark	1.00	Denmark	1.00	Denmark	1	Denmark	1.00
Germany	1.00	Germany	1.00	Ireland	1	Germany	1.00
Ireland	1.00	Ireland	1.00	Luxembourg	1	Ireland	1.00
Luxembourg	1.00	Luxembourg	1.00	Sweden	1	Luxembourg	1.00
Netherlands	1.00	Netherlands	1.00	Netherlands	0.98	Netherlands	1.00
Sweden	1.00	Sweden	1.00	Germany	0.97	Sweden	1.00
Austria	1.00	Italy	0,99	Italy	0.97	Austria	0.97
France	1.00	Latvia	0,98	France	0.97	France	0.97
Italy	1.00	Austria	0,97	Belgium	0.96	Italy	0.97
Latvia	1.00	France	0.97	Austria	0.95	Belgium	0.95
Malt	1.00	Belgium	0.95	Malt	0.94	Spain	0.92
Poland	1.00	Spain	0.93	Finland	0.90	Cyprus	0.91
Cyprus	1.00	Cyprus	0.91	Latvia	0.88	Latvia	0.91
Belgium	0,96	Finland	0.91	Spain	0.88	Finland	0.91
Lithuania	0.95	Malt	0.87	Cyprus	0.87	Malta	0.91
Greece	0.94	Slovakia	0.86	Slovakia	0.84	Portugal	0.85
Portugal	0.91	Slovenia	0.85	Slovenia	0.82	Lithuania	0.85
Spain	0,87	Portugal	0.85	Portugal	0.82	Slovakia	0.84
Croatia	0.72	Lithuania	0.85	Lithuania	0.81	Slovenia	0.84
Estonia	0.69	Croatia	0.77	Croatia	0.76	Croatia	0.77
Slovenia	0.69	Hungary	0.77	Romania	0.76	Hungary	0.77
Finland	0.69	Greece	0.76	Hungary	0.74	Romania	0.76
Slovakia	0.51	Czechia	0.76	Czechia	0.74	Czechia	0.74
Romania	0.43	Romania	0.74	Greece	0.66	Greece	0.69
Hungary	0.40	Estonia	0.74	Estonia	0.63	Estonia	0.66
Bulgaria	0.35	Poland	0.59	Poland	0.59	Poland	0.60
Czechia	0.33	Bulgaria	0.41	Bulgaria	0,31	Bulgaria	0.32

Notes: • excellent • good • average • low environmental efficiency

Source: own processing, Hermoso-Orzáes (2020).

The results in Table 4 show excellent environmental efficiency for Denmark, Germany, Ireland, Sweden, and Luxembourg both in the results of the present study and the results of the study by Hermoso-Orzáes (2020). According to the 2000-2020 results, good environmental efficiency was achieved in 13 countries, e.g. in Austria, France, Italy, but also Slovakia and Slovenia. Seven countries, among them most of the new Member States such as Hungary, Czechia, Estonia, and Poland, achieved average environmental efficiency, and the lowest values were recorded by Bulgaria. Compared to the Hermoso-Orzáes (2020) study, there is a decrease in countries with excellent environmental efficiency and an increase in countries with good environmental efficiency. In the context of the division of countries into old and new Member States, where we consider the new Member States to be the countries joining the EU after 2004, it is visible that the old Member States achieve better results in environmental efficiency in the long term. This result is confirmed by the results from Table 3 and Table 4, which makes it possible to confirm H1: Old Member States have higher environmental efficiency compared to new Member States. This is consistent with the results of studies such as Beltrán-Esteve et al. (2019), Matsumoto et al. (2020), Sanz-Díaz et al. (2017), and Zhu et al. (2022). However, it is important to note that all EU countries have significantly reduced the shares of greenhouse gases, sulphur oxides and nitrogen oxides in % of GDP. However, it had no impact on the ranking that year. The result of the study by Puertas et al (2022) was also confirmed, which says that Eastern European countries, which form a buffer zone against non-member countries that do not have such strict environmental policy goals as the EU, achieve less efficiency. Many Member States are concerned that the expenses associated with achieving the EU's environmental goals will hurt their economic growth or that high environmental efficiency cannot be associated with high GDP per capita. Figures 1 illustrate the state of environmental efficiency according to DEA as well as the size of GDP per capita in EU countries for the years 2000 and 2020.



Notes: • excellent, • good • average • low environmental efficiency

Figure 1 GDP per capita and environmental efficiency according to the DEA method for 2000 (left) and 2020 (right)
Source: own processing

Figure 1 points out that the EU Member States that achieved a high level of environmental efficiency in the monitored periods are among the states with the highest GDP per capita. Conversely, states with low environmental efficiency are at the bottom of the GDP per capita ranking. A simple illustration of the results thus confirms H2: States with high GDP per capita

achieve a higher level of environmental efficiency, which is in line with Duman and Kasman (2018). The results need to be seen in a wider context. The old Member States have been working for a long time to achieve the EU's environmental goals by increasing the use of renewable resources, a high rate of recycling or transitioning to a circular economy.

4 DISSCUSION AND CONCLUSION

The concept of sustainable development makes more sense today than ever before. Increased concerns about environmental pollution problems in countries such as China have made eco-efficiency analysis a central issue of much research. The countries of the European Union have also set strategic goals that support a sustainable environmental framework. The presented study aimed to measure the environmental efficiency of EU countries using the DEA method, which is often used in this issue. With the help of the R program, efficiency was measured in each of the years 2000-2020, and then the median from the periods 2005-2012, 2013-2020 and 2000-2020 was calculated. The results showed a significant difference in environmental efficiency across EU countries, with the old Member States performing better than the new Member States, thus confirming H1. Countries such as Latvia, Lithuania, Slovakia, and Slovenia come closest to the old Member States. Countries such as Poland, Czechia, Romania, and Bulgaria lag significantly behind. The results largely agree with other studies in this area even when using different inputs and outputs in DEA analysis. Comparing the results of DEA and GDP per capita also led to the acceptance of H2: States with high GDP per capita achieve a higher level of environmental efficiency. The finding that countries with higher GDP per capita produce fewer emissions that significantly affect environmental efficiency is a consequence of the introduction of more effective environmental policies that support technological progress, improved energy efficiency and the use of cleaner energy sources. Examples include countries such as Sweden, Luxembourg, and Ireland, which are actively taking steps to reduce greenhouse gas emissions and achieve their climate goals. They introduced instruments such as the climate law, the carbon tax, financial support for renewable energy sources and free public transport by buses, trams, and trains or the "polluter pays" rule. Overall, these countries are making significant efforts to transition to a low-carbon economy and reduce their environmental impact, using environmental policy principles and a combination of normative and economic instruments. The results of the DEA analysis confirmed the low position of Bulgaria, which covers 20% of the total energy consumption with renewable sources. However, it still lags behind the standards set in the directive on municipal wastewater treatment and air pollution. The conviction that economic growth should take precedence over changes in environmental protection has persisted in Poland for a long time. The results of the study proved that this is a false assumption. Fossil fuels accounted for 70% of Poland's energy sources in 2020, and coal is expected to remain the country's main energy source until 2049. Problems are also emerging in waste management. For countries such as Estonia, Hungary, Poland and the Czech Republic, the EU's goals of environmental neutrality in 2050 seemed too ambitious, leading to the blocking of the "Green Deal".

The presented study confirmed that significant differences between EU Member States persist for a long time. Despite the demonstrable fact that countries with high environmental efficiency can produce high economic growth, many countries are reluctant to gradually reorient at least part of their industry to sectors with smaller negative impacts on the environment. If countries were to adopt this change, its effect would only be demonstrated after a few years, and it would have to gain high and consistent political support. The main problem uncovered by this study is the fact that, even though all EU Member States are making significant progress in achieving

environmental goals when measuring efficiency, the groups with average and low efficiency are still the same countries. Without major national reforms and commitment from the EU, for example in the form of a different system of allocation of funds for this area, it will not be possible to achieve a reduction of the gap that exists between EU Member States in this area even in the horizon of a decade.

For a more in-depth examination of the issue, it would be appropriate to supplement the monitored variables in the DEA analysis with, for example, technological progress, or to monitor the dynamics of changes in environmental efficiency. Likewise, to examine the existence of the influence of the type of environmental expenses on efficiency. It seems interesting to examine the geographical interconnectedness of countries given the worse results of the eastern countries of the EU and the impact of non-member states on the environmental efficiency of neighbouring EU Member States.

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RATE OF OPENNESS OF PUBLIC ADMINISTRATION – A CASE STUDY OF SLOVAK CITIES

Lukáš Cíbik

Abstract

The main goal of our paper is to identify the degree of openness of public administration in Slovakia, which is represented by a set of 13 cities. Through our research, we found that the resulting average and long-term degree of openness of public administration (13 places) in Slovakia is at an average level, which corresponds to a gain of 54% of the maximum number of points. The city of Šaľa achieved the highest average degree of openness, and we recorded the lowest in the case of Čadca and Trebišov. From a long-term perspective, the overall average degree of openness of the studied set of cities clearly shows a growing trend. The partial areas of openness, where the analyzed cities received the highest average number of points assigned to the given area since 2010, include three components of openness: Access to Information, Budget and Territorial planning and construction office. We identified the lowest average partial point gains in two areas, which are Ethics and conflict of interest and Sale and rental of property.

Keywords: *openness, transparency, Slovakia, cities*

1 INTRODUCTION

In today's world, great emphasis is placed on the efficiency of public administration and the relationship with the public. In addition to classical economic indicators or the legal framework, the setting of public administration according to New Public Management (NPM) is increasingly coming to the fore (Marišová et al. 2021). One of the principles of NPM is the emphasis on clients, when they should have the necessary information from institutions of state administration and territorial self-government. Our research focuses on the degree of openness of public administration that fulfills these needs. Effective public administration must be open, transparent and client-oriented. (Mura, Marišová, 2021). The way of communication with citizens creates a specific mix of information channels and tools with which public administration bodies create a transparent space and discussion platform (Sičáková-Beblavá, Pirošík, 2004).

Research on the transparency and openness of public administration in Slovakia is mainly covered by Transparency International Slovakia, which evaluates the degree of transparency of public administration institutions. In our environment, we consider the local level of territorial self-government to be the most important component of public power, the closest to citizens and the most natural manifestation of self-government (Brix, Švikruha, 2017). However, not enough space is devoted to its research in the field of openness, setting the legal framework or the competence point of view, or the conducted surveys are outdated (Foltínová, Dubcová, 2016). Currently, this view is trying to be expanded by the collective of authors from the FSV UCM environment, and their preliminary research signals interesting findings that can be applied at the entire self-governing level (e.g. Cíbik, 2022, Cíbik, Mikuš, 2022).

2 MATERIAL AND METHODS

The main goal of our paper is to identify the degree of openness of public administration in Slovakia, which is represented by a set of 13 cities. Our research is based on and builds on the data and methodology (TIS), which monitors the transparency of local territorial self-government (Transparency International Slovakia, 2023). Data from the TIS database

represent the primary source of data that we used to quantify the degree of openness of public administration in Slovakia represented by Slovak cities. By modifying the primary data sources, we created a set of partial data necessary for analysis, comparison and capture of the development trend of openness. Based on the use of mathematical and static methods, we were able to convert the primary data from the TIS database to the required format (average, relative indicators) and monitor the degree of openness of several selected determinants such as the number of inhabitants of the city or geographical affiliation.

While realizing the main goal, our research also managed to bring several other secondary results. First of all, we will focus on the quantification of the long-term average rate of openness of a selected group of Slovak cities from 2010 to 2022. The result will be the creation of a gradual ranking of cities according to the long-term average rate of openness. This research task is directly connected to the analysis of long-term development trends of openness for the entire monitored group of cities and individual cities. The last research area of our paper is the identification of the evolution of partial segments of openness. This opened up space for us to analyze partial segments of openness and analyze the weak and strong points of the monitored set of Slovak cities.

The openness rate indicator is designed as a multi-component indicator. Its final value is determined by the level of filling and subsequent awarding of points in secondary/partial segments. These secondary segments of openness are as follows:

I. Access to Information
II. Public participation in decision-making
III. Public procurement and provision of services
IV. Sale and rental of property
V. Budget
VI. Subsidies and grants
VII. Apartments and social facilities
VIII. Personnel policy
IX. Ethics and conflict of interest
X. General enterprises and investments
XI. Territorial planning and construction office

Each of the secondary openness segments was assigned a predetermined number of points. The number of points in the secondary area of the degree of openness is based on the methodological setting of the TIS. The resulting number of points is a modified average during the years 2010-2022. In total, 100 points could be obtained in partial areas, which represents the maximum number of openness points. The following table captures the number of points allocated to the partial research segments of the degree of openness

Table 1: Number of points of partial segments of openness

Openness	Access to Information Policy	Public Participation Policy	Public Procurement Policy	Public Property Sales and Lease Policy	Budgeting and Public Contracts	Grants Policy	Housing and Social Services	Human Resources	Professional Ethics and Conflict of Interests	Land Use Planning and Construction Policy	Municipal Businesses and Investments	**Total**
Points	21	15	11	9	13	7	6	5	5	4	4	**100**

Source: own processing based on TIS

We generalize the detailed analysis of individual partial segments of openness in the following table.

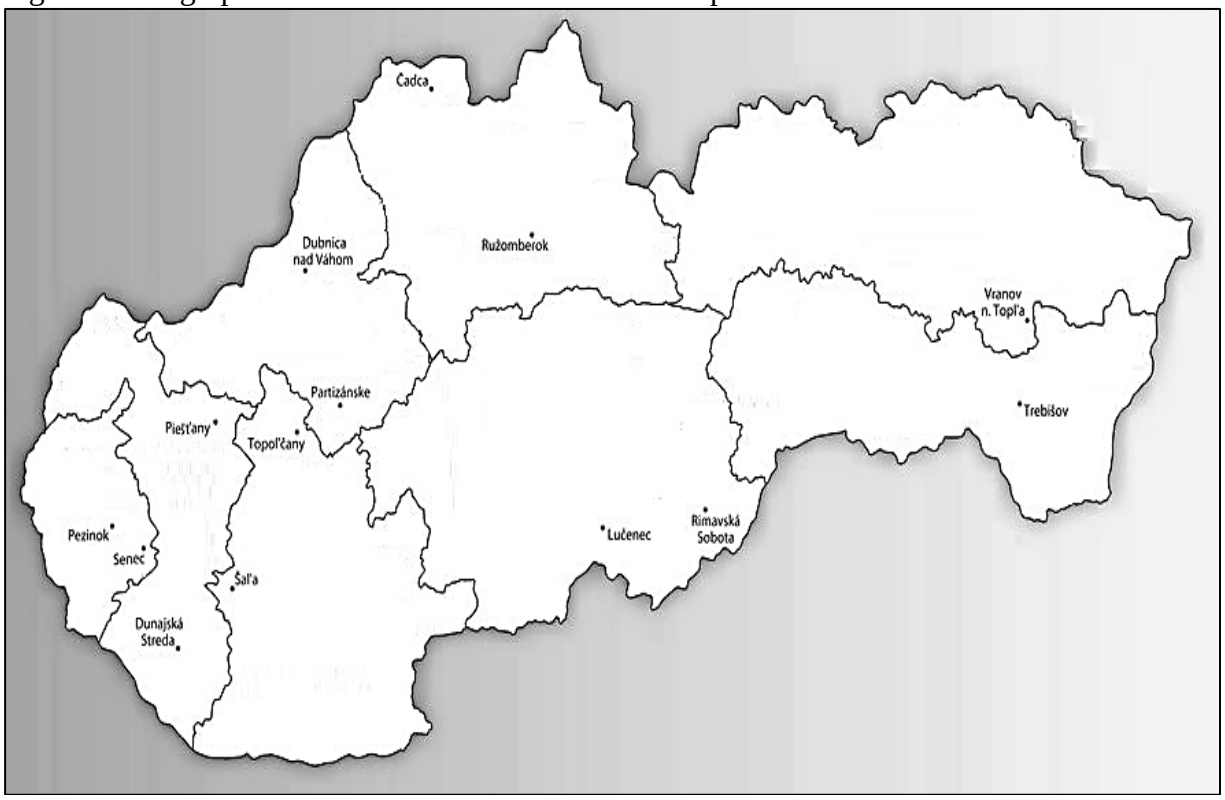
Table 2: Partial segments of the degree of openness

I. Access to Information	II. Public participation in decision-making	III. Public procurement and provision of services	IV. Sale and rental of property	V. Budget	VI. Subsidies and grants
• Provision, publication and archive of council materials • Contacts for MPs • Electronic official board with archive • Information and reports of the chief controller • Publication of the amount of rewards, the work program of the mayor, the number of requests for information, information in a foreign language	• The public and access to the meetings of the Ministry of Health and the City Council • Publication of minutes from meetings of the Ministry of Education, Committees of the Ministry of Education and Culture (also retroactively) • Published archive of walking sessions of Committees of urban districts • Participatory budgeting • Tool/application for public submission of citizens' comments	• Links to EKS and ÚVO • Announcements, results, archive and VO schedule • Average number of applicants in competitions • The number of unfavorable decisions of the ÚVO	• Use of electronic auction (sale, rental) • Publication of information about the results of competitions • Archive of minutes and results of public business competitions • Availability of Property Management Policy	• Verbal description of items • Rules of budgetary measures • Publication and archive of budgets and ZÚ • Quality of publication of contracts, invoices and orders	• Participation of the public in the session during the allocation of subsidies • Existence of rules for resolving the conflict of interests of members of evaluation commissions • Publication of the decision on the allocation of subsidies/grants, specific criteria/rules for their allocation, list of applicants, evaluation tables, archive of decisions • Published information on allocated subsidies in the exclusive decision-making competence of the mayor
VII. Apartments and social facilities	**VIII. Personnel policy**	**IX. Ethics and conflict of interest**	**X. Territorial planning and construction office**	**XI. General enterprises and investments**	
• Public participation in the meeting of authorities/meetings of local government commissions deciding and discussing the allocation of an apartment • Electronic application for a rental apartment, a place in a social services facility • Number of drawn / allocated apartments • Minutes from committee meetings and basic statistics on apartments in the administration of the municipality • Publication of criteria/rules, list of applicants, list of allocated apartments + their continuous updating • Publication of rules for admitting children to nurseries and kindergartens • Publication of the list, information and rules for obtaining a place in a social service facility	• Number of selection procedures / number of filled positions of heads of departments and clerks • Publication of tender notices (location characteristics, date of publication) • Publication and archive of the minutes of the selection procedure (number, names of applicants, names of committee members, summary evaluation, order of applicants) • Professional biography of the mayor (education, previous jobs, membership in corporate bodies)	• Publication of the code of ethics of elected officials and employees • Publication of the minutes of the meetings of the Ministry of Health and Welfare commission for the protection of the public interest, property declarations of the mayor and members of the Ministry of Health and Welfare • The existence of a specific tool beyond the law for reporting unfair practices • Number of malpractice reports	• The possibility to submit an application in the construction procedure also in electronic form • Electronic register/electronic registration of applications • Publication of the spatial plan • Separate evaluation of public comments on the spatial plan	• Publication of annual reports of commercial companies • Linking the websites of organizations with the self-government website • The share of self-government in individual commercial companies • Publication of professional biographies of company managers (education, past jobs, membership in corporate bodies) • Members of the Council of Ministers as managers or members of the board of directors of municipal commercial companies • Sending minutes of low-value orders established by the school	

Source: own processing based on TIS

Public administration in our research is represented by units of local territorial self-government in Slovakia. This is a specific selection of cities with a population of between 20,000 and 30,000 inhabitants, which are geographically representatively distributed on the territory of the Slovak Republic. The selected research set of cities includes 14 cities located in all regions (higher territorial units) of Slovakia. The set of towns includes (according to population) Piešťany, Ružomberok, Lučenec, Pezinok, Topoľčany, Dunajská Streda, Trebišov, Čadca, Dubnica nad Váhom, Rimavská Sobota, Partizánske, Vranov nad Topľou, Šaľa and Senec. The geographical distribution of the research sample in the Slovak Republic is captured in the following figure.

Figure 1: Geographical distribution of the research sample



Source: own processing

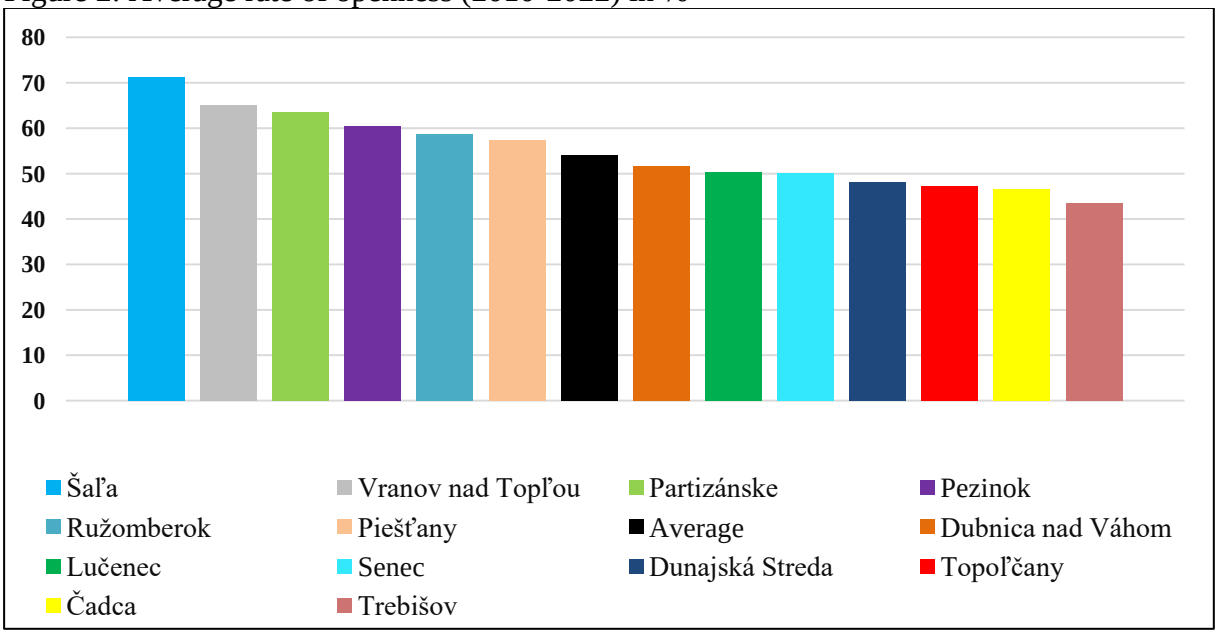
Our research is focused on the long-term state of openness, so we decided to start our research in 2010. The year 2010 is our base year, and we subsequently examined the degree of openness during the years 2012, 2014, 2016, 2018 and 2022.

A simple rule applies to all research. The higher the number of points, the better a particular city performs in the secondary area of openness or, in the case of the overall degree of openness, the higher its overall degree of openness, even in relative form (%). This principle also applies in the reverse plane, which means that a lower number of points in the secondary areas or the overall degree of openness signals their good quality. We will present the resulting level of openness in relative form as a percentage. The degree of openness will therefore capture the percentage value of the sum of points achieved in secondary areas in relation to the maximum number of 100 points.

3 RESULTS AND DISCUSSION

The result of our research is the identification of the degree of openness in public administration units in Slovakia, which are 13 Slovak cities. We focused first on determining the average degree of openness of individual cities from 2010 to 2022 and also determining the overall average degree of openness. Detailed information about the average values of openness of the analyzed group of cities as well as the overall average of the openness rate during the years 2010 - 2022 is provided in the following figure.

Figure 2: Average rate of openness (2010-2022) in %

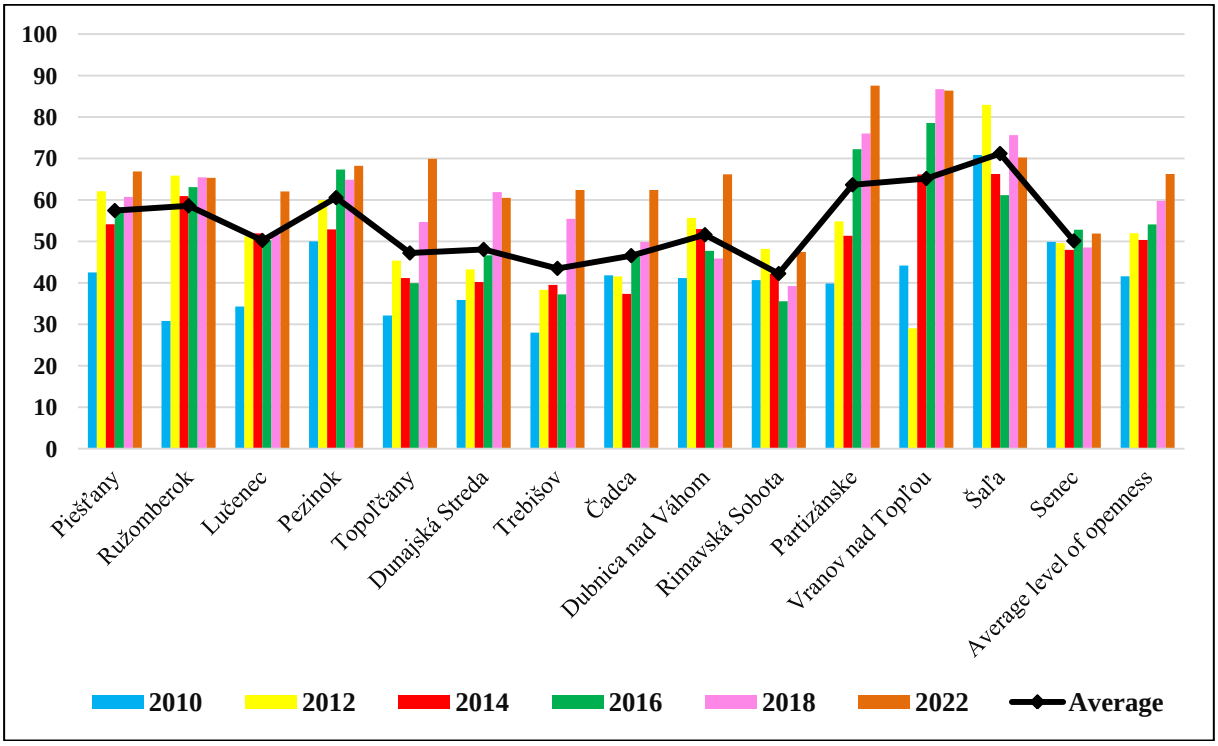


During the monitored period, the city of Šaľa achieved the highest average degree of openness and the total number of points. In the long-term average, Šała showed a degree of openness above 71 points out of a total of 100 possible (more than 71%) and is clearly the most open city in our sample. The cities of Vranov nad Topľou, Partizánske and Pezinok follow with a significant distance, whose average degree of openness was in the interval <65% - 60%>. Overall, we identified the lowest degree of openness and the lowest average number of points in sub-segments of openness in the cities of Topoľčany, Čadca and Trebišov. Especially in the case of Trebišov, it concerns significantly low values of openness, which are approximately 30% lower than in Šaľa or 10% lower than the overall average.

A detailed analysis of the development of the degree of openness is based on capturing the sum of points obtained in sub-areas, the maximum of which could be obtained was 100 points (100%). The average values of individual cities in a given year subsequently create the trajectory of the development of the degree of openness in comparison with other years, which is illustrated in the following figure.

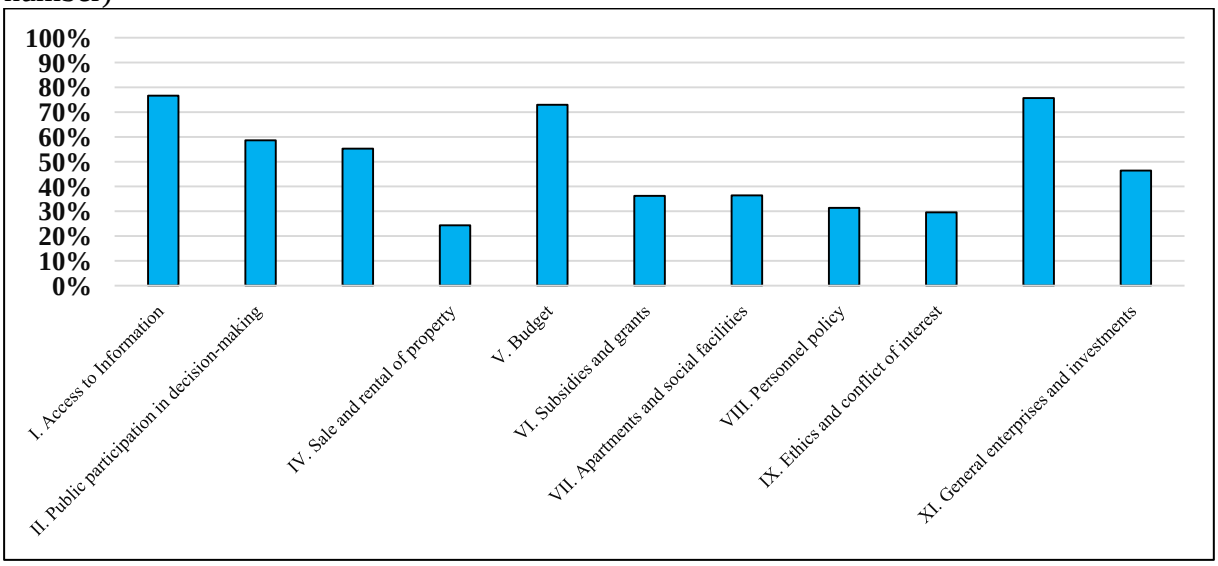
Based on our research, we can conclude that the development of the degree of openness has an overall clear direction. We recorded the lowest average values of openness in the initial years of the research and the highest in the last ones. The only exception is the year 2014, when there was a slight decrease in the rate of openness compared to the previous year, but this did not have a significant impact on the overall development trend. This creates a trajectory for us to permanently increase the degree of openness in these Slovak cities, which we consider a positive trend. In the long run, since 2010, the average openness rate has generally been increasing. The individual partial data for the investigated cities support this trend, even though it happened in several cases (especially in 2014) that their degree of openness decreased compared to the previous year. This situation occurred only exceptionally and had only a minimal impact on the overall development.

Figure 3: Development of the degree of openness of the analyzed group of cities (2010-2022) in %



After identifying the average values of openness and the development trend, we focused on the analysis of individual secondary areas of openness. We focused our research on all eleven partial segments in which openness was measured and for which points were awarded. Our intention was to bring a view of the average gain of points in specific sub-areas of openness, so that we can clearly understand in which areas the cities' results are the best and where they have reserves. The results of the average number of points obtained in a specific partial area of openness are presented in the following graph.

Figure 4: Average number of points awarded in partial areas of openness (% of the maximum number)



From a long-term perspective, the observed group of thirteen Slovak cities achieved approximately half the number of points in each partial area of openness. The partial areas of openness, where the analyzed cities received the highest average number of points assigned to

the given area since 2010, include three components of openness: Access to Information, Budget, Territorial planning and construction office. On average, in the given partial areas, the studied cities obtained more than 70% of the possible number of points. We can mark these areas as areas where cities are the most open and meet the conditions of openness the most. We recorded significantly below average points in the areas of Subsidies and grants, Apartments and social facilities and Personnel policy. In the given assessed areas of openness, the cities achieved only about a third of the possible number of points. We identified the worst results and the lowest average point gains out of the possible number in two areas, which are Ethics and conflict of interest and Sale and rental of property. In these two areas, the cities achieved less than 30% of the possible number of points in the evaluation. Therefore, we can consider these segments of openness as areas in which the most significant progress and improvement can be achieved.

4 CONCLUSION

The main goal of our contribution was to identify the degree of openness of public administration in Slovakia, which is represented by a set of 13 cities. First of all, we will focus on quantifying the long-term average of the degree of openness of a selected group of Slovak cities from 2010 to 2022. Subsequently, we designed our research with a focus on the long-term development trend of openness. The last research area of our contribution is the identification of the development of partial segments of openness, of which there were eleven in total. This opened up space for us to analyze partial segments of openness and analyze the weak and strong points of the monitored set of Slovak cities. Through our research, we found that the resulting average and long-term degree of openness of public administration (13 places) in Slovakia is at an average level, which corresponds to a gain of 54% of the maximum number of points. The city of Šaľa achieved the highest average degree of openness, and we recorded the lowest in the case of Čadca and Trebišov. From a long-term perspective, the overall average degree of openness of the studied set of cities clearly shows a growing trend. The partial areas of openness, where the analyzed cities received the highest average number of points assigned to the given area since 2010, include three components of openness: Access to Information, Budget, Territorial planning and construction office. We identified the lowest average partial point gains in two areas, which are Ethics and conflict of interest and Sale and rental of property.

Acknowledgements

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TO WHICH EXTENT ARE INCOME INEQUALITY AND REGIONAL GROWTH RELATED? THEORY AND EMPIRICAL RESEARCH IN OECD COUNTRIES

Mohammed Ibrahim Gariba, Romana Provazníková

Abstract

Some OECD states owns the top 1% close to 50% of the country's income shares. Many studies have explored how income inequality affects a country, but few have discussed how it might affect that country's economic development. Therefore, the purpose of this study is to examine the extent to which income inequality and regional growth are related in 15 OECD states. A series of regression analysis were performed between the years of 2011 and 2021 using data from OECD. The results of our analysis shows that Gini and GDP Level are negatively related. When GDP Growth is utilised as the dependent variable the relationship is positive. Also, our findings proved that, when GDP Growth is at 5%, Gini is significant, but it loses significance when GDP Level is used. Our findings provide several practical implications for policymakers and contribute to the current debate on the role income inequality plays in sprouting regional growth across OECD countries.

Key words: *Income inequality; GDP growth; Regional growth; income inequality; OECD*

1. INTRODUCTION

In recent years, the issue of income inequality and regional growth has become a matter of growing concern for policymakers and researchers around the world (Winston, 2021). As income inequality continues to increase in many countries, it has become clear that this issue has far-reaching implications for economic growth, social stability, and political stability (Balassa, 2013). At the same time, it is widely recognized that economic growth and development vary widely across regions within countries, leading to the question of how income inequality and regional growth are related (Stiglitz, 2012).

Income inequality refers to the unequal distribution of income within a population. This means that some people earn more than others, and the gap between the highest and lowest earners can be significant. Inequality can be measured in a number of ways, such as the Gini coefficient or the ratio of the income of the top 10% to the income of the bottom 10% (García-Sánchez et al., 2018). High levels of income inequality can have negative consequences for a society, such as reduced social mobility, increased crime, and political instability. Regional growth on the other hand, is the process of economic growth that occurs within a particular geographic region, this can be a city, a state, a province, or a country (Henderson, 2003; McCann, & Van Oort, 2019). Regional growth can be measured in terms of gross domestic product (GDP), which is the total value of goods and services produced within a region over a period of time. High levels of regional growth can lead to increased employment, higher wages, and improved standards of living.

The relationship between income inequality and regional growth is a complex and multi-faceted issue that has been the subject of much debate and research in recent years. While some researchers argue that income inequality can be a barrier to economic growth and development. For example, One possible explanation for this negative relationship is the demand-side effect. When income is concentrated in the hands of a few individuals, there is less demand for goods and services from the rest of the population. This can lead to reduced investment and lower levels of economic growth (Daly, 2005). Another possible explanation is the supply-side effect. High levels of income inequality can lead to a concentration of

resources in a few hands, which can limit the ability of other individuals to access education, credit, and other resources that are necessary for economic growth (Topel, 1997). Others argue that it can actually be a catalyst for growth. In order to fully understand the relationship between these two important issues, it is necessary to examine the available theoretical and empirical research in different countries of the world (Ostry, Berg, & Tsangarides, 2014).

Researchers and decision-makers alike are becoming increasingly interested in how income inequality impacts economic growth. Despite a sizable amount of theoretical and empirical research on this subject, the findings remain ambiguous. Various transmission links of inequality on economic growth have been examined in the literature, some of which are detrimental (socio-political destabilisation, political economy problems, flaws in the credit market, market size, and fertility), while others are beneficial (higher aggregate earnings, investment indiscriminabilities, and rewards promotion) (Narles and Solenge, 2014). According to empirical evidence, variations in estimation techniques, time horizon, data integrity, and sample size significantly influence the estimated magnitude of the impact of income inequality on economic growth (De Durle et al., 2018). To the best of our knowledge, no study explored the link between income inequality and regional growth of OECD countries with emphasis on GDP growth rate and GDP levels. Therefore, to fill this gap, our *paper aim is to provide a theoretical and empirical analysis on the extent to which income inequality and regional growth are related in an OECD context.*

This study is novel as it examines the relationship between income inequality, and regional growth of OECD countries. This provide insights into the unique dynamics and challenges of the OECD in achieving greater development. Additionally, the study uses several data sources to explore this relationship, contributing to the existing literature on these topics. First, we particularly analyse empirically the impact of income inequality, proxied by Gini coefficient, on economic wellbeing. We are able to ascertain the nature of the relationship between all variables on economic development measured by GDP growth and GDP levels. Second, by employing regression analysis, it can be inferred whether income inequality has any type of relationship or effect with the measures of regional growth.

The rest of this paper is organized as follows. The next section provides a brief insight of the literature partinent to the questions which distinguish our paper and helps to explain the contribution of our paper. In section 3, we describe our methodology and data sources. Section 4 outlines the impirical ordinary least square (OLS) results. Section 5 detailed our discussion and Section 6 presents our conclusion and practical implications.

2. THEORITICAL AND EMPERICAL BACKGROUND

There are several theories that explain the relationship between income inequality and regional growth. The relationship between income inequality and regional growth is a complex and multifaceted issue that has been the subject of much research and debate over the years. Theoretically, there are several perspectives on the nature of this relationship, each with its own strengths and weaknesses.

One of the most prominent theoretical frameworks is the Neoclassical growth model, which posits that income inequality has a positive impact on regional growth. This view is based on the idea that a more unequal distribution of income leads to greater incentives for individuals to work hard and invest in their own human capital, thereby increasing productivity and driving economic growth (Capello, 2007). Another theory is the 'endogenous growth theory,' which posits that income inequality can be a catalyst for growth. According to this theory, income inequality leads to more competition, which in turn leads to more innovation and growth (Acs, Audretsch, & Lehmann, 2013). Additionally, the wealthy may invest more in research and development, leading to further economic growth.

Another perspective is the Kuznets curve hypothesis, this theory suggests that in the early stages of economic growth, income inequality may increase before it decreases with continued development (Kuznets, 1955). The reason for this is that as new industries emerge, the wealthy are typically the first to benefit, leading to an increase in income inequality. However, as the economy continues to develop, more opportunities arise for lower-income individuals, leading to a decrease in income inequality. Additionally, there is the post-Keynesian perspective, which argues that income inequality has a negative impact on regional growth (Chick, & Dow, 1988). This view is based on the idea that income inequality leads to a lack of demand for goods and services, as those with lower incomes have less purchasing power, which can result in reduced investment and reduced economic growth.

Finally, there is the Structuralist perspective, which argues that income inequality is a result of the structural imbalances in the economy, such as differences in access to education, credit, and other resources. According to this view, reducing income inequality requires addressing these structural imbalances and promoting more equitable distribution of resources and opportunities (Du, et al. 2022).

Each of these theoretical perspectives provides important insights into the relationship between income inequality and regional growth, and empirical research has sought to test these ideas in different countries and regions around the world. Some studies have found evidence in support of the Neoclassical and Kuznets curve hypotheses, while others have found evidence of a negative relationship between income inequality and regional growth, in line with the Post-Keynesian and Structuralist perspectives. However, the results of these studies can vary greatly depending on the specific country or region being studied, the data and methods used, and the time period considered.

While the theories have been widely debated, several studies have confirmed a similar pattern of income inequality in different countries, including the United States (Deininger and Squire, 1996) and Alvaredo, et al. (2018).

On the one hand, a study by Yigitcanlar et al. (2010) found that income inequality had a positive effect on regional growth in Australia, while a study by Hyytinen, & Toivanen (2011) found no significant relationship between income inequality and regional growth in Europe.

A study by Bai and Wei (2000) found that income inequality had a positive effect on regional growth in China. They found that income inequality led to increased competition, which in turn led to more innovation and growth. Additionally, they found that the wealthy in China invested heavily in research and development, leading to further economic growth. A study by Moretti (2012) found that a 1% increase in income inequality leads to a 1.7% decrease in the probability of an individual pursuing higher education, a 0.8% decrease in the probability of starting a new business, and a 1.4% decrease in the probability of moving to a new city. These factors are critical for regional growth and development, suggesting that income inequality has a negative effect on regional growth.

On the other hand, Babu, Bhaskaran, & Venkatesh (2016) found that income inequality had a negative effect on regional growth in OECD. They found that income inequality led to less investment in human capital and lower levels of social capital, which are both critical for economic growth. Oded, G. (2011) in their study found that income inequality had a negative effect on regional growth . They found that higher levels of income inequality led to lower levels of investment in physical and human capital. Bakuni (2019) discovers no connection between growth and income disparity. He discovers a negative relationship for poor countries and a strong relationship for rich countries after splitting his sample into rich and poor nations. He noticed that the Gini coefficient showed a favourable correlation with GDP growth in nations with high beginning GDP per capita levels. These findings can support distributional strategies in underdeveloped nations, while redistribution may compromise economic progress in developed nations.

Bencarl, (2013) proposes a small bumped-shaped relationship between inequality and economic development, contending that the relationship is in fact non-linear. He contends that while moderate inequality raises productivity, excessive inequality promotes rent-seeking and stunts growth. Growing inequality will boost economic growth when it is already low. However, inequality will start to hurt growth after a certain point. Using data for 48 U.S. states from 1960 to 2017, Hasann & Isrea (2011) similarly discover a non-linear, hump-shaped link between inequality and growth. According to their findings, growth can benefit from constant inequality, but it can suffer from both decreased inequality and significant increases.

In addition to these country-specific studies, there have also been several cross-country studies that have investigated the relationship between income inequality and regional growth. For example, a study by Alesina and Rodrik (1994) found that income inequality was positively related to economic growth in a sample of high-income countries, while a study by Persson and Tabellini (1994) found no significant relationship between these two variables in a sample of low- and middle-income countries. A study by Forbes (2000) found that income inequality was positively related to economic growth in a sample of countries with high levels of human capital, but negatively related to growth in countries with low levels of human capital. Folarn, (2017), there is a link between growth in the short- and medium-term and income inequality. This implies that there can be a trade-off between lowering inequality and boosting a nation's economic rate. According to Folarn, some of the earlier research that has discovered a negative association is suspect due to econometric issues like sampling error and excluded variable bias. Folarn' research concentrates on a closer relationship within specific nations, and she employs panel estimate to allow for the control of time-invariant nation-specific effects.

3. DATA AND METHOD

3.1 Description of Data

In this research, we carried out an empirical analysis on the extent to which income inequality and regional growth are related in 15 OECD countries (2011-2021). In order to do this, I compiled secondary data from OECD reports covering a 10-year period, precisely from the Central Banks of Austria, Belgium, Canada, Denmark, France, Germany, Greece, Netherlands, Norway, Portugal, Spain, Sweden, Japan, United Kingdom, and USA. Furthermore, this section also introduces the empirical model, the variables, and the econometric approach.

Table 1: Description of Variables

Variables	Description	Sources
GDP Growth Rate (Dependent in Model 1)	is the percentage increase or decrease of GDP from the previous measurement cycle.	Bai et al., (2020).
GDP Level (Dependent in Model 2)	This is expressed through the total amount of all goods and services expressed in GDP per capita of countries (in USD).	Clark,Pinkovskiy & Sala-i-Martin, (2017)
Explanatory variables		
Gini coefficients	The measure of income distribution across the population.	Castells-Quintana et al. (2019).
Average Income	This is expressed as the logged mean household income.	Milanovic (2006)
Total Population	This is expressed as the logged total population of the OECD countries	Silber (2012).
Innovation	This measures the amount of utility patents granted per 100,000 inhabitants in the OECD countries.	Lee &Lee (2018)

High School	This is measured as a percentage of the total population, between the ages of 18 and 24, with anything less than a high school diploma.	Silber (2012).
Human Capital	measured by educational attainment, is related to income distribution.	Lee &Lee (2018)
Crime Rates	This measures the violent crime rates per 100,000 inhabitants in 15 OECD countries	Milanovic (2006)

3.2 Empirical Model *and Method*

The underlying models were developed according to the theoretical framework and prior research, and were subsequently estimated using an OLS regression. For the model specification, this paper involved analyzing two models employing a pooled data in an ordinary least squares regression (OLS) (Martinez- Vázquez et al., 2017). This is mathematically defined as:

$y = \beta o + \beta ix + \varepsilon i$

(1)

where:

Y = the dependent variable

'βo'= the dependent value that is the y intercept.

'βi'= slope coefficient of each of the explanatory variables.

'x' = represents the value of the independent variable or the input variable.

'εi'= represents the error term.

We use the pooled panel data in an OLS regression model to examine variations in sustainable development contributions based on changes in predictor variables. The model assumes that the dependent variables are a function of the independent variables and the error term is not normally distributed and is indicated by (εi). Hence, a nonlinear relation and function of these associations are mathematically given as follows for each of the models:

GDP.growthy = βiG + lgβ2i + lgβ3pop + lgβ4p + lgβ5HS + lgβ6HC + lgβ7CR + εi (2)

GDP.levelx = βiG + lgβ2i + lgβ3pop + lgβ4p + lgβ5HS + lgβ6HC + lgβ7CR + εi (3)

Where;

$Y = GDP\ Growth, HS = High\ School, HC = Human\ Capital$

X = GDP Level, $I = Average\ Income, Pop = Total\ Population$

$G = Gini\ Index, CR = Crime\ Rates, P = Innovation$

4. EMPIRICAL VERIFICATION AND RESULTS

4.1 Model Verification

In the first phase, we performed a confirmatory factor analysis (CFA) to verify the Model's validity. Table 2 provides results on the variance inflation factor (VIF), R-squared, and F-statistic used to test the collinearity of the formative indicators and the construct reliability and validity. The VIF results implied that collinearity was not a concern in our data since each indicator's VIF value should be less than 5 (VIF values were lower than the recommended value of 5; Hair et al., 2011), and therefore a comfortable validity was established. The estimated model values were as follows: the number of observations (142), R-squared averaged 56%, and 46%, respectively, and a significant F-statistic. In general, we concluded that the validity of the measurement model was acceptable.

4.2 Results

All regression equations are significant at a 1% level according to the F-statistics. Tables 2 and 3 provides a summary of the regressions' findings. Gini and GDP Growth are examined in column 1. The model's R2 is corrected to 0.002. With a beta coefficient of 0.246, Gini increases by 0.246 units for every unit higher in GDP growth. However, when performing a straightforward bivariate study, Gini is insignificant with GDP Growth. As a result, when all other independent factors are eliminated, we cannot conclude that there is a correlation between the two variables.

Column 2 looks at GDP growth with all independent factors included. The model's modified R2 value is 0.076. Gini is significant at the 5% level and is positive, showing that inequality increases along with rising GDP per capita growth. This is consistent with what was anticipated. Despite being tiny, the High School variable has a positive sign that defies theory. In this instance, the model suggests the inverse anticipation: growth will precede and rise along with the rise in the proportion of people with less than a high school diploma. The Human Capital variable, which has a relatively high VIF value of 3.52 and may cause multicollinearity problems in the 1st equation.

Due to Human Capital's significant correlation with other factors and high VIF value, Column 3 evaluates GDP Growth with all independent variables except Human Capital. The model's modified R2 value is 0.038. The dependent variable causes Gini to lose its significance while still being positive. This means that we can no longer find a statistically significant linear relationship between inequality and increase in GDP per capita. Innovation is now significant at a 10% level rather than a 1% level, according to research. High school, despite of expectations, becomes very important and keeps showing a good association with progress.

Those independent variables that have been significant in the bivariate analysis are included in Column 4's analysis of GDP growth. The model's modified R2 value is 0.078. This adjusted R2 is larger than in equation 1, which may mean that some of the factors do not significantly increase the explanatory power of the regression. The Gini Index is significantly significant and positively correlated with GDP growth in column 3. Additionally, relevant and showing favourable connections with our growth variable are Average Income and Innovation. In this instance, Human Capital stands out as an exception because, despite its importance, there appears to be a negative correlation between growth and it, which runs counter to the above theories and conceptions.

Column 5 completely avoids multicollinearity by excluding both Human Capital and Innovation. These two factors are related since highly educated individuals are thought to be more innovative. Additionally, they are related to each other in terms of High School and Average Income. No variables in the regression had a high correlation with one another because they were excluded from the model. Only High School exhibits statistical significance in this equation for explaining growth.

Table 2: *Results of the Regression Analysis for GDP Growth Rate in the 15 OECD Countries*

Variables	**Col.(1)**	**Col.(2)**	**Col.(3)**	**Col.(4)**	**Col.(5)**	**VIF**
Constant	-0.081 (-0.97)	-1.643*** (-3.80)	-0.868** (-2.24)	-0.913** (-2.42)	-0.978* (-2.77)	1.15
Gini	0.246 (1.32)	0.508** (2.46)	0.240 (1.22)	0.507*** (-0.42)	0.242 (1.23)	1.10
Average income	0.002 (0.73)	0.136*** (3.44)	0.069* (1.92)	0.149*** (4.23)	0.079 (2.40)	1.35
Population	0.081 (-0.97)	-0.001 (-0.14)	-0.003 (-0.57)	-0.081 (-0.97)	-0.002 (-0.41)	1.43
Innovation	0.342 (1.23)	0.011** (2.12)	0.004 (0.70)	0.013** (2.53)	-0.070 (-0.97)	2.06

High school	0.070 (-0.97)	0.073 (0.73)	0.268*** (0.84)	0.080 (0.91)	0.247* (3.07)	1.11
Human Capital	0.242 (1.23)	-0.396*** (-3.71)	0.051 (0.79)	-0.422*** (-0.97)	-0.081 (-0.97)	2.52
Crime Rtaes	0.070 (-0.97)	0.000 (0.45)	0.000 (0.84)	-0.061 (-0.67)	0.002 (0.73)	1.15
R-Squared					56	

Note: t-values within brackets, ***Significant at 1% level, ** Significant at 5% level., * Significant at 1% level. a, variable show conflicting sign.

Regarding our analysis for module 2 which relates to the GDP levels in table 3, we start by examining the GDP levels with Gini in column 1. The model has a beta coefficient of 1.441 and an adjusted R* of 0.013. This suggests that an increase in GDP Level of 1 unit will result in an increase in Gini of 1.441 units. Gini is significant at the 5% level in this straightforward bivariate analysis. In light of this, we can assume that, after removing all other independent variables, there is a strong link between GDP Level and Gini.

Column 2 investigates GDP Level taking into account all independent variables; the adjusted R* for the model is 0.452. Gini exhibits an unfavourable but little link with growth. Therefore, I was unable to demonstrate any linear relationship between inequality and a metro's GDP per capita level. High School and crime rates are also unimportant. Both of which defy the theoretical framework, with the former showing a negative association and the latter a positive relationship. Human Capital and Average Income are the only factors that are significant at a 1% level; at higher levels, Innovation and Population are significant. Since almost all of the VIF values are below 2.0, it might be assumed that multicollinearity does not present. There are some factors that show very strong relationships with one another, as noted in our correlation analysis. Human Capital is one of the variables with the strongest correlations, which may be skewing our findings.

Due to strong relationships between other variables, Human Capital is not included in Column 3's analysis of GDP Level. The model's modified R* value is 0.424. The only unimportant factors are Gini and crime rates, despite the fact that Gini now exhibits a favourable correlation with growth. When Human Capital is taken out of the equation, innovation becomes very important at the 1% level. High school is important at the 10% level and has a negative link with growth. When human capital is excluded, VIF values drop a tiny bit, lowering the likelihood of multicollinearity.

Column 4 evaluates GDP Level while taking into account all independent variables, including Gini, that were significant in the bivariate analysis. Although Gini is negligible, it still has a negative relationship with GDP level (see Column 1). This suggests that a metro's GDP per capita is inversely correlated with how unequal it is. I could not, however, demonstrate the existence of any relationship between inequality and GDP level because of the absence of statistical significance. All other variables are substantial and appear to exhibit the same patterns of correlation as Column 1.

Human capital and creativity are not included in Column 5 because of their strong correlation. Additionally, there is a strong association between them and High School and Average Income. With GDP per capita, Gini is positive, but it continues to be insignificant as it has been during all of the regressions. Inequality does not appear to be a statistically significant factor in explaining a metro's level of GDP per capita, according to the regression results. Population and Average Income both have very favourable and significant effects. Our anticipated outcomes in Column 3. are supported by the highly significant and negative High School variable.

Table 3: *Results of the Regression Analysis for GDP Levels in the 15 OECD Countries*

Variables	Col.(1)	Col.(2)	Col.(3)	Col.(4)	Col.(5)	VIF
Constant	9.939 (37.03)	4.096*** (3.71)	1.910* (1.93)	3.630*** (3.54)	0.435 (0.47)	1.05
Gini	1.441** (2.40)	-0.253 (-0.48)	0.504 (1.00)	-0.016 (-0.03)	0.534 (1.03)	1.10
Average income	0.002 (0.73)	0.529*** (5.23)	0.720*** (7.00)	0.564*** (5.98)	0.854*** (9.91)	1.35
Population	0.081 (-0.97)	0.026** (1.98)	0.032** (2.43)	0.034** (2.89)	0.044*** (3.36)	1.43
Innovation	0.342 (1.23)	0.025* (1.83)	0.470*** (3.67)	0.016* (1.25)	0.070 (0.97)	2.06
High school	0.070 (-0.97)	0.125 (0.49)	-0.426* (-1.94)	0.080 (0.91)	-0.704*** (-3.34)	1.11
Human Capital	-0.081 (-0.97)	1.117*** (4.11)	0.001 (0.78)	0.978*** (4.55)	0.242 (1.23)	2.52
Crime Rtaes	0.070 (-0.97)	0.000 (1.24)	0.000 (0.78)	0.061 (0.67)	0.002 (0.47)	1.15
R-Squared					46	

Note: t-values within brackets, ***Significant at 1% level, ** Significant at 5% level., * Significant at 1% level. a, variable show conflicting sign.

5. DISCUSSION

We begin our discussion session by first examining the potential effect of our dependent variable GDP growth rate. The correlation between growth and Gini coefficient is positive when GDP Growth is used as the dependent variable. However, in the regression model that excludes human capital, the Gini coefficient is not significant (Column 2, Table 2). Because of the potential for multicollinearity caused by the addition of human capital, the outcomes should be evaluated with care.

Previous empirical research supports the hypothesis that inequality and short-term growth are positively correlated. The positive relationship may be due to more inequality in larger cities (Ezekiah, 2014). Cities tend to draw an excessive percentage of households from both the bottom and top of the income distribution as they expand, which exacerbates inequality (Ezekiah, 2014). A megastar effect can also be seen, as described by Bentley et al. (2014), when a difficult selection process tends to unduly reward the most capable individuals. Meanwhile, major cities frequently see faster growth as they reap the benefits of agglomeration and draw a higher proportion of human capital (OECD 2015). The high-skilled population required to foster growth in today's knowledge-based society may, to a larger extent, have been able to draw residents to metro areas that place a high value on education and training. This is also referred to as the skill premium, which widens the income gap (Bentley, 2014).

According to the idea that claims large cities expand faster, population growth and economic growth are related. Population, however, is an insignificant variable in the regression result that displays a sign that is inconsistent with theory. Despite being important in the two equations where it is included, the sign of human capital is likewise at odds with the theoretical framework. Throughout the regressions, Average Income exhibits a positive sign and is significant, suggesting that metros with higher average family incomes enjoyed more economic growth over the ten years' period. The residents of the metro may be more productive as a result of their higher salaries.

The prospect that the correlation is non-linear, as proposed by Bencarl, (2013) is yet another justification for the positive correlation between inequality and growth. But if inequality keeps increasing past a certain point, the relationship might change as a result of an uptick in actions like excessive tenancy. According to some researchers, inequality tends to rise when a place

experiences technological advancement (Gealz & Tolu, 1997). Since new technology boosts productivity and hence aids in the expansion of the economy, technological advancement could be one of the grounds for a positive relationship. Cities that have experienced technical advancement may see both a rise in inequality and economic prosperity.

On the otherhand, our results shows that Gini has a negative relationship with GDP Level when I ran a regression analysis including all variables. When GDP Growth is utilised as the dependent variable, when the correlation is positive, this defies the analysis. Whenever GDP Growth is 5%, Gini is also significant, but it loses significance when GDP Level is used.

The Gini coefficient stays negligible in all regression analyses. This shows that inequality doesn't really account for the GDP per capita of a metro area. Instead, Average Income and Human Capital appear to be the main determinants of how wealthy a metro is. In the equations, both variables are significant and positive at the 1% level when included. The relationship with average income may seem obvious; if a metro's households had a higher mean income, one would anticipate that GDP per capita would also be greater. However, building up human capital is crucial for expanding an economy (Moremi, 2004). Population and innovation are both significant and positively skewed in the regression, suggesting that, on average, cities with higher populations and more patents per capita are wealthier. Despite the fact that Gini is not statistically significant, it is useful to think about why Gini has a negative correlation with the dependent variable

According to Syerian, (2012), there is a "poverty problem" that results from income inequality, in which the gap between opportunities and outcomes is correlated. Some people are less able or inclined to invest as much as someone from a better income family if they were born in low income communities. Due to this, better possibilities, including the opportunity for higher education or perhaps to live in healthier and wealthier communities, are unable to be provided. This, according to Syerian, (2012), has a detrimental impact on future economic growth, especially if "rent seeking" is apparent. The poor become stagnant or "trapped" in a cycle of poverty when the wealthy focus more on expanding their own wealth than on generating new wealth.

According to Cesera, (2014) who studied income disparity and economic growth over a 30-year period, low-income households engage less in their skills and education since they must spend the money they do have just to exist. This justification could account for the negative correlation between the Gini coefficient and the GDP per capita of a metro area. The Kunel's hypothesis would similarly predict a negative correlation because it assumes that inequality will decline as the economy develops.

6. CONCLUSION

In conclusion, our research has empirically analyzed the extent to which income inequality and regional growth are related, by using data from 15 OECD countries. the relationship between income inequality and regional growth is a complex issue, with several theoretical perspectives providing different insights. The Neoclassical growth model posits that income inequality has a positive impact on regional growth, while the endogenous growth theory and the Kuznets curve hypothesis suggest that income inequality can be a catalyst for growth. In contrast, the post-Keynesian perspective argues that income inequality has a negative impact on regional growth, and the Structuralist perspective suggests that addressing structural imbalances is crucial for reducing income inequality (George, McGahan, & Prabhu, 2012). Empirical research has provided mixed results, with evidence for different perspectives varying by country and time period. Nonetheless, studies have confirmed a similar pattern of income inequality in different countries (Ostry, Berg, & Tsangarides, 2014). Based on the empirical findings, the relationship between income inequality and regional growth is complex and varies depending on factors such as country, level of development, and human capital (Capello, 2007).

Our empirical findings suggest that, in the short run, there is a trade-off between inequality and regional growth. But the connection isn't strong and stable enough to support political action. When human capital is omitted from the regression equation, the Gini coefficient becomes less significant. Given the strong relationships that human capital has with other explanatory variables, this may be the case. Moreover, Gini never demonstrates statistical significance when the baseline GDP level from 2011 is used as the dependent variable. When Human Capital is eliminated, Gini likewise changes from a negative to a positive sign in the regression equation.

As a result, among the 15 OECD nations, the degree of equality or lack thereof does not appear to be a significant explanatory factor for regional economic growth. Other factors, including average income and human capital, seem to be more crucial for the initial GDP level because they continue to be significant throughout the regression.

It is also crucial to keep in mind that variables like technological advancement, an unequal distribution of skill sets, and country size could both inspire inequality and boost growth. Considerations include extending the study over more time periods and examining changes in inequality may help to emphasise the impact on growth more clearly. Some studies found a positive relationship between income inequality and regional growth, particularly in countries like China and Korea, where income inequality led to increased competition and innovation. Other studies found a negative relationship, with income inequality leading to decreased investment in human and social capital, lower levels of education and entrepreneurship, and reduced mobility (Palei, 2015). There is also evidence of a non-linear relationship, with moderate inequality potentially boosting productivity and growth, but excessive inequality promoting rent-seeking and stunting growth.

In Sum, while the relationship between income inequality and regional growth is not yet fully understood, it is clear that this is an important area of research that deserves further attention. By continuing to study the relationship between these two variables, economists and policymakers can gain a better understanding of how to promote economic growth while reducing income inequality (Berg, & Ostry, 2017). This, in turn, can help to improve the overall standard of living and well-being of individuals and communities throughout the world.

Practical and emperical implications

The practical and empirical implications of our research on income inequality and regional growth are significant and have wide-ranging implications for policymakers, businesses, and communities. On a practical level, understanding the link between income inequality and regional growth can help policymakers design and implement policies aimed at promoting sustainable and equitable economic growth (Akenji, 2014). For example, our results showed that income inequality is a significant player to regional growth. Studies that found the opposite will help policymakers choose to implement policies aimed at reducing income inequality, such as progressive taxation or investment in education and training programs for low-income individuals (Babu, Bhaskaran, & Venkatesh 2016). Also, addressing structural imbalances and promoting more equitable distribution of resources and opportunities could be key in reducing income inequality and fostering sustainable regional growth.

On an empirical level, research on the relationship between income inequality and regional growth provided valuable insights into the drivers of economic growth and the factors that contribute to economic inequality (Hussain et al. 2023). This information can be used to inform investment decisions, policymaking, and overall economic development strategies. Additionally, empirical research on the relationship between income inequality and regional growth previously highlighted provide a better understanding of the complex interactions between different factors that contribute to economic growth and inequality (Balassa, 2013). This understanding can be used to develop more effective and targeted policy interventions aimed at promoting sustainable and equitable economic growth.

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CROSS-BORDER COOPERATION IN THEORY AND PRACTICE

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Abstract
Cross-border cooperation is one of the cooperation tools between municipalities, cities, or regions. Any partnership of cross-border cooperation must show mutual benefits for all parties in order to function successfully. Cross-border cooperation does not have to work only within partner cities but can also take several other forms. In the article, we present the theoretical concept of cross-border cooperation and a practical example of the functioning of cross-border cooperation between the Slovak Republic and the Czech Republic. Especially countries with many small municipalities should use similar opportunities to improve the quality of public services. The program period of cooperation in 2014-2020 is an example of this, as it brought several tangible results.

Key words: *cross-border, cooperation, towns, municipalities, regions*

1 INTRODUCTION

A partnership of municipalities is the most common form of cross-border cooperation between municipalities. It is based on a long-term collaboration of municipalities, consisting of regular meetings of representatives of cities and their citizens, and supported mainly by an official document, e.g., a partnership agreement or a resolution of the city or municipality authorities. The phenomenon of twinning municipalities began to spread in Western Europe in the period after the Second World War. The main idea was the restoration of the peaceful coexistence of the peoples of Europe. Mutual knowledge and cooperation were supposed to prevent the recurrence of the horrors of war. The significant development of the idea of twin cities occurred after the fall of the Iron Curtain in 1989, when municipalities and cities called the Eastern Bloc could start entering international cooperation more easily. The partnership between municipalities was created not only with countries within Europe but all over the world.

Today, the EU actively supports the creation of these partnerships. There are several funds from which the projects of partner cities can be financed, which will be discussed in more detail below. Partnership cooperation between municipalities and cities, sometimes called town-twinning, is a way to raise awareness of the European Union and create relationships and networks between European cities and their residents. Partner municipalities can communicate with each other, share problems and exchange opinions. The main starting points for establishing partnership cooperation are the creation of a shared vision and the set goals that will help achieve common interests. The cooperation of municipalities can focus on the entire spectrum of topics, such as rural development, tourism development, technological development, local services, human resources development, environment, and others. However, for partnership cooperation to have a perspective, the involvement of the village's residents is necessary. It is, therefore, desirable to support the active participation of citizens in the events in the town and ensure good information about upcoming projects (De Sousa, 2012).

2 TYPES AND DEVELOPMENT OF CROSS-BORDER COOPERATION

The first unofficial type of inter-municipal cooperation arose in Europe in the first half of the 19th century. Gradually, the transition to official forms of the partnership began. However, greater interest in this type of cooperation arose only after the Second World War, when it

was necessary to strengthen mutual international relations. Establishing "twinning" cooperation started in Western Europe, mainly between France and Germany. Several multinational organizations were also created to support foreign inter-municipal partnerships. One of the most important is the Council of Municipalities and Regions, established in 1951 and still serves as a forum for local and regional self-governments. We can mention United Towns Organizations, the International Union of Local Authorities, and the Congress of Local and Regional Authorities of the Council of Europe. They all saw twinning as a tool for creating an economically and politically united Europe. After the fall of the Iron Curtain, efforts began to develop new partnerships between the cities of EU member states and Central and Eastern European countries. Obviously, the European Union would expand to include other countries, and this form of cross-border cooperation was supposed to contribute to overcoming the gap created during the Cold War and thus facilitate the entry and integration of new countries into the EU (Gerfert, 2009).

The emergence of cross-border structures in Central and Eastern Europe took place differently and under different conditions than in Western Europe. In Western Europe, these structures arose spontaneously and only when their significant expansion required specific international regulations, such as The Madrid Convention of 1980. On the other hand, the European Union and its programs supporting cross-border cooperation stimulated the emergence of newer cross-border structures in Central and Eastern Europe. Western European designs were created based on bilateral interregional agreements, while Central and Eastern European forms were created based on private law acts. Further differences are evident in the function of cross-border structures (Martinos-Mahnkopf, 1999). In Western Europe, from the beginning, attention was focused on a whole range of areas, from cultural projects to environmental protection to a standard transport system or the labor market. In contrast, the structures of Central and Eastern Europe had much more modest ambitions and focused mainly on cultural and educational programs. However, the situation has stabilized, and cross-border cooperation occurs here in all possible areas. Cross-border cooperation can take various forms, with several ways of dividing them. One of them can be, for example, dividing by functions. Dočkal, according to this criterion, defines:

- cross-border cooperation within cross-border structures,
- cross-border cooperation of state authorities and entities derived from the state,
- cross-border cooperation of municipalities and their bodies (Dočkal, 2005).

Cross-border structures are formed by connecting two border regions into one transnational entity. These are forms such as Euroregions, working communities, etc. Cross-border interaction of this form is primarily a voluntary connection of socioeconomic, cultural, and other areas of two or more relatively independent entities. Cross-border cooperation of state authorities occurs in cases where it is more efficient and effective for the state to cooperate with the public authority of a neighboring state. The interaction of the state authorities of two or more conditions can take the form of simple cooperation (e.g., joint training, exercises). However, it can also involve situations where the state allows foreign public authorities to interfere in its territory and exercise its power there. This happens in specific cases when vital public interests are at risk (e.g., organized crime, cross-border crime, illegal migration, natural disasters, etc.). (Nižňanský, Hamalová, 2013). The last form is the cross-border cooperation of municipalities. This is the cooperation of two or more entities of self-government (municipality or region), the goal of which is to jointly solve problems and establish friendly relations. Various city partnerships (sometimes also called town-twinning) also fall under this form. Another example of the division of forms of cross-border cooperation can be the division according to Dočkal, who distinguishes the following four forms of institutionalized cross-border cooperation for Slovakia:

- intergovernmental agreements on cross-border cooperation,

- cooperation within the Euroregions,
- cooperation of self-governing and state territorial authorities,
- cooperation of chambers of commerce (Dočkal, 2005).

The authors Poštolka and Branda then state that there are several degrees of forms of cross-border cooperation:

- informal cooperation,
- signed cooperation agreements,
- joint entities (structures) without legal personality,
- joint subjects with legal subjectivity (Poštelka, Branda, 2009).

3 CITY PARTNERSHIP AND PHARE AND INTERREG PROGRAMS AND EUROPE FOR CITIZENS

Town twinning is an internationally used term to denote the partnership of cities. In this case, the association represents a long-term commitment between the partner municipalities, which will last even after changes in the leadership of the participating municipalities. It is, therefore, not a short-term partnership to implement a particular project. A long-term partnership offers various opportunities for joint activities that strengthen friendship and mutual understanding. Friendship, cooperation, and mutual understanding between European nations are considered the fundamental values of partnership. The phenomenon of town twinning was also accelerated thanks to the action of the EU, which finances emerging partner cities intending to create a dynamic, multicultural, and sustainable network of cities and municipalities. The international partnership of municipalities brings many benefits to the parties involved, which can be divided into the following three categories (De Sousa 2012).

Advantages of local authorities

A better exchange of information and experience should ensure better problem-solving and service offerings. These can also increase the quality and efficiency of municipal services and help solve some problems. A better overview (on a global and European scale) is required so that cooperation works according to European and international standards following the requirements of the world market. Another area is access to European funds - thanks to the partnership relationship, municipalities can better access EU funds from some programs. Equally important is the training and development of municipal administration employees, where the international partnership offers many opportunities to develop the skills of public administration employees in several different positions, from managerial skills to practical administrative activities.

Benefits of bringing communities together

Promoting tolerance and understanding - town twinning brings together people from different countries and cultures, which helps broaden residents' horizons and encourages tolerance and respect for others. It thus contributes to combating racism and xenophobia. In the area of strengthening local cooperation, it can also lead to understanding between locals because twinning activities often require the participation of different groups of residents of a given municipality. The creation of partnership cities can also lead to better opportunities for young people, as partnership cooperation offers young people the chance to travel abroad and gain work experience thanks to establishing new contacts or exchange stays. The public benefits also consist in supporting the local standard of living - thanks to the exchange of professional knowledge and experience from areas such as unemployment, civic amenities, or drug addiction. Improvements can be made in these areas, which can make a real difference in the lives of residents.

General overview and knowledge acquisition also mean being part of partnership cooperation, which can support the general overview of the local and thus trigger debates on major global topics such as poverty or environmental care. Furthermore, it can also help to understand

social, political, and economic affairs from other parts of the world. The field of education is mainly about improving the lifelong education of the inhabitants, either by formal or informal means. Communication and management skills can be strengthened by organizing joint activities. The creation of twin cities also promotes European identity. Partner municipalities have a symbolic value in the sense that they represent the union of European society. And last but not least, the possibility of trade deepens as an international partnership allows small and large public and private sector companies to explore their potential opportunities in joint business or the exchange of technical knowledge (Vencálek, 2013).

In 1994, the Phare CBC (Cross-Border Cooperation Initiative) program was created as part of the Phare4 Initiative. This program was designed to finance cross-border activities at the external borders of the EU, which were supported by the Interreg initiative on the part of the member countries. The Slovak-Czech border region only received programs to help cross-border cooperation in 1999. This program helped a wide range of activities aimed primarily at improving infrastructure, environmental protection, development of agriculture and rural areas, support of business cooperation, development of enterprises, support of cooperation in the health sector, improvement of communication and information transfer, tourism development, employment activities, etc. Interreg is an initiative of European territorial cooperation operating in the EU since 1990 (Vencálek, 2013). In the current program period 2021-2027, the sixth version of this initiative is underway, which is divided into three basic areas of scope, namely:

- cross-border cooperation
- transnational cooperation
- interregional cooperation.

Thus, programs called Interreg V-A are aimed at cross-border cooperation. With the accession to the European Union, the support provided by Phare CBC was replaced by this. Therefore, The main goal is to support regional and local projects with cross-border impacts. It is, therefore, suitable primarily for local actors, which can be, e.g., public administration bodies and their unions and associations, various types of educational institutions, associations and associations operating in the field of tourism, churches, religious associations, non-state non-profit organizations, etc. In the remaining period until 2020, 5 separate programs supported border areas according to individual neighboring countries. The following operational programs were concerned:

- Interreg V-A Slovakia - Poland,
- Interreg V-A Slovak Republic – Czech Republic,
- Interreg V-A Austria - Czech Republic (Interreg, 2020).

For the integration of Europe and citizens' involvement in the municipality's public life, activities within the partnership cooperation of municipalities are of great importance. On the initiative of the European Parliament, the first partnership program between cities was created in 1989, which financially supported partnership activities of such city cooperation. In 2004, this "town-twinning" program became part of the broader program to help active European citizenship. The continuation of this program was the Citizens for Europe program from 2007-2013; in the other period, its follow-up program Europe for Citizens 2014-2020, was running. It is a communitarian program administered by the European Commission; the main goal is to strengthen active European citizenship, focusing on deepening common European values and democracy. Compared to other EU programs, a significant positive of this program is that it is also available to small towns and municipalities, primarily due to its administrative simplicity and financial availability (Interreg. 2020). The program has two types of supported areas:

- Area 1: European historical awareness
- Area 2: Democratic engagement and active citizenship

Area 1 includes projects to raise awareness of the shared history of EU citizens, which promote tolerance and mutual understanding and reflect the role of EU membership and the Europeanization process. Area 2 includes projects supporting citizens' involvement in public life and discussing European topics. Projects supported within the area can be further divided into three areas:

Partnership of cities:

This circle aims to connect a wide range of citizens from partner cities and support their engagement and participation in political processes. Both formal and informal partnerships of towns and municipalities are included here. Eligible applicants are cities/municipalities or non-profit organizations with legal jurisdiction in one of the program countries. Municipalities or organizations from at least two countries must be involved. Financial support of up to EUR 25,000 can be obtained. At least 25 participants from abroad must participate in the project, which can last 21 days.

Networks of cities:

The goal is to create long-term functioning networks of cities, regions, and associations, which will cooperate for a long time and develop similarly thematically focused activities to form a basis for future initiatives and actions. Applicants can be cities/municipalities or their partner committees, non-profit organizations representing local authorities, or other types of local and regional authorities with legal jurisdiction in one of the program countries. The maximum amount of the grant is EUR 150,000. The implemented project can take up to 24 months (Interreg, 2020). Civil society projects support international cooperation with a focus on connecting the activities of citizens from different sectors, thus bringing them the possibility of active participation. The implemented projects should stimulate reflections, discussions, and other activities related to the annual priority themes of the program and propose concrete solutions that can be found through cooperation and coordination at the European level. Eligible applicants are non-profit organizations, including civil society organizations and educational, cultural, and research institutions. Their project partners are then any institutions, organizations, or municipalities.

4 EXAMPLES OF GOOD COOPERATION BETWEEN TRNAVA REGION AND THE SOUTH MORAVIAN REGION

Interreg V-A Slovak Republic – Czech Republic in the program period 2014-2020

This program ensured the solution of common challenges in the border areas with the help of cross-border projects. Among the priority axes of this program were the use of innovation potential, quality environment, development of local initiatives and technical assistance. On the part of the Czech Republic, the program area is formed using the NUTS III regions, specifically the South Moravian Region, the Zlín Region and the Moravian-Silesian Region. The Slovak part is made up of the NUTS II Trnava Self-Governing Region, Trenčín Self-Governing Region and Žilina Self-Governing Region. Financial resources for this program from the European Regional Development Fund - ERDF amounted to more than 90 million euros for the entire period. The volume of funds provided from the ERDF is always a maximum of 85% of the total authorized expenses of the given project (TTSK, 2023). As part of the strengthening of cross-border cooperation of security forces for more effective risk prevention and the joint fight against crime, a project was created that created good conditions for the effective cooperation of Czech and Slovak police authorities in the fight against cross-border crime and illegal migration. The leading partner was the Ministry of the Interior of the Slovak Republic and the Regional Police Directorate of the South Moravian Region. The total budget for this project was almost 400,000 euros. Another project of cross-border cooperation was the project called "Let's get to know the border regions actively and together". The aim of this project was to increase the attractiveness of cultural and natural heritage and thus increase

the potential of tourism in cross-border regions. A 4 km long cycle route was built from the Slovak side to the Czech side. The leading partner was the city of Gbely and the main cross-border partner was the village of Tvrdonice. The total budget of the project was more than 500,000 euros (TTSK, 2023). Another example of cross-border cooperation was the project called "Castle Gardens in Holíč." It was about the revitalization of the castle gardens in Holíč connected with the promotion of border gardens and parks and thereby increasing the attractiveness of the cultural and natural heritage. The leading partner was the city of Holíč, and the main cross-border partner is the Park Guide organization. The total budget for this project was over 500,000 euros. 85% of the total eligible expenses were authorized from the European ERDF Fund, and the rest of the funding was handled as co-financing (TTSK, 2023).This partnership also created a project called "Czech Road". The aim of the project was to emphasize the history of cross-border regions and the existence of the phenomenon of the historical "Czech Road". The project dealt with the reconstruction of the summer house, the establishment of a museum in it and the revitalization and expansion of the exposition in the museum in Klobúky near Brno. The leading partner in this case was the city of Senica, and the main cross-border partner was the city of Klobúky near Brno. The total budget for this project was EUR 1.5 million (TTSK, 2023).

5 CONCLUSION

Individual types of cross-border cooperation developed mainly in the post-war period, especially in Western Europe and Scandinavian countries. Over time and with changes in political and social conditions, the situation also changed in Central and Eastern Europe. Today, a relatively large amount of cooperation goes beyond state borders at all local, national, and international levels. In the article, we pointed out the development, individual types of cross-border cooperation, and specific examples of cooperation of the Trnava Region from the past program period 2014-2020. The projects that have been carried out help improve cooperation between neighboring regions, even though the general public is not sufficiently familiar with the benefits of such cooperation.

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BASIC ATTRIBUTES OF PARTICIPATORY BUDGETING

Pavol Pavlovič

Abstract

Participatory budgets, or participatory budgeting as a tool of direct democracy, date back to its inception at the end of the 1980s. The Brazilian city of Porto Alegre is indicated as the original city where the participatory budget was implemented. This institute has spread throughout the world in the following decades. The primary mission is to motivate residents to civic engagement and involvement in public life. As part of the process, residents propose projects (also of an investment nature) that aim to improve the quality of life in their cities. If the proposals meet the prescribed conditions and receive the necessary support, they will be put to the final vote, and if they win, the cities will implement them in the following years. Citizens will thus help themselves get involved with their ideas and visions, whether they relate to constructing or repairing children's playgrounds, sports fields, or other projects, in the village through new traffic lights or pedestrian crossings.

Key words: *participatory, budgets, democracy, attributes*

1 INTRODUCTION

There are many similar examples, as shown by the reality of the functioning of the participatory budget, for example, in Slovakia. However, in the cradle of participatory budgets, introducing this tool affected the inhabitants' quality and standard of living more significantly than in developed Europe. Thanks to them, healthcare, education, and sanitation have improved considerably, not only in Porto Alegre. In each part of the world, participatory budgeting thus plays a different but essential role (Cabannes, 2020). As we have already mentioned, the origins of participatory budgeting are associated with the practice of the Brazilian city of Porto Alegre since 1989. Since then, participatory budgeting has spread to many countries around the world. Available information speaks of approximately 8,000 participatory budgeting initiatives in 2020. South America, the cradle of participatory budgeting, has already surpassed Europe in the number of initiatives. Participatory budgeting is also practiced in Asia, Africa, and North America. Before participatory budgeting, the so-called traditional model of participation. The traditional involvement of citizens works mainly on the cooperation of elected political representatives and civil servants, who make decisions and only inform citizens of their decisions.

Thus, citizens can participate in administration and decision-making only indirectly through elections. They have no choice but to choose the best according to their conscience and consciousness representatives and hope they will adhere to their election programs and behave, and act as promised before the elections. Participatory budgeting is a more advanced and modern form of administration. This is based on the traditional participation model, but with the difference that elected representatives and civil servants must cooperate and citizens. They are not just passive recipients of information and decisions but could participate in decision-making actively. In addition, cooperation at the civil level is also assumed when residents work together, motivate each other, and try to come up with new ideas. Of course, participatory budgeting can only be used in some places. Cities and municipalities must be managed by those called to do so and understand management. Knowledge of the country's laws, regulations, and other, not only economic knowledge is related to this. Therefore, for example, ordinary citizens need help deciding the budget amount and distribution. For them, part of the municipal budget is set aside as part of participatory budgeting, which can be used

for projects designed to improve the quality of life in their surroundings. The fundamental difference between traditional participation and participatory budgeting is also mentioned by Bernard, who emphasizes the advantage above of participatory budgeting, namely cooperation between citizens (Bernard, 2007).

In the classic model, citizens only accept decisions from elected politicians and officials. In contrast, with participatory budgeting, citizens cooperate with elected politicians, officials, and each other. Sharp, e.g. gives an example from the French city of Poitiers, where residents one day asked the deputies and the mayor to make one street one-way to reduce traffic. The deputies agreed to this proposal, but the result was to shift a traffic load to the neighbouring street, where the residents soon asked the municipality for the same. After complying with the citizens again, the street was blocked at both ends. This situation arose because citizens did not have the opportunity to talk about traffic problems with their neighbours and only dealt with them with their elected representatives. If citizens could talk about this problem with their neighbours, for example, at a public meeting, they would devise a better solution that would suit everyone. With this story, Sharp tried to demonstrate that the basic principle of civic participation is communication between the citizens of the given neighbourhoods and their respective authorities. There are many definitions of participatory budgeting available. We can find their various forms in the professional literature and on the websites of organizations dealing with implementing participatory budgets. They are worded differently, but they still mean the same thing. Participatory budgeting symbolizes the direct democracy approach to budgeting. It allows citizens to learn about the public policy process and to reflect on debate and influence in allocating public resources. It is a tool for education, engagement, and empowerment. This tool can also help reduce government inefficiency and curb cronyism and corruption (Sharp, 2011).

2 THE PROCESS AND DEVELOPMENT OF PARTICIPATORY BUDGETING

The non-profit organization's primary goal, The Participatory Budgeting Project, which operates primarily in the USA and Canada, is to support people in making decisions about using self-government funds. About the participatory budgeting process itself, this organization claims that it deepens democracy, creates stronger communities, and makes public budgets fairer and more efficient. However, this definition may sound, it should be added that the share of funds used through participatory budgeting is, on average, meager and often only reaches 1% of all funds available to cities. On its website, the organization also emphasizes one of the benefits of participatory budgeting: giving people real power over real money. Klimovský defines participatory budgeting: "The idea of citizen participation is a bit like eating spinach: nobody is against it in principle because it is good for us. The participation of the governed in their government is, in theory, the cornerstone of democracy – a venerable idea celebrated by everyone (Klimovský, 2017).

In simplicity, participatory budgeting takes place in a process that consists of the following steps:

- residents jointly come up with ideas on how the municipality's money should be used
- budget representatives will present proposals based on the ideas of local citizens
- the local community is invited to vote for the best projects
- the city council will implement the winning projects

As mentioned in the introduction, participatory budgeting originated in the Brazilian city of Porto Alegre. Sintomer states three main goals of its creation in this city. The first goal was political, the second was social, and the third was to eliminate corruption. The idea behind the first objective was to "democratize democracy" by involving the rural and poor population neglected by the previous political system and fighting clientelism. As part of the social goal,

the effort was primarily to reverse priorities and focus on disadvantaged residents. The last goal was the creation of a self-government that would reduce corruption and, on the contrary, increase the effectiveness of public policies (Klimovský, 2017). The more general goals of participatory budgeting are based on the abovementioned definitions. In addition to the primary goal, i.e., the redistribution of a certain amount of money that local governments have set aside for participatory budgeting, we can include other, no less important goals that support civic cohesion and improve the lives of residents at all levels. Logically, the specific goals will differ according to the place where participatory budgeting works; nevertheless, we can determine the general ones based on the definitions which all activists involved in the participatory budgeting process strive for:

- arouse citizens' interest in public events in the city where they live
- involve the most significant possible number of people in the public life of the city
- strengthen and improve communication not only between neighbours but also between them and elected representatives of residents
- explain to people how public budgets work
- to improve the general standard of living of the inhabitants.

The actual budgeting process in Porto Alegre begins in March or April and takes the form of preparatory negotiations and meetings. This is followed by residents' and their elected representatives regional and thematic meetings. During August and September, the size of the budget to be allocated for the project's needs is determined. Subsequently, the details in the plan are refined, and the residents involved in the process are discussed. At the turn of December and January comes the time of elections, the selection of winning projects, and thus one participative process is completed. February is a month off, and then the whole process starts from the beginning. The practice of participatory budgeting from Porta Alegre, under the leadership of the Workers' Party, began to spread very quickly to other Brazilian cities in the early 1990s (Sharp, 2011). Participatory budgeting arose and quickly spread in Brazil because, although Brazil was an authoritarian country, it allowed the existence of opposition parties and entrusted them with responsibility for spending. The subsequent waves of decentralization and democratization that followed in the late 1980s and early 1990s further promoted participatory budgeting (Shah, 2007), as did the large numbers of poor populations who wanted to achieve change and improve living standards. At the same time, individual cities in Venezuela and Uruguay, which shared leftist-oriented leading parties with Porto Alegro, also began to introduce the mechanism of participatory budgeting. Participatory budgeting has spread rapidly in Europe, main thanks to activists from non-profit organizations and politicians from the local level, who have participated in international forums such as the social forum in Porto Alegre, the forum of local governments, or the World Social Forum (Dias, 2014). As Sintomer says, in 1999, we could count the number of such initiatives on the fingers of one hand; six years later, there were already over 50. The growing trend continued, so 2010, there were more than 250 such initiatives in Europe. It caused great interest, especially in Italy, Spain, and Portugal, whose capital city of Lisbon, with half a million inhabitants, was the first European capital to introduce electronic elections in participatory budgeting (Bernard, 2007).

Since 2008, participatory budgeting has been extended to Norway, Sweden, and Iceland in 2010; two years later, it was also introduced in Finland. The participatory budget model from Porta Alegre was adapted most similarly in Spain and Italy. The most widespread approach, applied in France, Portugal, or Scandinavia, is based on neighborhood meetings to improve and strengthen communication between the administration, politicians, and citizens. In most countries in the west and north of Europe, participatory budgeting is mainly implemented by local governments and state organizations. On the other hand, in Eastern Europe, this tool is mainly supported by international organizations, such as the World Bank, the United Nations,

or the German Society for International Cooperation (GIZ), in cooperation with local partners. Participatory budget countries of European and Eastern European countries have much in common thanks to a similar history. For many generations, one government maintained central supervision over almost all aspects of public life: economic, social, and cultural life was controlled by local authorities subordinate to the central leadership. The role of the state was almost ubiquitous. Today, some features of participation as such are typical for the region of Central and Eastern Europe (Hague-Harrop-Mccormick, 2016).

Since the citizens could not influence the decisions that concerned them, they still had a relatively high distrust of political representatives. Whether national or local, political parties are relatively new, as is elected, independent, and autonomous local government. The intergovernmental fiscal relations system is still in development, and tasks and competencies must be more precise, robust, and assigned to local levels. The level of decentralization in the region of Central Europe and thus also in Slovakia is lower than, e.g., in Western Europe or Scandinavia. Accountability for local government expenditure does not match their income, and transfers from higher levels are often unreliable. An example can be the transferred performance of state administration, which local governments carry out on behalf of the state. Citizens are dissatisfied with local services, but on the other hand, they do not believe that they can influence the public policy process for the better or that local government is able and willing to do anything to alleviate or even better solve the problems (Hague-Harrop - McCormick, 2016).

3 PARTICIPATORY BUDGET MODELS

Participatory democracy model

The model is based on the participation of unelected citizens in the decision-making process, with the final decision being made by elected representatives. This model is characterized by the emergence of a "fourth power," meaning that citizens have real decision-making power distinct from judicial, legislative, and executive power. This model enables the involvement of marginal groups and all citizens of the given area. In the model, local governments initiate participatory budgeting and implementing entities. This model is mainly used in Latin America. According to this model, participation budgets in Seville (Spain) and Dong-ku (South Korea) are compiled in a minor part. A weakness of participatory democracy is the requirement of strong political will and an independent society ready to cooperate with local governments (Sztwiertnia, 2013).

A model of proximity democracy

The model's characteristic is proximity in the geographical sense and the sense of better communication between citizens, public administration bodies, and local authorities. This model is characterized by the fact that decision-makers select citizens' proposals and ideas, and its foundations are built on informal rules, leaving only marginal autonomy to civil society. Proximity democracy is most widely used in Europe. It is also widespread in North America, Australia, Korea, and Japan (Sztwiertnia, 2013).

Participatory modernization mode

This model can be recognized by the fact that it is a regular part of New Public Management strategies; that is, the state tries to modernize and thereby support the effectiveness and legitimization of processes in public administration. This model has advisory value only. Unlike neighborhood democracy, this model focuses on the local community and includes the central government and its primary service providers. Participatory budgeting of this type is mainly used in Germany and partly in Northern Europe (Klimovský, 2017).

Multi-stakeholder model

The main feature of the fourth model is that citizens participating in participation are only one of many actors. In addition to them, there are also private companies and local self-

government. Local government needs more management space, limited by economic forces and funders' primary say. The model is used, for example, in the city of Plock in Poland (Klimovský, 2017)

The model of neo corporatism

This model is characterized by the fact that the local government has a vital role because it surrounds itself with organized groups such as non-governmental organizations, trade unions, employers' associations, social groups such as local people, and various local institutions. Self-government is based on consultation with the people and tries to find harmony through the negotiation of interests, values, and demands that will benefit all parties and thus mitigate the fragmentation of society. This model is mainly used in Spain (Klimovský, 2017).

The Model of community development

The dominant feature of the latter model is that participation includes the project implementation phase. This separates municipal politics and a solid participatory process. Relatively straightforward procedural rules and high-quality negotiations are established here. The model is typical mainly for Anglo-Saxon countries such as Canada or Great Britain. It can also be found to a small extent in some Japanese cities (Sztwiertnia, 2013).

4 BENEFITS AND LIMITS OF PARTICIPATORY BUDGETING

Participatory budgeting expands political participation as such. Compared to elections, the possibility of involvement in participatory budgeting is more comprehensive, as even residents who are under 18 years of age can participate in this process many times. In many countries and cities where such initiatives are used, the age limit for participation is 14 or 15 years. In addition to the reduced age limit, it is also about the fact that foreigners without citizenship can usually contribute to the participatory budget, e.g., based on permanent or temporary residence. Participatory budgeting strengthens the relationship between the government, the community, and the local community of citizens. It can also strengthen relations between officials, local or regional politicians, organizations, and residents. Unlike other types of participation, it involves the inclusion of citizens in the financial decision-making process. The creation of such a tool leads to increased public trust in political actors. Participatory budget institutions become a space for learning democratic citizenship, where residents develop a broader understanding of politics and residents, and other local political actors develop the common well-being of the community in which they live. Participants improve skills through participatory budgeting, while organizations benefit from leadership development (Wampler, 2007).

Participatory budgeting can help improve residents' budget literacy. Budgeting is an often-underestimated part of democracy, even though it can help people better understand budgeting and policy-making processes. One of the biggest challenges of participatory budgeting is the time it takes for the average citizen to play a meaningful role in the process (Sztwiertnia, 2013). Participation is difficult for impoverished residents due to the time and resources required. The participatory budget was created for the poorest sections of the population, and paradoxically, in most cases, they have the least time to participate in the case of working people with low incomes.

Furthermore, while participatory budgeting in its ideal form is highly inclusive, the process can be used by local governments or elites to serve their interests. The political power of participatory budgeting is often tied to the politicians who promote this program. This process can often be challenging for the mayor or local deputies, who create the conditions for such budgeting. Likewise, more focus on short- to medium-term public works projects can make it easier to discuss the city's long-term goals (Wampler, 2007).

Based on the definitions of participatory budgeting given in the text, the most significant benefit is the increased interest of people in the city's functioning and their involvement in

public affairs to improve the surroundings of their homes according to their ideas. In certain cities or states, the benefits of participatory budgeting can be more specific, but let us focus on the more general ones first. Participatory budgeting expands political participation. Unlike classic elections, the opportunity to participate in the participatory budgeting process is more inclusive. For example, in many South American cities, anyone over 14 who lives in the area can participate and vote in the participatory budgeting process. This encourages participation in participatory budgeting from a young age.

In contrast, the lower age limit of 16 years prevails in Europe. Participatory budgeting strengthens the relationship between local government and the community. It can also improve relations between government officials, employees, organizations, and residents. Compared to other programs, the participatory budgeting process is mainly about including the community in the budgeting process and what the participants themselves want. Participatory budgeting can also help improve budgeting literacy (Vittek, 2013).

Participatory budgets are used almost worldwide today, but practice can vary. Since it is only possible to determine one correct procedure and guide how the participatory process should look, Sintomer presents five criteria for implementing participatory budgets worldwide and during their annual repetition. However, implementing participatory budgets differs between individual states and within a single state. As participative budgets face a limited budget, they should mainly deal with how they will be used. The entire city or a decentralized part of the municipality should be involved in the process with elected representatives who have the opportunity to control specific financial resources and have certain administrative powers. The participatory budgeting process must be repeated annually. The planned one-time event cannot be considered an example of participatory budgeting, and it is, therefore, a matter of the regularity of the functioning of participatory budgeting. In public meetings, citizens must have the opportunity for discussion. The discussion part of the participatory budget is an ideal space for improving community relations and understanding the process of adopting measures in the process of creating public policy. Such citizens' debate does not necessarily lead to a decision but is an essential and indispensable part of the participatory budgeting process (Allegreti-Herzberg, 2004).

During the participatory budgeting process, annual meetings should be organized, or publications should be published regularly, providing the participants with feedback on the acceptance or non-acceptance of their project proposals. Because according to the authors, not providing information and feedback on projects is the most common mistake in participatory processes. Budgeting is an underappreciated part of democracy, and participatory budgeting can help people better understand the entire budgeting process. Residents themselves come up with creative ideas on how to improve the city's functioning. Thanks to participatory budgets, residents deepen their relationship with the place where they live and feel responsible for managing common property. The citizens know best what needs to be improved in their village, and thanks to participatory budgeting, they can participate in the given solution. During the participatory budgeting process, the question of the most important investments and the best use of public money also comes to the fore. During public discussions, they meet their neighbors, and neighborhood and interpersonal relations are deepened thanks to this. Thus, through participatory budgeting, citizens have a unique chance to assert their opinions and ideas, and representatives should listen to them (Sztwiertnia, 2013).

However, in every project, there is also a flip side of the problem. A participatory process can be unbalanced, as some voices can be heard louder and more often than others. Participatory budgets, in their ideal form, are an inclusive affair when they should attract and involve people from different groups. However, the government or elites can misuse the process for their interests. Wampler cites other limits that diminish the overall impact of participatory budgeting on social law, education, and administrative reforms. According to him, the limits

of the participatory budget are identical for almost all cases, even if they are different cities or states (Wampler, 2007).

The first limitation stems from focusing only on specific public works. Participants in the participatory budgeting process are primarily concerned with small infrastructure projects and achieving their goals. They are no longer very interested in learning about their rights, fiscal responsibility of self-government, or broader social policy. Municipalities must thus instil in project participants the idea that they value the time and energy they put into participation and support them so that their interest in participation does not apply only to their specific project. The second limit is citizens' dependence on the municipality's management. Although citizens are included in the participation process, the leading actor who organizes the meeting, passes on information, ensures meetings between officials and residents, and guarantees the implementation of selected projects remains the city management. The influence of the mayor/mayor and the ruling coalition is significant. The lack of a solid commitment to participatory budgeting by elected leaders significantly reduces the chances of the entire process being successful. A third limitation concerns the role of long-term planning. Many participants in participatory budgeting are only interested in short- and medium-term projects, which can put in the background debates regarding long-term projects that shape the city's future. These long-term projects require citizens to acquire the technical and analytical skills to make decisions. By participating in participatory budgeting, people are gradually acquiring these skills, but it is a long shot. Another limit for participatory budgeting is the emphasis on local issues and public policies. Many participants, including experienced political and social activists, are dedicated to solving problems mainly at the local level but need more time and energy to deal with problems at the regional, national, or global level. At the same time, it is the main problems with unemployment, violence, or lack of education opportunities that threaten the local community the most. However, these matters should be dealt with at a higher level. The last limitation that Wampler mentions is the danger of manipulating participatory budgets by officials or elected representatives led by the mayor. They can use the participatory budget to promote their programs. In Brazil, social movements and non-governmental, non-profit organizations have rejected participatory budgeting programs in several cases due to government interference (Wampler, 2007).

Nevertheless, problems can occur that cause the participatory budgeting process to be canceled, as seen in the example of the participatory budget in the capital of Slovakia. In Bratislava, the non-profit organization Utópia initiated the introduction of participatory budgeting. She did cooperate with the city manager, but after three years, she was forced to end the cooperation and stop participatory budgeting at the city-wide level, mainly due to non-cooperation on the part of the city, which refused to increase the required budget or support the promotion of the process. When we return to the theory describing the limits of participatory budgets, we find that the situation in Bratislava is similar to the second limit mentioned by Wampler. So it is a practical example of a theoretical problem from the side of the city.

5 CONCLUSION

Participation is an essential prerequisite for the successful functioning of democracy. Participatory budgeting does not influence the process of public policy in the same way as elections or referendums. However, it significantly contributes directly and indirectly to the democratization of society and strengthens the relationship of citizens to democratic processes. Participatory budgeting has changed since its essence and creation in Brazil, especially in Europe today; it solves significantly fewer fundamental problems than it was created in Latin America. Nevertheless, it is an excellent tool for greater inclusion of citizens, especially in local and regional politics. Even if the financial resources that cities or regions

release yearly for the redistribution of "the people" are relatively low, the primary goal is for citizens to participate, increasing the legitimacy of the current social arrangement. In addition to the "inclusive" effect, participatory budgeting has other benefits, such as education or closer cooperation of people in their community. The expansion of this institute, even in the conditions of the Slovak Republic, can be considered a step towards strengthening civil society.

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PŘÍRODNÍ VĚDY

NATURAL SCIENCES

STANOVENIE DEOXYNIVALENOLU V KŕMNYCH ZMESIACH PRE MONOGASTRICKÉ ZVIERATÁ

DETERMINATION OF DEOXYNIVALENOL IN FEED MIXTURES FOR MONOGASTRIC ANIMALS

Michaela Harčárová, Pavel Naď, Alena Hreško Šamudovská

Abstrakt

Pravidelný monitoring mykotoxínov v krmivách a potravinách predstavuje základný prvok v prevencii vzniku alimentárnych intoxikácií ľudí a zvierat. Táto práca bola zameraná na kvantitatívne stanovenie deoxynivalenolu v krmivách pre monogastrické zvieratá (brojlery a morky). Vo všetkých vyšetrených vzorkách kŕmnych zmesí sa potvrdil výskyt deoxynivalenolu. Priemerná koncentrácia deoxynivalenolu v krmive pre brojlery bola 1,776 $mg.kg^{-1}$ a v krmive pre morky dosahovala hodnotu 0,675 $mg.kg^{-1}$. Stanovené koncentrácie deoxynivalenolu ($mg.kg^{-1}$) spĺňajú požiadavky na mykotoxickú bezpečnost krmív podľa Odporúčania ES 2006/576/ES.

Kľúčové slová: *mykotoxíny, kŕmne zmesi, monogastrické zvieratá*

Abstract

Regular monitoring of mycotoxins in feed and food is a fundamental element in the prevention of alimentary intoxications in humans and animals. This work was focused on the quantitative determination of deoxynivalenol in feed for monogastric animals (broilers and turkeys). Occurrence of deoxynivalenol was confirmed in all examined samples of feed mixtures. The average concentration of deoxynivalenol in feed for broilers was 1.776 $mg.kg^{-1}$ and in feed for turkeys 0.675 $mg.kg^{-1}$. The determined concentrations of deoxynivalenol ($mg.kg^{-1}$) meet the requirements for mycotoxic feed safety according to EC Recommendation 2006/576/EC.

Keywords: *mycotoxins, feed mixtures, monogastric animals*

1 ÚVOD

Obilniny ako dominantné plodiny pestované na ornej pôde majú dôležitý význam vo výžive ľudí, slúžia na kŕmne účely alebo priemyselné spracovanie, najmä kvôli ekonomickej výhodnosti ich pestovania a stabilite dosahovaných úrod. Sú hlavnými komponentmi kŕmnych zmesí pre zvieratá. Významnou mierou sa podieľajú na zabezpečení prísunu energie a dusíka.

Okrem samotnej prítomnosti obilnín v kompletnej kŕmnej zmesi je dôležité aj ich druhové zastúpenie. Významné druhy v rámci obilnín predstavujú pšenica, jačmeň, raž, ovos a kukurica.

Prítomnosť týchto druhov obilnín v kŕmnych zmesiach pre monogastrické zvieratá predstavuje pre zvieratá určité zdravotné riziká v podobe výskytu mikroskopických vláknitých húb a ich sekundárnych metabolitov mykotoxínov. Obilniny predstavujú vhodný substrát pre rozmnožovanie a rast mikroskopických húb už počas vegetácie, ale aj v období ich skladovania. Medzi poľnohospodársky najvýzmamnejšie rody mikromycét patrí celosvetovo sa vyskytujúci rod *Fusarium* spp. (Gab-Allah a kol., 2023). Rod *Fusarium* patrí medzi tzv. potenciálne toxinogénne druhy húb, ktoré sú za vhodných environmentálnych podmienok schopné syntézy sekundárnych metabolitov. Optimálne podmienky pre tvorbu

fuzáriotoxínov predstavujú teplotu od 15 do 25 °C, relatívnu vlhkosť zrna od 20 do 25 % a slabo kyslé pH prostredia. Najrozšírenejšiu skupinu fuzáriotoxínov tvoria trichotecény, ktoré sa podľa funkčnej chemickej skupiny rozdeľujú do štyroch základných skupín (A, B, C a D) (McCormick a kol., 2011). V obilninách sú dominantnými trichotecény typu A a B. Za celosvetovo najbežnejší trichotecén sa považuje deoxynivalenol, ktorý môže byť produkovaný najmä druhmi *F. graminearum, F. culmorum, F. sporotrichioides, F. poae a F. acuminatum* (Pinto a kol., 2022). Deoxynivalenol pôsobí predovšetkým cytotoxicky, imunotoxicky a neurotoxicky (Wan a kol., 2022), inhibuje syntézu DNA a RNA na ribozomálnej úrovni a poškodzuje expresiu cytokínov, zvyšuje množstvo intracelulárneho vápnika s následnou aktiváciou kapsázy, čo vedie k zlomom DNA a bielkovín a k apoptóze buniek (Fæste a kol., 2022). Klinické príznaky po perorálnom prijatí deoxynivalenolu sa prejavujú najmä gastrointestinálnymi poruchami, pretože jeho vplyvom dochádza k zníženiu produkcie hlienu prostredníctvom pohárikových buniek, k poškodeniu črevných klkov a tým k narušeniu integrity črevnej bariéry s následnými poruchami vstrebávania živín (Pinto a kol., 2022; Wan a kol., 2022). Na účinky deoxynivalenolu sú najcitlivejšie ošípané, nasleduje hydina a najmenej citlivý je hovädzí dobytok. Pri hydine bolo pozorované okrem zhoršeného produkčného zdravia postihnutých jedincov aj zníženie kvality vaječnej škrupiny, znížená hmotnosť vajca a vo vajciach boli potvrdené reziduá deoxynivalenolu. U brojlerov sa pozoroval vznik progresívnej rachitídy následkom podávania krmiva s obsahom deoxynivalenolu (Dänicke, 2002).
Cieľom tejto práce bolo stanoviť koncentrácie trichotecénu deoxynivalenolu v kŕmnych zmesiach pre brojlery a morky prostredníctvom ELISA imunoanalýzy a porovnať výsledné koncentrácie s aktuálne platnými smerodajnými hodnotami podľa odporúčania Európskej Únie (Odporúčanie ES 2006/576/ES).

2 MATERIÁL A METODIKA

2.1 Vzorky kŕmnych zmesí

Celkovo bolo vyšetrených 16 vzoriek kompletných kŕmnych zmesí pre brojlery a 4 vzorky boli kŕmne zmesi pre morky. Vzorky (n=20) boli určené pre rôzne štádia výkrmu hydiny. Kŕmne zmesi pre brojlerov a morky boli získané od komerčných výrobcov. Základnými zložkami kompletného krmiva pre brojlery boli okrem iných komponentov pšenica, kukurica a sójový šrot. Kŕmna zmes pre morky pozostávala predovšetkým z kukurice, pšenice, sójového šrotu, pšeničných otrúb a ostatných zložiek. Kŕmne zmesi pre hydinu boli vo forme peliet.

2.2 ELISA analýza kŕmnych zmesí

Na stanovenie koncentrácií deoxynivalenolu vo vzorkách kŕmnych zmesí bola použitá imunoanalýza ELISA. Analýzy boli vykonané pomocou kitu Veratox – Veratox for deoxynivalenol (Neogen Corporation, Lansing, USA). Vzorky na stanovenie koncentrácií deoxynivalenolu boli spracované nasledovným spôsobom: 10 g z každej kŕmnej zmesi bolo pomletých a zmiešaných so 100 ml destilovanej vody. Vzorky boli 3 minúty miešané na trepačke (Orbital Shaker – Biosan) a následne prefiltrované cez filtračný papier Whatman 1. Filtráty (s minimálnym objemom 5 ml) boli po riedení s destilovanou vodou v pomere 1:2 použité na kvantitatívne stanovenie deoxynivalenolu pomocou ELISA kitu. Princípom stanovenia koncentrácií deoxynivalenolu pomocou kompetetívnej enzýmovej imnuosorbentnej analýzy je, že voľný mykotoxín vo vzorkách a štandardoch súťaží s enzýmom značeným konjugátom o väzbové miesta protilátok. Substrát, ktorý sa pridáva po premytí vzoriek, reaguje s naviazaným konjugátom za vzniku modrej farby. Menej intenzívne zafarbenie vzoriek predstavuje vyššie koncentrácie mykotoxínu. Test sa vykonáva v mikrotitračnej platničke a pomocou platničkového ELISA readeru (Dynex Technologies,

Inc., Chantilly, USA) pri vlnovej dĺžke 650 nm sa spektrofotometricky odčítajú absorbancie jednotlivých vzoriek. Absorbancie štandardov tvoria štandardnú krivku, pomocou ktorej sa vypočíta presná koncentrácia deoxynivalenolu v $mg.kg^{-1}$ (ppm).

2.3 Štatistická analýza

Na vyhodnotenie priemernej hodnoty koncentrácií a mediánu boli použité štatistické funkcie programu MS Excel.

3 VÝSLEDKY

V tabuľka č. 1 sú uvedené koncentrácie deoxynivalenolu kvantitatívne stanovené pomocou ELISA metódy v kompletných krmivách pre brojlery a morky. Vo všetkých vzorkách krmiva pre brojlerov sa potvrdil výskyt deoxynivalenolu v rozmedzí koncentrácií od 0,435 do 1,829 $mg.kg^{-1}$ s priemernou hodnotou 1,776 $mg.kg^{-1}$. Rovnako bol deoxynivalenol prítomný aj vo všetkých vzorkách krmiva pre morky s koncentráciami 0,283 $mg.kg^{-1}$ – 1,067 $mg.kg^{-1}$ a priemernou koncentráciou 0,675 $mg.kg^{-1}$.

Tabuľka 1 Koncentrácie deoxynivalenolu (ppm; $mg.kg^{-1}$) vo vzorkách kŕmnych zmesí pre hydinu

Parametre	Krmivo pre brojlery	Krmivo pre morky
n	16	4
+/n	16/16	4/4
Min.	0,435	0,283
Max.	1,829	1,067
x	1,776	0,675
Median	1,179	0,675

n – celkový počet vzoriek, +/n – počet pozitívnych vzoriek z celkového počtu vzoriek , Min. – min. koncentrácia deoxynivalenolu, Max. – max. koncentrácia deoxynivalenolu, x – priemerná hodnota koncentrácií deoxynivalenolu

4 DISKUSIA

Obilniny predstavujú základnú krmovinu na výrobu kompletných kŕmnych zmesí pre monogastrické zvieratá. Hlavnými zložkami krmív pre brojlery a morky sú okrem iných komponentov predovšetkým pšenica a kukurica, ktoré sú zdrojom energie (Khalil a kol., 2021). Tieto obilniny sú vhodnými substrátmi pre rast mikroskopických vláknitých húb, ktoré môžu byť pôvodcami sekundárnych toxických látok – mykotoxínov. Mykotoxíny môžu kontaminovať nielen krmivá, ale aj potraviny a môžu spôsobiť akútnu, subakútnu a chronickú intoxikáciu až smrť zvierat a ľudí (Oğuz a kol., 2022). V súčasnej dobe je známych viac ako 500 mykotoxínov a medzi celosvetovo najčastejšie sa vyskytujúce mykotoxíny patrí deoxynivalenol (Stein a Bulboacă, 2017). Popisuje sa, že brojlery, ktoré konzumujú krmivo s obsahom deoxynivalenolu, nedosahujú požadované prírastky na hmotnosti a krmivo s obsahom deoxynivalenolu v koncentrácii 10 $mg.kg^{-1}$ spôsobuje zníženú konverziu krmiva (Ghareeb a kol., 2013). Kurčatá a nosnice reagujú na zvyšujúce sa koncentrácie deoxynivalenolu v potrave znížením produktivity iba pri vysokých hladinách nad 5 $mg.kg^{-1}$, ale neexistuje jasný dôkaz o vzťahu medzi dávkou a odozvou organizmu (Awad a kol., 2008). Deoxynivalenol tiež zasahuje do biochemických indikátorov, čoho dôsledkom býva zhoršený metabolizmus proteínov a lipidov hydiny spolu so zmenenými imunitnými parametrami (Yang a kol., 2020). Zmeny v hematologických alebo imunologických parametroch môžu negatívne ovplyvňovať produktivitu a senzitivitu zvierat k chorobám, čo sa prejavuje najmä u mladých kurčiat (Awad a kol., 2008).

V všetkých nami vyšetrených vzorkách kŕmnych zmesí pre hydinu bol zaznamenaný výskyt deoxynivalenolu v rozmedzí od 0,435 $mg.kg^{-1}$ do 1,829 $mg.kg^{-1}$. Rovnako sa deoxynivalenol vyskytoval vo všetkých vzorkách krmiva pre hydinu vyšetrených v Poľsku, ale v rozmedzí nižších koncentrácií 0,003–0,099 $mg.kg^{-1}$ (Cegielska-Radziejewska a kol., 2013). Podobné výsledky zaznamenali Greco a kol. (2014), ktorí uviedli, že deoxynivalenol bol nájdený v 90 % analyzovaných vzoriek. Priemerná koncentrácia deoxynivalenolu v pozitívnych vzorkách (56 %) kŕmnych zmesí pre hydinu zo Slovenska v roku 2005 bola 0,303 $mg.kg^{-1}$ (Labuda a kol., 2005). Naproti tomu Magnoli a kol. (2002) pozorovali iba 6 % kontamináciu krmív pre hydinu deoxynivalenolom v Argentíne.
V rámci Európskej Únie sú stanovené najvyššie prípustné hodnoty nežiadúcich látok vrátane mykotoxínov v krmivách pre zvieratá (Smernica ES 2002/32/ES). Smerodajná hodnota koncentrácií deoxynivalenolu v kompletnom krmive pre hydinu predstavuje 5 $mg.kg^{-1}$ (Odporúčanie ES 2006/576/ES) a výsledné koncentrácie deoxynivalenolu, ktoré sme stanovili vo vyšetrených vzorkách krmív pre hydinu spĺňajú kritériá uvedené v Odporúčaní ES 2006/576/ES.

5 ZÁVER

Hoci deoxynivalenol patrí medzi najmenej toxické mykotoxíny, jeho pravidelný monitoring v krmivách a potravinách je dôležitý najmä z hľadiska potenciálnej kontaminácie obilnín. Hydina sa považuje za menej citlivú na toxické účinky deoxynivalenolu v porovnaní s inými druhmi zvierat. Avšak hrozba v podobe mykotoxikóz, môže byť príčinou narušenia produkčného zdravia zvierat a ekonomických strát. Naše výsledky naznačujú, že výskyt deoxynivalenolu v kompletných kŕmnych zmesiach pre hydinu je v súlade s právnymi normami, ale v systéme prevencie sú potrebné neustále kontroly prítomnosti a incidencie deoxynivalenolu nielen v krmivách, ale aj v krmovinách a potravinách.

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RIZIKOVÉ FAKTORY KOMPLIKÁCII PRI CROHNOVEJ CHOROBE

RISK FACTORS OF COMPLIACATIONS IN CROHHNS DISEASE

Lívia Hadašová, Terézia Fertaľová

Abstrakt

Crohnova choroba je chronické ochorenie a patrí do skupiny idiopatických zápalov, postihuje ktorúkoľvek časť tráviaceho traktu, najčastejšie sliznicu tenkého čreva. V súčasnosti výskyt ochorenia stúpa a často sa objavuje medzi mladými ľuďmi. Pokúsili sme sa identifikovať rizikové faktory komplikácii v procese liečby u vybraných dvoch pacientov a zistiť aké sú rozdiely a dopady v efektívnosti v liečbe konkrétnych pacientov s Crohnovou chorobou. **S**pracovali sme kazuistiky u dvoch zámerne vybraných pacientov. Zistili sme, že nedodržiavanie medikamentóznej liečby viedlo k relapsu ochorenia. Dodržiavaním liečebného procesu sa mohlo predísť vážnym komplikáciám ochorenia a relapsu. Efektívnosť liečby je možné zlepšiť dodržiavaním liečebného procesu, dodržiavaním dietoterapie, zlepšením životného štýlu, ktoré ovplyvňujú zhoršenie klinických príznakov a vzplanutie ochorenia.

Kľúčové slová: *Crohnova choroba, komplikácie, ošetrovateľstvo, edukácia,*

Abstract

Crohn's disease is a chronic disease and belongs to the group of idiopathic inflammations, affecting any part of the digestive tract, most often the mucosa of the small intestine. Currently, the incidence of the disease is increasing and often occurs among young people. We attempted to identify risk factors for complications in the treatment process in two selected patients and to determine what are the differences and implications in the effectiveness in the treatment of specific Crohn's disease patients. We performed case-control studies in two deliberately selected patients. We found that non-adherence to medical therapy led to relapse of the disease. By adhering to the treatment process, serious complications of the disease and relapse could have been prevented. The effectiveness of treatment can be improved by adherence to the treatment process, adherence to diet therapy, and improvement of lifestyle, which affect the worsening of clinical symptoms and disease flare.

Key words: *Crohn's disease, complications, nursing, education*

1 CROHNOVA CHOROBA

Crohnova choroba je nešpecifické chronické zápalové ochorenie, postihujúce ktorúkoľvek časť tráviacej trubice od dutiny ústnej až po konečník. Zápalom bývajú najčastejšie postihnuté segmenty tenkého a hrubého čreva alebo konečníka. Ochorenie môže prenikať aj do hlbších vrstiev steny čreva a môže zasahovať aj do jeho okolia. (Vránová, 2013). Epidemiologické štúdie uvádzajú, že incidencia Crohnovej choroby sa za posledných dvadsať rokov celosvetovo výrazne mení. Ochorenie je najviac zaznamenané v štátoch Severnej a Západnej Európy, Severnej Ameriky a Oceánie. Celková prevalencia Crohnovej choroby sa celosvetovo v rokoch 1990 až 2017 zvýšila o 31%. Na Slovensku sa počet chorých na Crohnovu chorobu a ulceróznu kolitídu odhaduje na približne na 15 000 pacientov (NPZ, 2020). Za charakteristické príznaky Crohnovej choroby sú považované nechutenstvo, bolesť brucha, zvýšené teploty, únava, chudnutie, niekoľko stolíc denne až silné hnačky, časté aj v nočných hodinách, prítomné môžu byť kŕče, hlieny a krv v stolici. U pacientov sa môže rozvíjať chudokrvnosť (Hlavatý, Krajčovičová, 2020). V detskom veku môže dôjsť k spomalenému

zdravému vývinu z dôvodu nedostatočného krytia výživy organizmu (Vránová, 2013). Crohnova choroba je chronické ochorenie, ktoré nie je možné definitívne vyliečiť, z tohto dôvodu je prognóza nepriaznivá. Približne dve tretiny pacientov sa v priebehu ochorenia podrobia chirurgickej intervencii kvôli komplikáciám. Mortalita priamo úmerne narastá s dĺžkou trvania choroby, vznikom komplikácii a počtom chirurgických výkonov. Nezanedbateľná je aj súvislosť so vznikom nádorov GIT. Pacienti s Crohnovou chorobou majú výrazne vyššiu predispozíciu vzniku rakoviny tenkého a hrubého čreva ako normálna populácia (Strelka, 2014).

1.1 Diagnostika Crohnovej choroby

Diagnostika Crohnovej choroby sa zameriava na dôkladnú sociálnu, osobnú, rodinnú anamnézu, familiárny výskyt Crohnovej choroby v rodine, psychický stav pacienta, stravovacie návyky, životný štýl, užívanie alkoholu, fajčenie a na analýzu ťažkostí pacienta. Zisťujú sa patologické prímesi v stolici, počet stolíc za deň, konzistencia stolice, bolesti brucha a celkové príznaky napr. chuť do jedla, chudnutie, prítomnosť horúčky, pocity únavy (Hudáková, 2018). Realizuje sa vyšetrenie konečníka, vyšetrenie stolice na okultné krvácanie a parazitologické vyšetrenie (Keil, 2012). Laboratórne vyšetrenia a ich výsledky pomáhajú k diagnostike ochorenia od prvých začiatkov ochorenia, priebehu, aktivity zápalu až po účinnosť liečby. Realizuje sa biochemický rozbor krvi, nízka hladina albumínov poukazuje na poruchu vstrebávania živín potrebných pre telo pacienta na podklade malabsorpčného syndrómu pri rozsiahlom postihnutí čreva. Pri hematologickom rozbore sa často vyskytuje anémia, zvýšená hladina leukocytov a trombocytov je typická pre aktívny zápal. Vysoká hladina CRP je ukazovateľom aktívneho zápalu (Zbořil, 2018). Za kľúčové laboratórne vyšetrenie sa považuje stanovenie kalprotektínu v stolici. Bielkovina kalproteínu sa nachádza v bielych krvinkách, a ak je v čreve zápal, tak sa leukocyty vylučujú stolicou a s nimi aj kalprotektín (Hlavatý, Krajčovičová, 2020). Pri diagnostike detského pacienta s poruchou rastu alebo nekrvavými hnačkami je potrebné vylúčiť cystickú fibrózu (Lekárske listy, 2017).

1.2 Liečba Crohnovej choroby

V liečbe Crohnovej choroby je prioritou bezpečná, individuálna, protizápalová liečba črevného zápalu, stanovená podľa lokalizácie, priebehu, aktivity ochorenia u konkrétneho pacienta. Liečbu rozdeľujeme na nárazovú – pri začiatku liečby, pri zhoršení ochorenia, pri relapsoch a na liečbu udržiavaciu – v remisii, v kľudovom období (Vránová, 2013). Liečba ochorenia je zložitá pritom veľmi komplexná, napriek tomu výsledky medikamentóznej terapie sú neuspokojivé. Celkový efekt liečby okrem farmaceutickej dotvárajú aj psychosociálne vplyvy, nutričná podpora a chirurgická intervencia (Huorka, 2009). Liečba je vo všeobecnosti dlhodobá, v niektorých prípadoch celoživotná, zameriava sa na tlmenie prehnanej obrany organizmu proti črevnej fóre (Hlavatý, Krajčovičová 2020). Základnými skupinami liekov sú aminosalicyláty, kortikoidy, antibiotiká, imunosupresíva a biologická liečba. U pacientov s nízkou zápalovou aktivitou sa na liečbu používajú lieky s účinnou latkou mesalazínu v dávke 4g denne (Tkáčik, 2018). Je účinnejší pri postihnutí hrubého čreva. Ďalej sa využívajú lokálne pôsobiace glukokotrikoidy, tie sú účinnejšie pri poškodení konca tenkého čreva, terminálneho ilea (Hlavatý, Krajčovičová, 2020). U strednej až vysokej formy sú liekom prvej voľby kortikosteroidy v dávke 0,5 až 1 mg/kg telesnej hmotnosti. Majú rýchly nástup účinku a stav pacienta sa po podaní prvej dávky začne zlepšovať. Dĺžka podávania by nemala presiahnuť viac ako 3 mesiace. Doporučuje sa postupné znižovanie dávky po dosiahnutí remisie, rýchle vysadenie kortikosteroidov zvyšuje riziko návratu relapsu (Tkáčik, 2020). Nevýhodou podávania kortikoidov je náchylnosť na infekcie, zvýšenie hmotnosti ukladaním tuku v oblasti tváre, šije, brucha a rednutie kostí. Po vysadení týchto liekov

dochádza k 80% návratu ťažkostí, v tomto prípade je nutná udržiavacia imunosupresívna liečba (Hlavatý, Krajčovičová, 2020).
Antibiotiká nie sú vhodné pre všetkých pacientov s aktívnym zápalom, pretože v súčasnosti neexistujú dôkazy o tom, aby liečba antibiotikami navodila v liečbe remisiu. Táto liečba je spojená s rizikom nežiaducich účinkov. Výnimkou je riflaximín - neabsorbovateľné antibiotikum, ktoré sa v jednej štúdii ukázalo ako účinný liek pre navodenie remisie (Tkáčik 2020). Najširšie využitie v tejto liečbe má azatioprín, patrí medzi najúčinnejšie lieky (Imunoprin), užíva sa denne v tabletách (Hlavatý, Krajčovičová 2020). Najväčším pokrokom pri liečbe Crohnovej choroby bolo zavedenie biologickej liečby**.** Biologická liečba je paranterálne podávanie veľkých proteínov alebo imunoglobulínov, ktoré boli vytvorené živými bunkovými kultúrami, ovariálnymi bunkami čínskych škrečkov (Lukáš, 2020). Táto liečba je indikovaná pacientom, ktorí majú strednú a vysokú zápalovú aktivitu, trpia rezistenciou na kortikoidy, kontraindikáciou na kortikosteroidy a s perianálnym ochorením. Biologická liečba sa podáva preparátmi rôzneho zloženia a účinku. V praxi sa v liečbe uplatnili preparát anti-TNF-alfa (infliximab alebo adalimumab), vedolizabom prípadne ustekinumabom. Kombináciou imunosupresívnej liečby adalimumabom alebo infliximabom v kombinácii s preparátom azatioprínom dlhodobým podávaním sa znižuje riziko hospitalizácie a operácie (Tkáčik 2020). Od roku 2016 je na liečbu Crohnovej choroby dostupný liek vedolizumab, ktorý sa podáva vo forme infúzie. Medzi jeho výhody patrí, že pôsobí iba v čreve (Hlavatý, Krajčovičová 2020). U pacientov so stredne ťažkou a ťažkou Crohnovou chorobou, ktorí boli dlhodobo liečení (cca 5 rokov) vadolizumabom, priniesla táto liečba klinickú remisiu a zlepšenie stavu a bola spojená s významnými klinickými benefitmi (Lukáš, 2020). Ustekinumab je druhým liekom, ktorý je podávaný v úvodnej infúzii a potom sa raz za dva až tri mesiace aplikuje podkožná injekcia. Tento liek sa ukazuje ako obzvlášť bezpečný (Hlavatý, Krajčovičová 2020).
Význam diéty pri Crohnovej chorobe patrí k neodlúčiteľnej časti liečby. Je dokázané, že u pacientov s týmto postihnutím je narušená črevná mikrobiota, ktorú práve ovplyvňuje samotná výživa. Epidemiologické štúdie potvrdzujú riziko s nástupom tzv. „západnej stravy“, ktorá pozostáva zo zvýšeného príjmu rafinovaného cukru, mäsa, pšenice, mlieka, živočíšnych tukov, prídavných látok a nedostatkom vlákniny (Čierna, 2021). V strave doposiaľ nebola identifikovaná jednoznačná potravina, ktorá by napomáhala tvorbe zápalu, alebo ho potláčala. Diétne obmedzenia závisia od toho, v akej fáze sa pacient práve nachádza. V akútnych štádiách je účinná bezzvyšková strava alebo nízkozvyšková. (Spišák, 2018). Výber potravín je orientovaný tak, aby sa obmedzovali zdroje s nestráviteľnými zložkami, predovšetkým celulóza, šupky a jadierka zo surového ovocia. Základom každej diéty pri zápalových ochoreniach čreva je dostatočný príjem základných živín (cukry, tuky, bielkoviny), vitamínov, minerálov a stopových prvkov. Vo fáze relapsu ochorenia je dobré upraviť diétny režim v zmysle šetriacej diéty. Naopak sú odporúčané mliečne výrobky, cestoviny, ľahko stráviteľné biele mäsa a ryby. V prípadoch, keď tento spôsob dodania nutrientov nie je vzhľadom na zdravotný stav chorého prípustný, je výživa aplikovaná pomocou zavedenej NGS, NJS alebo PEG. Ak je poškodenie čreva závažné, pristupuje sa k podávaniu výživy parenterálnou cestou (Čierna, 2021). Chirurgická liečba prichádza do úvahy najmä v prípade ťažkého, dlhotrvajúceho priebehu ochorenia, pri neúspešnej konzervatívnej liečbe a pri komplikáciách. (Vatechová, Vatecha 2013). Vzhľadom k veľmi častým recidívam je potrebné operačný zákrok dôkladne zvážiť a starostlivo naplánovať. Chirurgická liečba nevedie k návratu úplného zdravia, ale zahrňuje opatrenia pri komplikáciách. Jej cieľom je zachovania čo najväčšej časti čreva, vo veľmi ťažkých prípadoch dochádza k ileostómii alebo kolostómii (Janíková, Zeleníková, 2013).

1.3 Komplikácie pri Crohnovej chorobe

Pri liečení Crohnovej choroby môže dochádzať k rade komplikácií, ktoré môžu negatívne ovplyvniť liečebný proces. Pri chronických zápaloch, ktoré trvajú niekoľko týždňov, mesiacov až rokov sa môžu, ale aj nemusia vyskytnúť komplikácie (Hlavatý, Krajčovičová, 2020). Najčastejšie sa jedná o tieto komplikácie:

- črevná nepriechodnosť a perforácie - vzniká následkom zúženia čreva z dôvodu zjazvenia, čím spôsobí čiastočnú alebo kompletnú obštrukciu. Pri tejto komplikácii sa odporúča vykonanie resekcie postihnutej časti – úseku s vyústením kolostómie prípadne ileostómie (Vatehová, Vatecha 2013),
- akútny ileus - tento stav si vyžaduje urgentnú neodkladnú operáciu. Pri lokalizácii na ileu tenkého čreva vystačí resekcia, ale už pri hrubom čreve je potrebná dočasná ileostómia alebo kolostómia (Vatehová, Vatecha, 2013),
- Megacolon toxicum - patrí medzi akútne stavy so septickou dilatáciu hrubého čreva a hrozí jeho perforácia alebo krvácanie z kolonu. Úmrtnosť pacientov s touto komplikáciou je 40-60% (Vatehová, Vatecha, 2013),
- abscesy, fistuly – ktoré vznikajú ako následok zápalu v oblasti konečníka. Fistula je abnormálne spojenie - kanál, ktorý sa vytvára v zapálenej oblasti a obklopujú ho zápalové bunky. Môže vyúsťovať dovnútra smerom do lúmenu konečníka alebo navonok - do kože. Fistuly sa môžu vytvoriť aj v iných zapálených častiach čreva a spôsobiť "skraty" medzi priľahlými črevnými kľučkami, ako aj medzi črevom a inými orgánmi, akými sú napríklad močový mechúr alebo pošva (Strelka, 2014),
- stenóza - ide o zúženie časti tenkého alebo hrubého čreva, defekt sa môže vytvoriť v duodéne, jejune, ileu aj hrubom čreve. Stenózy narušujú normálnu pasáž črevného obsahu a môžu viesť k črevnej obštrukcii. Ide o akútny stav súvisiaci so základným ochorením pri Crohnovej chorobe, môže byť spojený s intraabdominálnymi abcesmi (Zelinová, 2015).

1.4 Možnosti predchádzania komplikácií

Významnou možnosťou ako predchádzať komplikáciám je dôsledne dodržiavaneie liečebného režimu a dietoterapie. To možno u pacienta výrazne podporiť edukáciou. Cieľom edukácie je získať a následne udržať chorého v úlohe aktívneho a konštruktívneho spolutvorcu liečby. Edukácia pacientov s Crohnovou chorobou sa zameriava na najmä na oblasť prijímania potravy, vyprázdňovania, užívania liekov, preferovania správneho životného štýlu. Diétny režim musí zohľadňovať stupeň a závažnosť nutričného deficitu, fázu a priebeh choroby, rešpektovať celkový zdravotný stav pacienta a prípadné pridružené choroby či komplikácie. Pacientom sa odporúča viesť si stravovací denník, do ktorého si chorý zapisuje každodenný príjem potravín spoločne s objektívnymi a subjektívnymi problémami. Ďalším dôležitým medzníkom edukácie v oblasti výživy je konzumácia mliečnych výrobkov. Chorému, ktorý netrpí neznášanlivosťou laktózy, sa odporúča zaradenie týchto výrobkov do každodennej stravy. Naopak pacientom, ktorí neznášanlivosťou mliečneho cukru trpia, sa odporúča konzumácia kyslých mliečnych výrobkov, pretože ich znášanlivosť je obvykle výrazne lepšia. Výsledkom pestrej stravy bohatej na nutrienty je zníženie rizika nedostatočného príjmu živín, vitamínov, minerálnych látok a stopových prvkov. V prípade obdobia zhoršenia klinických prejavov je nutné podávanie bezzvyškovej diéty - úplné vylúčenie potravín s vysokým obsahom nerozpustnej vlákniny (čerstvé ovocie a zelenina, strukoviny a celozrnné výrobky) a ťažko stráviteľných pokrmov, teda potravín s vysokým obsahom tukov (vyprážané a grilované jedlá). Pacienti s črevným zúžením sú edukovaní o vhodnosti bezozbytkovej stravy po celú dobu choroby, teda aj v kľudovom štádiu Crohnovej choroby (Raisová, 2019). Pacienti s Crohnovou chorobou veľmi často zažívajú problémy s vyprázdňovaním stolice. Vzhľadom na to, že sa jedná o problematiku veľmi intímnu, sa odmietajú zveriť so svojimi

problémami inej osobe, avšak pokiaľ sa tieto zásadné problémy neriešia, symptómy sa často zhoršia a pacient vyhľadá odbornú starostlivosť až v neodkladnej situácii, ktorá obvykle vyžaduje zložitejšiu terapiu. Jednou z najčastejších ťažkostí, s ktorou sa pacienti s Crohnovou chorobou stretávajú, je inkontinencia stolice. Táto problematika je chorými vo vysokej miere tabuizovaná, avšak štúdia dokazujú, že až v 74 % prípadov sa chorí s Crohnovou chorobou stretli s inkontinenciou stolice, ktorá vždy nebola spojená s urgentnou potrebou defekácie. Sestra spoločne s nutričným terapeutom a fyzioterapeutom edukuje chorého o intervenciách, ktoré môžu byť v boji s inkontinenciou stolice nápomocné. Medzi ne patrí zmena stravy ovplyvňujúca konzistenciu stolice, pravidelné posilňovanie svalstva panvového dna, behaviorálna terapia s nácvikom defekačného reflexu, prípadne užívanie antidiarrhoik a elektrická stimulácia. Súčasťou edukácie pacientov trpiacich inkontinenciou by mala byť starostlivosť o pokožku v perianálnej oblasti. Dôkladná hygienická starostlivosť je zároveň prevenciou vzniku komplikácií, ako sú intertrigo alebo mykotická infekcia (Raisová, 2019). Pohybová aktivita má pozitívne účinky na ľudský organizmus. Zvyšuje fyzickú výkonnosť, znižuje riziko výskytu kardiovaskulárnych a mnohých ďalších chorôb, má silný protibolestivý účinok pri svalových a kĺbových problémoch, pôsobí priaznivo aj na psychiku, odbúrava stres, úzkosť a depresie. Medzi pohybové aktivity, ktoré potenciálne zlepšujú priebeh Crohnovej choroby, patrí aeróbne cvičenie (aerobic, cyklistika, plávanie, behanie a chôdza), kondičné posilňovanie a joga. Chorý je edukovaný o možnosti výberu preferovaného športu. Aeróbne cvičenie predstavuje jednoduchý spôsob, pomocou ktorého je možné znížiť výskyt príznakov spojených s Crohnovou chorobou, ako je nadúvanie a plynatosť, a zároveň napomáha k zvýšeniu vytrvalosti a dosiahnutiu psychickej vyrovnanosti. Je dôležité edukovať chorého o intenzite aeróbneho cvičenia, pretože extrémna fyzická záťaž vedie k vyčerpanosti a môže zhoršiť klinické prejavy ochorenia. Ideálna doba strávená aeróbnym cvičením je napr. 30 minút mierneho a nepretržitého pohybu trikrát týždenne. Kondičné posilňovanie zlepšuje fyzickú kondíciu a redukuje únavu, ale taktiež zabraňuje strate minerálnych látok z kostí. Pri akútnom vzplanutí choroby, po chirurgických výkonoch a v období zhoršenia klinických príznakov je chorým odporúčané zníženie fyzickej aktivity na minimum. Pacienti by mali klásť dôraz na odpočinok a relaxáciu. Vhodnými pohybovými aktivitami v období relapsu sú krátke prechádzky či joga. Joga vedie k všestrannému pozitívnemu účinku v duševnej, fyzickej i emocionálnej rovine. Kombinuje starostlivo riadené pohyby tela s dýchacími technikami, výrazne znižuje hladinu stresu a napomáha k udržaniu rovnováhy a flexibility. U pacientov s Crohnovou chorobou napomáha tráveniu a zmierňuje klinické príznaky vrátane bolesti (Raisová, 2019).

2 KAZUISTIKY PACIENTOV

Spracovali sme kazuistiku dvoch pacientov. V prvom prípade išlo o 38 ročnú pacientku, ktorá sa na Crohnovu chorobu lieči od 14 rokov (rok 1999). V čase puberty nedodržiavala liečebný režim a došlo k zhoršeniu zdravotného stavu. Exacerbácia ochorenia si vyžiadala laparotómiu s resekciou céka a terminálneho ilea s ileoascendento anastomózo end-to-side. Priebeh rekonvalescencie bol komplikovaný pomalším rozvojom perilstatiky, subfebrilitami. V liečbe Sulfasalazin 500mg a 6hod., Zinnat 520mg a 12hod., Doporučené suflonamidové chemoterapeutikum, Sorbifer 2x1 tbl. Liečba infúzna terapia, analgetiká, Colimicin, Axetine, Klion, Pentassa, Hydrocortizon, Quamatel, Fraxiparine, Novocain. V nasledujúcich 5 rokoch (2009-2012) pacientka nepociťovala žiadne bolesti brucha, príznaky recidívy ochorenia, stolice boli stále vodnaté 6-7krát denne. V uvedenom období otehotnela, tehotenstvo bez komplikácií, porodila indikovanou plánovanou sekciou v ukončenom 38.týždni tehotenstva pre základné ochorenia a následnú ileoascendento – anastomózu. O tri roky neskôr (2014) porodila druhé zdravie dieťa sekciou. Následne 3 roky po druhom pôrode (2017) začala pociťovať tlak a bolesť pri prechode stolice v postihnutom mieste črева. Stolice 9–11 krát

denne. Bolo vykonané kolonoskopické vyšetrenie so záverom - prechod cez ileo - ascendento anastomózu pod miernym tlakom do terminálneho ilea, nález na sliznici v oblasti anastomózy a aborálnej časti terminálneho ilea s edematóznou sliznicou po obvode s plochou ulceráciou. Odporúčaná liečba- šetriaca, bezzvyšková diéta, Pentasa 500 mg 2x2 tbl., Imuran 50mg 2x1 tbl., Ciphin 500 mg 2x1 tbl. 5 dní a následne potom 10 dni 1x1 tbl. ráno, pri bolestiach Algifen 20 kvapiek. Vzhľadom k vyťaženej konvenčnej liečbe a recidíve Crohnovej choroby bola pacientka zaradená na biologickú liečbu Humirou. Po schválení liečby bola pacientke podaná prvá dávka biologickej liečby Humirou modelom aplikácie každé 2 týždne subkutánne. Okrem biologickej liečby pacientka užívala aj konvenčnú liečbu. Podávanie biologickej liečby prebiehalo bez komplikácií, ale epizodicky mala bolesti v pravej polovici brucha, frekventovanejšie stolice a pri tejto liečbe aj častejšie infekty. Následne po 2 rokoch (2019) zistená počas kolonoskopického vyšetrenia recidíva ochorenia v mieste anastomózy, pacientka bola prijatá na Chirurgickú kliniku na plánovanú operáciu pre stenózu. Terapia KKPA na 48h, Nolpaza 40 mg á 12h, Fragmín 2500j s.c. á 24h, infúzna terapia, analgetiká. Priebeh hospitalizácie bez koplikácii, rany sa hojili per primam, stehy ex a v klinickom dobrom stave bola prepustená do ambulantnej starostlivosti Medikácia pri prepustení Pentasa 500mg 2x2 tbl., Imuran 50mg 1x1 tbl., biologická liečba vynechaná na 2 mesiace. Po 3 rokoch (2022) sa začala sťažovať na občasné kŕče, frekventované stolice, ktoré občas neudržala. Neskôr sa k tomu pridalo nafukovanie a škŕkanie v bruchu, ešte frekventovanejšie stolice a kŕče pred stolicou v mieste anastomózy. Bolo indikované vyšetrenie MR pre zhoršenie klinického stavu s nálezom akcentovanej steny črева na úrovni anastomózy, so suspekciou miernych subakútnych zmien na slizničnej vrstve steny črева, avšak bez extenzívnejších infilratívnych prejavov zápalovej aktivity. Nález v celkovej dĺžke cca 4 cm anastomozovaných úsekov. Terapia trvalé dietetické opatrenia, bezzvyšková diéta, Pentasa 500 mg 2x2 tbl., Imunoprim 50 mg 2x1 tbl., Duspatalin 3x1 tbl. pred jedlom.V súčasnosti je ochorenie kompenzované biologickou liečbou. Pacientka dodržiava bezzvyškovú dietu, počas dňa vypije približne 1500 ml tekutín. Vyprázdňovanie črева je 6-8krát denne, niekedy aj častejšie. Stolica je vodnatá. Vyprázdňovanie moču je pravidelné bez problémov. Spí 8 hodín denne, chodí spať pravidelne okolo 22 hodiny. Vo voľnom čase chodí rada na prechádzky s deťmi a psom. Rada korčuľuje a pláva, vyhýba sa dlhým túram kvôli častým stoliciam, sporadicky športuje.

V druhej kazuistike prípade išlo o 22 ročného pacienta, ktorému ochorenie diagnostikovali vo veku 15rokov. (2015) Pacient bol akútne prijatý do nemocnice pre rýchlo zhoršujúci tav, silné bolesti brucha, zvracanie, hnačky, febrility do 40°C, poklesom hmotnosti za 4 mesiace 10 kg, prekolapsový stav. Podstúpil kolonoskopické vyšetrenie s nálezom početných ulcerácií a áft na hrubom črеve, prítomným krvácaním, edémom sliznice v celom priebehu c. sigmoideum. Ezofagogastroduodenoskopia potvrdila ezofagitídu. Realizované boli výtery TH, TN s výsledkom Staphylococcus aureus a TR Enterococcus faecalis. Liečba Ciprinol, Metronidazol, Pentasa, Prednison, Quamatel, Novalgin, Stoptussin, infúzie soľných roztokov a glukózy. Po 13 dňoch pacient v dobrom klinickom stave prepustený do ambulantnej starostlivosti. Doporučená bezmliečna, bezzbytková strava, Pentasa, Prednison, Modulen, Venofer. Počas nasledujúcich 2 týždňov pacient prijatý na chirurgickú kliniku pre bolesti okolo konečníka, subfebrilty. Vzhľadom na lokálny bolestivý nález - absces perianálne vpravo o rozmeroch asi 5x3 cm, bola indikovaná chirurgická liečba. Prevedená incízia a kontraincízia, evakuácia abscesu, discízia fistuly s elastickou ligatúrou fixovanou na pravý bok. 23.7.2015 pacient bez výraznejších ťažkostí prepustený do domácej ošetrovateľskej starostlivosti. Odporúčaná kontrola na chirurgickej ambulancii. Liečba Metronidazol 2x1tbl., Ciprofloxacin 2x1tbl. Týždeň po prepustení pacient opäť hospitalizovaný na predpokladaný relaps ochorenia, febrility do 39°C, pre početné hlienové žltozelené hnačky asi 10x denne, mierne bolesti brucha. Váha 38,25 kg, výška 158, BMI 15,36 ťažká podvýživa. Realizované

kontrolné chirurgické, gastroenterologické vyšetrenie, magnetická rezonancia s nálezom na hrubom čreve, akútna zápalová infiltrácia ľavého kolonu s prítomnosťou mnohopočetných fistulácií v perianálnej oblasti. V oblasti terminálneho ilea a v oblasti ileocekálneho prechodu zhrubnutie črevnej steny ilea v celkovej dĺžke 8-9 cm. Na 3 deň hospitalizácie potvrdená Clostridiová infekcia. Vzhľadom k prehlbujúcej sa anémii podané 2 transfúzie erymasy. Po zlepšení celkového klinického stavu dieťa prepustené do domácej starostlivosti dňa 14.8.2015. Doporučená liečba Prednison 1x30mg, Omeprazol 20mg 1x1tbl., Medociprin 2x500mg., Entizol 2x250mg., KCl 2x1tbl., Sporanox 100mg 2x1tbl., Pentasa 3x500mg tbl. Zvýšená hygiena perianálnej rany, bezmliečna, bezzbytková strava. Po roku (2016) opätovne prijatý na hospitalizáciu do nemocnice pre bolesti brucha, nauzeu, zvracanie, pridružené vodnaté hnačkovité stolice s prímesou veľkého množstva krvavých hlienov. Pacient absolvoval USG brucha a chirurgické vyšetrenie, ktoré nepotvrdilo náhlu príhodu brušnú. Pri danej liečbe sa stav výrazne zlepšil, 2 deň hospitalizácie stolice bez prímesí krvi redšej konzistencie, pokles zápalovej aktivity. Pacient bol v stabilizovanom klinickom stave prepustený do ambulantnej starostlivosti. Doporučená terapia Pentasa 500mg 3x1tbl.
Hlavným cieľom bolo zistiť aké sú rozdiely a dopady v efektívnosti v liečbe konkrétnych pacientov s Crohnovou chorobou u ženského a mužského pohlavia. Snažili sme sa identifikovať rizikové faktory komplikácii v procese liečby u vybraných dvoch pacientov s Crohnovou chorobou, analyzovali sme dodržiavanie dietoterapie a farmakologických liečebných postupov na celkový stav vybraných pacientov. Našim cieľom bolo aj analyzovať rozdiely a ich príčiny v liečebnom procese vybraných pacientov s ženským a mužským pohlavím s Crohnovou chorobou. Pacient v rokoch 2016, 2017, 2018 absolvoval pravidelné gastroenterologické poradne kde boli vykonávane fyzikálne, biochemické a zobrazovacie vyšetrenia. Dôsledne dodržiaval doporučenú liečbu a diétu. V týchto rokoch absolvoval kúpeľnú liečbu. 2019 pacient prijatý na plánovanú hospitalizáciu za účelom pankoloskopie s intubáciou terminálneho ilea pre opakovane pozitívne nálezy kalprotektínu okolo 500ug/l. Nález vyšetrenia - edém a zmazanie cievnej kresby v céku bez ložiskových zmien, intubáciu terminálneho ilea sa nepodarilo vykonať. Prítomný nález malej hiátovej hernie a gastritídy. V stolici pozitívny antigén Yersinia enterocolitica. Pacient v stabilizovanom stave prepustený do ambulantnej starostlivosti. Terapia Imuran, Nolpaza, Pentasa. Po 2 mesiacoch po zhoršenom klinickom stave pacient prijatý do nemocnice na hospitalizáciu pre vracanie denne asi 15 krát, riedke stolice s prímesou čerstvej krvi denne asi 10 krát, s úbytkom hmotnosti 3-4kg. Realizované chirurgické vyšetrenie bez známok náhlej brušnej príhody, hematologické vyšetrenie hypokoagulačný stav s alergiou na Kanavit, gastroenterologické vyšetrenie akútna exacerbácia základného ochorenia s pankreatitídou, pedopsychiatrické vyšetrenie – iná zmiešaná úzkostná porucha. Počas hospitalizácie bol pacient zaradený na biologickú liečbu a bolo mu podaných 6 dávok Humira 40mg s.c. Okrem ordinovanej liečby mal pacient aplikovanú 2 krát krvnú plazmu.Pacient v celkovom stabilizovanom klinickom stave prepustený do domácej ošetrovateľskej starostlivosti s príslušným odporúčaním a s plánovanou iniciáciou biologickej liečby. Terapia pri prepustení Biseptol, Pednison, Nolpaza, Setralin, Humira – biologická liečba raz za 2 týždne s.c.. Napriek kombinovanej imunosupresívnej liečbe u chlapca pretrvávali početné množstvá formovaných stolíc s prímesou krvi a hlienov. Kolonoskopické vyšetrenie – nález na vyšetrených úsekoch hrubého čreva je výrazne zhoršený s maximom zmien v rekte a sigme, orálnym smerom až do kolon ascendes. Prítomné plazivé vredovité lézie pokryté fibrínom, sliznica adematózna bez cievnej kresby. Bola vykonaná rektosigmoidoskopia pre zhoršenie zdravotného stavu, hnačky s prímesou krvi 6-8krát denne, stolice aj v noci. Nález vyšetrenia mierne zápalové zmeny na sliznici, sliznica výrazne hyperemická, edematózna, spontánne krváca už po insuflácii. Doporučená liečba Pentasa 500mg 3x2tbl., Prednison s postupným znižovaním dávky, Ciprofloxacin 500mg 2x1tbl., Entizol 3x1tbl., Sorbifer 2x1tbl., Kalium cloratum 1tbl.,

Acidum folicum 1tbl., Nolpaza 20mg 2x1tbl.. V roku 2020 pre neefektívnu liečbu Humirou – adalimumab bola pacientovi indikovaná liečba Emtyvio – vedoloizumab i.v, prvá dávka bola podaná 2.4.2020. Klinický celkový stav zlepšený. 14.7.2021 vykonané kontrolné kolonoskopické vyšetrenie so záverom Crohnova choroba s postihnutím hrubého čreva a terminálneho ilea aktuálne kompletné slizničné vyhojenie. Doporučené liečba Pentasa 500mg 3x2 tbl, Nolpaza 40mg pri ťažkostiach, Acidum folicum 2x1tbl., Entivio i.v.. V roku 2022 kontrola v gastroenterologickej ambulancii, vzhľadom na kompletnú slizničnú remisiu prechod na subkutánnu formu padávania biologickej liečby Entyvio 108mg á dva týždne do domáceho režimu. Pokračovanie v liečbe Pentasa, Nolpaza, Acidum folicum.

Diskusia

V kazuistikách, ktoré sme spracovali sa potvrdilo riziko komplikácií. U pacientky (kazuistika 1) sa potvrdilo- že nedodržiavanie medikamentóznej liečby vedie k relapsu ochorenia. V období puberty neužívala lieky a klinický obraz ochorenia sa zhoršil natoľko, že musela podstúpiť chirurgickú liečbu. Dodržiavaním liečebného procesu sa mohlo predísť vážnym komplikáciám ochorenia a relapsu. Pacientka v období puberty fajčila a užívala alkohol. fajčenie, konzumácia alkoholu a kofeínu. Veľké riziko zhoršenia klinických príznakov a relapsu Crohnovej choroby prináša užívanie návykových látok. Pacienti, ktorí fajčia, majú častejší výskyt relapsov a zvyšuje sa u nich pravdepodobnosť, že bude potrebná chirurgická terapia. Tiež konzumácia alkoholu priebeh zhoršuje. Až u 75 % pacientov sa po užívaní alkoholu výrazne zhoršili gastrointestinálne príznaky choroby. Mnoho pacientov s Chrohnovou chorobou, ktorým sa výrazne zlepšia klinické prejavy a choroba ustúpi do remisie, odmieta užívať lieky dlhodobo. Avšak vysadenie liekov môže viesť k znovuvzplanutiu choroby ak rozvoju komplikácií. Relaps Chrohnovej choroby narúša nielen zdravotný stav chorého, ale aj schopnosť fungovať spoločensky aj profesionálne, čo významne znižuje kvalitu pacientovho života. Ak chorý s Chrohnovou chorobou vysadí liečbu a dôjde k relapsu choroby, znovuobnovenie liečby už nemusí byť efektívne; napr. pri biologickej liečbe si organizmus dokáže vytvoriť imunogénnu reakciu na monoklonálnu protilátku, a preto choroba na účinnú látku nereaguje. Komplikáciou môže byť zjazvenie tkaniva v dôsledku zápalu, ktorý neodpovedá na protizápalovú terapiu. Nedostatočná liečba Crohnovej choroby je spojená s vyššou aktivitou ochorenia, stratou odpovede na biologickú liečbu a relapsmi, chorí majú až päťnásobne vyššie riziko vzplanutia choroby do akútneho štádia ako pacienti, ktorí sa stavajú na užívanie medikamentov dôsledne. U pacientov, ktorí nedodržujú medikamentóznu terapiu podľa pokynov svojho lekára, je tiež vyššia pravdepodobnosť morbidity a mortality (Raisová, 2019).

U pacienta (kazuistika 2) sa vyskytla komplikácia so vznikom fistuly a perianálneho abscesu o rozmeroch 5x3 cm. Pacientovi bola prevedená incízia a kontraincízia, evakuácia abscesu, discízia fistuly s elastickou ligatúrou. Príčinou vzniku komplikácie mohlo byť, zatajovanie príznakov spojené s vyprázdňovaním hrubého čreva a obáv s hospitalizácie, ktoré mohli byť spojené s diagnostikovanou úzkostnou poruchou.

Obaja pacienti sa v súčasnosti vyhýbajú provokujúcim faktorom, ktoré ovplyvňujú vznik komplikácií a zintenzívňujú príznaky ochorenia.. Medzi tieto faktory zaraďujeme nevhodné stravovanie, alkohol, a fajčenie. Nevhodná je aj konzumácia kofeínu, ktorý môže u pacientov zapríčiniť meteorizmus, diarrhoeu či dehydratáciu. (Raisová, 2019). Pacient bol práve naopak disciplinovaný v užívaní medikamentóznej liečby, ale aj u neho došlo k zhoršeniu zdravotného stavu. Obaja respondenti dodržiavajú dietetické odporúčania a bezzvyškovú diétu. Stravujú sa zdravo, racionálne. Vyhýbajú sa nezdravým mastným a vyprážaným jedlám, čerstvému pečivu, dráždivým pikantným jedlám. Vedia, že nedodržaním dietoterapie sa zmení klinický obraz ochorenia, nastúpia komplikácie a navodí sa relaps ochorenia. Raisová (2019) uvádza, že chorý musí metódou pokus-omyl vypozorovať zmeny, ktoré mu

spôsobuje tá ktorá potravina. V období relapsu sa respondenti vyhýbali športovým aktivitám pretože boli unavení a trpeli nedostatkom energie, bolesťami brucha a častými stolicami. Medzi komplikácie, ktoré sa môžu v súvislosti s Crohnovou chorobou vyskytnúť, sú análne fisúry, striktúry, hemoroidy či perianálne abscesy. Tieto príznaky bývajú často bolestivé a spôsobujú problémy s defekáciou, preto sú pacienti edukovaní o preventívnych opatreniach, pomocou ktorých je možné znížiť riziko vzniku ťažkostí alebo zmierniť ich klinické prejavy. Análne fisúry tvoria 21–35 % všetkých perianálnych lézií u pacientov s Crohnovou chorobou. Možno im predchádzať zmenou stravovacieho režimu, teda jesť stravu, ktorá zmäkčuje stolicu. Zmäkčená stolica menej dráždi črevnú stenu a nedochádza k narušeniu sliznice. Efektívne sú tiež sedacie kúpele, ktoré sa odporúčajú aj pacientom s hemoroidmi. Tieto komplikácie má až 7 % pacientov a sú často spojené s úpornou diareou, ktorá sa vyskytuje prevažne v akútnom štádiu. Problémy s vyprázdňovaním spôsobujú aj análne striktúry, u nich podstata terapie spočíva v uvoľnení svalovej stenózy, pacient si môže preliečiť striktúru sám pomocou dilatátora, príp. sa prechádza na dilatáciu digitálnu či endoskopickú s využitím balónika. Perianálne abscesy spôsobujú bolestivú defekáciu, pacient je edukovaný o prevencii ich vzniku, a to o správnej výžive bohatej na vlákninu, dostatočnom príjme tekutín a správnej defekácii, ktorú možno dosiahnuť cvičením defekačného reflexu (Strelka, 2014). Obaja respondenti v súčasnosti sporadický športujú. Pohybová aktivita vedie k zníženiu stresu, správnej peristaltike čriev, zvyšuje kvalitu života a slúži ako prevencia pridružených ochorení. Raisová (2019) uvádza, že v súvislosti s Crohnovou chorobou je možné brať pohybovú aktivitu ako ľahko dostupnú variantu pre zvýšenie kvality života. Štúdie, ktoré skúmali efekt fyzickej aktivity u pacientov s Crohnovou chorobou, zistili, že u pacientov v remisii sú pravidelné menej a stredne intenzívne cvičenia veľmi dobre tolerované a môžu mať pozitívne účinky na subjektívne vnímanie chorého. Aj krátke cvičenia s nízkou intenzitou dostatočne slúžia na to, aby sa zmiernili klinické ťažkosti súvisiace s ochorením a znížila sa hladina stresu. Počas kontrakcie kostrového svalstva sa uvoľňujú biologicky aktívne myokíny, ktoré majú protizápalový účinok. Únava, často vnímaný príznak aj v kľudovom štádiu, je pravdepodobne aspoň čiastočne sprostredkovaná prozápalovými cytokínm, u pacientov, ktorí trpia v remisii únavou, bola preukázaná znížená fyzická aktivita. Medzi ďalšie výhody fyzickej aktivity u pacientov patrí prevencia rozvoja pridružených chorôb, zvyšuje sa pružnosť kĺbov a zároveň sa znižuje ich bolestivosť, čím sa predchádza ankylozujúcej spondylitíde a dochádza k zvýšeniu pevnosti kostí, čo vedie k prevencii rozvoja osteoporózy a vzniku osteoporotickej zlomeniny.

3 ZÁVER

Crohnova choroba patrí do skupiny idiopatických črevných zápalov a predstavuje celoživotný problém, ktorý má stúpajúci charakter u mladých ľudí. Ide o civilizačné ochorenie, na ktorom sa hlavne podieľa životný štýl. Dlhodobý stres a nevhodná strava má na vznik ochorenia veľký vplyv. Je to nevyliečiteľné ochorenie so striedajúcimi sa fázami relapsov a remisii, ktoré sa dajú pomocou liečby zmierniť. Liečba je medikamentózna, v niektorých prípadoch je nutná aj chirurgická liečba. Súčasťou liečby je tiež dietoterapia, podávanie bezzvyškovej stravy, pre ktorú je typické vylúčenie hrubej vlákniny. Napriek zážnosti Crohnovej choroby sa dá toto ochorenie zvládnuť a pokiaľ je pacient s ochorením disciplinovaný a psychicky vyrovnaný, tak dokáže viesť kvalitný plnohodnotný život.

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CHRONICKÉ RANY A DEKUBITY AKO OŠETROVATEĽSKÝ PROBLÉM

CHRONIC WOUNDS AND BEDSORES AS A NURSING PROBLEM

Zuzana Micháliková, Veronika Moravská

Abstrakt

V posledných rokoch pribúda čoraz viac nových trendov v starostlivosti o chronické rany, avšak nie veľa sestier o nových možnostiach vie. Jednou zo stratégií na zabezpečenie kvalitnej starostlivosti je zamerať sa na vedomosti sestier ohľadom chronických rán. Nevedomosť sestier môže zvyšovať výskyt infekcií rán, hospitalizácie a sťažené hojenie rán. Cieľom našej štúdie bolo analyzovať údaje z dotazníka vlastnej konštrukcie a zistiť úroveň vedomostí sestier z rôznych zdravotníckych zariadení o ošetrovaní chronických rán. Na základe našich zistení je potrebné sa zamerať na vedomosti sestier ohľadom chronických rán, zvýšiť povedomie sestier o možnostiach ďalšieho vzdelávania, realizovať webináre a odborné semináre na danú problematiku a poukázať na nové trendy v oblasti chronických rán a ich prevenciu.

***Kľúčové slová*:** *Chronické rany. Dekubity. Vedomosti sestier. Ošetrovateľstvo. Nové trendy.*

Abstract

In recent years, more and more new trends in chronic wound and care have been emerging, but not many nurses are aware of the new options. One strategy to ensure quality care is to focus on nurses' knowledge of chronic wounds. Nurses' ignorance can increase the incidence of wound infections, hospitalizations, and impaired wound healing. The aim of our study was to analyze data from a self-administered questionnaire to determine the level of knowledge of nurses from different health care facilities about chronic wound care. Based on our findings, there is a need to focus on nurses' knowledge regarding chronic wounds, increase nurses' awareness of continuing education opportunities, conduct webinars and professional seminars on the subject, and highlight new trends in chronic wound care and prevention.

Keywords: *Chronic wounds. Bedsores. Nurses' knowledge. Nursing Knowledge. New trends.*

1 CHRONICKÉ RANY

Chronické rany sú charakterizované tým, že sa nehoja vo fyziologickom slede, ale vstupujú do cyklu zápalu a infekcie, čo zhoršuje obnovu kožného tkaniva. Hlavnými príznakmi sú nedostatok krycej vrstvy, zhoršená životaschopnosť tkanív, zmeny v anatomickej funkcii, infekcia, bolesť, duševné zmeny, ako je úzkosť a depresia. K najčastejším nehojacim sa ranám patrí ulcus cruris venosum, syndróm diabetickej nohy a dekubity (Dantas et al., 2022).

Sekundárne hojace sa rany sú také rany, ktoré neprešli cez normálne fázy hojenia riadne a včas (Sotto et al., 2022). Pojem chronická rana bol prvýkrát použitý v literatúre v 50. rokoch 20. storočia. Toto pomenovanie dostali rany, ktoré bolo ťažké vyliečiť alebo u ktorých nenasledoval normálny proces hojenia. Tento termín sa stretol s kritikou kvôli trvaniu chronicity. Boli navrhnuté rôzne termíny, ktoré by mohli nahradiť pôvodné pomenovanie, ako napríklad ťažko liečiteľné rany, ťažko sa hojace rany, nehojace sa rany a komplexné rany (Kyaw et al., 2017).

Chronické rany sú rany, ktoré neprešli riadnou a včasnou reparáciou po dobu troch mesiacov od ich vzniku a u ktorých sa nevytvorila anatomická a funkčná integrita (Car et al., 2017). Chronické rany sú celosvetovým zdravotným problémom, odkedy sa zvýšil priemerný vek ľudí a objavili sa faktory, ktoré vedú k vzniku rán. Medzi časté príčiny vzniku chronických rán patria diabetes mellitus, kardiovaskulárne a cerebrovaskulárne ochorenia, hypoxia, rakovina, imunosupresia, vaskulárne ochorenia, infekcie a opakované úrazy. Pri liečbe chronických rán je potrebná taká terapia, ktorá zahŕňa debridement rany, elimináciu infekcie, podporu rastu tkaniva a epitelizácie (Song et al., 2022).
Järbrink et al. (2016) dodávajú, že chronická rana je aj taká rana, ktorá prešla procesom reparácie, ale nedosiahol sa trvalý, anatomický a funkčný výsledok.

1.1 Faktory ovplyvňujúce hojenie rán

Hlinková a kol. (2015) uvádzajú, že faktory, ktoré vplývajú na hojenie rán sa môžu deliť na systémové a lokálne, ale aj na vnútorné a vonkajšie. K lokálnym faktorom patrí oxygenácia, infekcia, edémy, ischémia, hematóm, časté preväzovanie rán, nevhodné spôsoby ošetrovania, nadmerná fibrotizácia a i. Medzi systémové faktory patrí vysoký vek, pohlavie, pohlavné hormóny, stres, chemoterapia, rádioterapia, užívanie niektorých liekov, užívanie alkoholu, fajčenie, cievne ochorenia, poruchy metabolizmu, kardiálne poruchy. K vnútorným faktorom zaraďujeme stav výživy, vitamínov, poruchu imunity, vysoký vek a pod. Farmakoterapia, infekcia a devitalizované tkanivo patria k vonkajším faktorom, ktoré ovplyvňujú hojenie rany. K rizikovým faktorom pre rozvoj nehojacich sa rán patrí napr. arteriálna alebo venózna insuficiencia, diabetes mellitus, kardiovaskulárne ochorenia, imobilita, inkontinencia a infekcia. Obezita a ochorenia obličiek preukazujú pozitívnu koreláciu k chronickým ranám (Dantas et al., 2022).
Medzi 10 najčastejších faktorov, ktoré ovplyvňujú hojenie chronických rán, patria vek pacienta, typ rany, infekcia, chronické ochorenia, nedostatočná výživa a hydratácia, nízky tlak krvi, edém, opakované traumy a správanie pacienta. Ľuďom nad 60 rokov sa ťažšie hoja rany v dôsledku fyziologických zmien spojených so starnutím organizmu. Väčšie rany sa hoja pomalšie ako malé rany, no nielen veľkosť rany ovplyvňuje hojenie, ale aj ich tvar a infekcia v rane. K chronickým ochoreniam, ktoré vplývajú na hojenie rán, patria diabetes mellitus, ochorenia obehového systému a iné. Nesprávna alebo nedostatočná výživa môže spôsobiť to, že organizmus nebude mať dostatočné zdroje na podporu hojenia rán. Dehydratácia môže oddialiť fázy hojenia rán. Edém môže zvýšiť tlak na krvné cievy, čo spôsobuje zhoršenie krvného obehu v oblasti rany. Rany, ktoré sa opätovne tvoria, môžu mať spomalené fázy hojenia alebo dokonca sa hojenie môže aj zastaviť. Zlá životospráva, fajčenie a nadmerná konzumácia alkoholu tiež prispievajú k neskoršiemu a pomalšiemu hojeniu rán (Factors Affecting Wound Healing in Chronic Wounds, 2016).
Výživa môže pozitívne, ale aj negatívne vplývať na hojenie rán. Pozitívnym účinkom je dostatočné množstvo substrátov, čo vplýva na tvorbu nového tkaniva. Vysoký príjem živín môže negatívne ovplyvniť metabolizmus, a tým aj proces hojenia rán. V dôsledku úbytku telesnej hmotnosti viac vystupujú kostné výčnelky, na ktoré môže pôsobiť tlak, ak je pacient pripútaný na lôžko. Ďalej dochádza k znižovaniu prekrvenia na postihnutom mieste a môže dochádzať k vzniku nových rán (Tláskal, 2022).

1.2 Chronické rany ako ošetrovateľský problém

Zvyšujúca sa prevalencia chronických rán si vyžaduje aj zvýšenú odbornosť sestier v manažmente rán. Manažment chronických rán je neoddeliteľnou súčasťou ošetrovateľskej praxe. Je dôležité, aby mali sestry odborné znalosti a zručnosti v oblasti ošetrovania chronických rán. Starostlivosť o rany je zložitý proces, ktorý si vyžaduje presný klinický manažment. Vzdelávanie v oblasti starostlivosti o rany zahŕňa použitie efektívnych

vyučovacích techník na rozvoj vedomostí a zručností študentov ošetrovateľstva, aby sa zabezpečilo jednoduchšie a účinnejšie aplikovanie vedomostí do klinickej praxe. Prechod od pasívneho vzdelávania k aktívnemu prináša lepšie výsledky študentov. Vzdelávacie aktivity by mali byť zamerané na pritiahnutie pozornosti študentov a na podporu schopnosti kritického myslenia. Ide najmä o hranie hier a prípadové štúdie (Sengul et al., 2022).

Starostlivosť o rany vyžaduje vzdelanie, skúsenosti, starostlivosť, empatiu a trpezlivosť. Je dôležité zamerať sa aj na osobnosť pacienta, na jeho psychiku, výživu a pridružené ochorenia, vylúčiť rizikové faktory, ktoré prispievajú k zhoršovaniu hojenia rany (Vokurka, 2022).

Starostlivosť o pacientov s ranami je nevyhnutnou súčasťou ošetrovateľskej praxe. Manažment a prevencia rôznych typov rán si vyžaduje väčšie kompetencie sestier. Podľa nedávnych štúdií, študentky ošetrovateľstva uvádzajú, že počas štúdia im nie je poskytnuté dostatočné vzdelanie v oblasti starostlivosti o rany. Sestry absolventky tiež opísali pocity nepripravenosti pri starostlivosti o rany, aj keď ich postoje k manažmentu rán a prevencii sú prevažne pozitívne. Štandardizované vzdelávanie by mohlo viesť k lepším kompetenciám sestier, čo by výrazne viedlo k zlepšeniu výsledkov a k zvýšenej bezpečnosti pacientov (Viljamaa et al., 2022).

Šípová (2022) dodáva, že vzdelávanie je proces, ktorý nikdy nekončí. Neustále sa zavádzajú nové metódy, používajú sa aj nové materiály, a preto sestra, ktorá sa vzdeláva vo svojom odbore, má v starostlivosti o pacienta nezastupiteľné miesto.

Dôležitou ošetrovateľskou činnosťou je aj starostlivosť o rany, ktorá okrem prevencie rán zahŕňa viacero úloh, a to od výmeny obväzov až po edukáciu pacientov. V klinickom ošetrovateľstve sa kompetencie spájajú s odbornými štandardmi v zdravotníctve, bezpečnosťou pacienta a kvalitou starostlivosti. Starostlivosť o rany by mala byť založená na najnovších a najkvalitnejších dostupných dôkazoch. Rôzne štúdie poukazujú na to, že intervencie v starostlivosti o rany založené na dôkazoch sa často nevyužívajú (Stolt et al., 2022).

2 PRIESKUM

Pri poskytovaní ošetrovateľskej starostlivosti je dôležité venovať pozornosť hodnoteniu ošetrovania chronických rán a dekubitov a vedomostiam sestier o nehojacich sa ranách. Zhodnotením úrovne vedomostí sestier môžeme zistiť, či sú poskytované ošetrovateľské služby pre pacientov kvalitné a dostatočné. Odhaľovaním nedostatkov je možné navrhnúť také opatrenia, ktoré zabránia vzniku komplikácií. Sestry zohrávajú veľmi dôležitú rolu v celom tíme zdravotníkov a s pacientom trávia veľmi veľa času. Práve preto je potrebné, aby sme mapovali nové trendy v ošetrovaní chronických rán a poskytovali sestrám dostatočné množstvo informácií o nových zisteniach.

Cieľ prieskumu

Zistiť úroveň vedomostí sestier o chronických ranách. Zistiť, či existuje rozdiel vo vedomostiach sestier z hľadiska dĺžky praxe a z hľadiska vzdelania.

Metóda

Prieskumnú vzorku tvorilo 240 sestier s rôznym stupňom dosiahnutého vzdelania pracujúcich v nemocniciach na rôznych oddeleniach, v ambulanciách, v zariadeniach sociálnych služieb, v agentúrach domácej ošetrovateľskej starostlivosti, v psychiatrických liečebniach a na stredných zdravotníckych školách. Zber údajov prebiehal prostredníctvom štruktúrovaného webového dotazníka vlastnej konštrukcie elektronickou formou v časovom rozmedzí od novembra 2022 do februára 2023. Výber vzorky bol stratifikovaný.

Výsledky

Na deskriptívnu štatistiku a na štatistickú verifikáciu hypotéz sme použili program SPSS Statistics 26. K sprehľadneniu výsledkov sme využili tabuľky. Na komparačnú analýzu sme použili Studentov t-test pre dva nezávislé výbery a ANOVA test. Štatistickou významnosťou sme hodnotili získané výsledky výskumu z hľadiska pravdepodobnosti, s akou by sa mohol skúmaný jav vyskytnúť náhodou. V našom výskume sme používali hladinu významnosti 5% (α=0,05).

Predpoklad, že existuje rozdiel vo vedomostiach sestier z hľadiska dĺžky praxe, sme overovali prostredníctvom ANOVA testu tým, že sme vytvorili 4 skupiny. Medzi vedomostné otázky sme zaradili 9., 10., 12., 16., 19., 20., 22., 23. a 24. dotazníkovú položku.

Tabuľka 1 Vedomosti sestier verzus dĺžka praxe

Prax	N	AM	SD	F	df	p
Do 5 rokov	67	4,54	1,28	0,441	3	0,724
6 – 20 rokov	102	4,62	1,72			
21 – 35 rokov	59	4,35	1,20			
Nad 35 rokov	12	4,41	1,13			

Legenda: N – počet respondentov, AM – aritmetický priemer, SD – smerodajná odchýlka, F – testovacia štatistika ANOVA testu, df – počet stupňov voľnosti, p – p-hodnota

Prostredníctvom Tabuľky 1 sme zistili, že sestry majú približne rovnakú mieru vedomostí a nevidíme na prvý pohľad nejaký výrazný rozdiel. Priemerná miera vedomostí sestier z hľadiska dĺžky praxe do 5 rokov vyšla s hodnotou AM = 4,54, od 6 do 20 rokov s hodnotou AM = 4,62, od 21 do 35 rokov s hodnotou AM = 4,35, prax nad 35 rokov vyšla s hodnotou AM = 4,41. P-hodnota ANOVA testu vyšla vysoká s hodnotou 0,724, a teda tieto rozdiely nie sú štatisticky významné. Z nášho prieskumu vyplýva, že neexistuje rozdiel vo vedomostiach sestier z hľadiska dĺžky praxe.

Predpoklad, že existuje rozdiel vo vedomostiach sestier z hľadiska dosiahnutého vzdelania, sme overovali pomocou ANOVA testu, pričom sme vytvorili 5 rôznych skupín.

Tabuľka 2 Vedomosti sestier verzus dosiahnuté vzdelanie

Vzdelanie	N	AM	SD	F	df	p
Stredná zdravotnícka škola	25	3,73	1,72	3,552	4	0,008
Vyššie odborné vzdelanie	9	3,91	0,59			
Vysoká škola, I. stupeň	73	4,77	1,60			
Vysoká škola, II. stupeň	29	4,95	1,75			
Špecializácia	104	4,47	1,15			

Legenda: N – počet respondentov, AM – aritmetický priemer, SD – smerodajná odchýlka, F – testovacia štatistika ANOVA testu, df – počet stupňov voľnosti, p – p-hodnota

Podľa Tabuľky 2 sme zistili, že nižšie stupne vzdelania dosahujú aj nižšiu mieru vedomostí. Tie sestry, ktoré majú vysokú školu, dosiahli už na prvý pohľad vyššiu mieru vedomostí. Priemerná miera vedomostí sestier s dosiahnutým stredoškolským vzdelaním bola AM = 3,73, s vyšším odborným vzdelaním AM = 3,91, s vysokou školou I. stupňa AM = 4,77, s vysokou školou II. stupňa AM = 4,95 a u sestier, ktoré absolvovali aj špecializáciu, vyšla priemerná

miera s hodnotou AM = 4,47. P-hodnota vyšla menšia ako 0,05, a preto je tento rozdiel medzi vzdelanostnými skupinami signifikantný. Z nášho výskumu vyplýva, že existuje signifikantný rozdiel vo vedomostiach sestier z hľadiska dosiahnutého vzdelania.

2.1 Diskusia

V prieskume, ktorý bol realizovaný v rôznych typoch zdravotníckych zariadení v rámci Slovenskej republiky, sme sa zamerali na zisťovanie vedomostí sestier ohľadom ošetrovania chronických rán a na zisťovanie záujmu sestier o získavanie vedomostí o nových trendoch v rámci starostlivosti o nehojace sa rany. Na to, aby sme mohli objektívne zhodnotiť vedomosti sestier, potrebovali sme získať adekvátne údaje z dotazníka vlastnej konštrukcie. Dáta boli získavané od sestier, ktoré pracujú v nemocniciach, ADOS, ZSS, DSS, ambulanciách a iných typoch zdravotníckych zariadení. Na základe zozbieraných údajov a ich analýze sme mohli posúdiť vedomosti sestier ohľadom ošetrovania chronických rán a dekubitov. Dotazník vyplnilo 240 respondentov.

Vyhodnotením údajov z dotazníka vlastnej konštrukcie sme zistili, že neexistuje korelácia medzi vedomosťami sestier a dĺžkou praxe, pretože priemerná miera vedomostí sestier z hľadiska dĺžky praxe do 5 rokov vyšla s hodnotou AM = 4,54 a priemer praxe nad 35 rokov vyšiel s hodnotou AM = 4,41. Toto zistenie potvrdili aj Bérešová et. al (2021) a uviedli, že roky praxe nemajú významný vplyv na dosiahnuté vedomostné skóre respondentov v ich výskume. Výsledky výskumu Phana et al. (2023) poukazujú na to, že pri posudzovaní sestier podľa kompetenčných štandardov je potrebné zlepšiť úroveň kompetentnosti sestier v starostlivosti o rany. Zistili, že existuje zreteľná medzera medzi teóriou a praxou, ktorú treba riešiť. Odporúča sa, aby nemocnice realizovali školenia pre všetky sestry s využitím základných kompetenčných štandardov pre sestry na zlepšenie kvality starostlivosti. Haghani, Ghezeljeh, Khojastehfar (2020) dodávajú, že vedomosti a prax sestier v súvislosti s prevenciou dekubitov boli neuspokojivé, pričom sestry mali dostatočne dlhú prax. Na druhej strane, výsledky štúdie Zhanga et al. (2021) naznačujú, že existuje pozitívna korelácia medzi znalosťami, postojom a praxou prevencie dekubitov.

V prieskume našej štúdie sme zistili, že čím nižšie je dosiahnuté vzdelanie, tým majú sestry menej vedomostí o chronických ranách a dekubitoch. Priemer vedomostí sestier s ukončeným stredoškolským vzdelaním bola AM = 3,73 v porovnaní s priemerom s najvyšším dosiahnutým vzdelaním VŠ II. stupňa AM = 4,95. Murugiah et al. (2020) sa vo svojej prierezovej štúdii zamerali na zistenie a porovnanie poznatkov o prevencii dekubitov u študentov posledného ročníka odboru ošetrovateľstvo. Zistili, že existujú významné rozdiely v znalostiach o dekubitoch, pričom výsledok tejto štúdie bol signifikantný $p < 0,001$. Absolventi ošetrovateľstva mali viac vedomostí ako študenti. Z tejto štúdie je zrejmé, že čím je vyššie dosiahnuté vzdelanie, tým vyššie sú poznatky o dekubitoch. Tento výskum podporili aj Gillespie et al. (2014), ktorí zistili, že napriek dostatočným teoretických znalostiam o chronických ranách, preukázali sestry pracujúce v Austrálii nedostatočné využitie vedomostí v praxi a aj slabé uplatňovanie klinických odporúčaní. Potvrdili existenciu pozitívneho vzťahu medzi vyšším vzdelaním alebo špecifickým kurzom o životaschopnosti tkanív a priaznivým postojom k EBP, čo naznačuje, že vzdelávanie zlepšuje prax.

Sestry s vysokoškolským vzdelaním mali viac vedomostí a zároveň aj tie, ktoré získali špecifické vzdelanie v oblasti starostlivosti o dekubity. Hoci väčšinu odporúčaní o starostlivosti o dekubity, ktoré sa nachádzajú v usmerneniach, sestry dobre poznajú, existuje skupina intervencií, o ktorých nemajú dostatočné znalosti a majú nízku mieru implementácie (Hidalgo et al., 2007). Naše zistenia potvrdili aj Dudgall a Watson (2009), ktorí vo svojej štúdii uvádzajú, že sestry, ktoré dosiahli vyššiu úroveň akademickej kvalifikácie v porovnaní so sestrami, ktoré absolvovali formálne školenie o životaschopnosti tkanív, dosiahli vo

všeobecnosti vyššie skóre v testoch znalostí o starostlivosti o rany a v postoji k praxi založenej na dôkazoch.

3 ZÁVER

Chronické rany sa vyskytujú v odhade na 2,21/1000 obyvateľov a najčastejšie postihujú osoby vo veku 70 – 80 rokov (Kozoň a kol., 2021). Sekundárne hojace sa rany a dekubity predstavujú závažnú komplikáciu v zdravotníctve a zhoršujú kvalitu života pacientov. Na ich vzniku sa podieľa viacero faktorov, ako je napr. tlak na predilekčné miesta, chronické ochorenia, výživa, hydratácia a iné.

Na základe našich zistení sme dospeli k záveru, že ak chceme, aby mali sestry dostatok vedomostí o chronických ranách a dekubitoch, ich ošetrovaní a prevencii, mali by sme poukazovať na nové trendy v manažmente rán. Dôležitým aspektom je aj motivovanie sestier k ďalšiemu vzdelávaniu a k účasti na odborných seminároch, čím sa zabezpečí skvalitňovanie poskytovanej starostlivosti pacientom s chronickými ranami. A ak je to možné, treba zabezpečiť aj viac personálu na jednotlivé pracoviská.

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FLUOROGENIC SUBSTRATE FOR DETECTION OF PHOSPHATIDYLINOSITOL SPECIFIC PHOSPHOLIPASE C WITH OPTIMIZED LINKER

Laura Anna Tomanová, Matej Babjak, Zuzana Babjaková, Chunyan Yao

Abstract

Diagnostic methods currently used for detection of *Listeria monocytogenes* need quite a long time to provide results (up to 6 days), increasing the incidence of listeriosis caused by this pathogen. In order to prevent the outbreaks of listeriosis, methods for monitoring the production environment should be able to detect the presence of *L. monocytogenes* as soon as possible. The aim of this project is to synthesize and biologically test several fluorogenic substrates designed to facilitate fast and sensitive detection of *L. monocytogenes* with possible on-site use. These probes are composed of an enzyme specific domain – myo-inositol 1-phosphate connected with 4-methylumbelliferone fluorophore through variously substituted linker. Designed substrates could prove efficient for detection of *L. monocytogenes*, based on the fluorometric results of previously synthesized substrates with similar structure and mode of action.

Key words: *Listeria monocytogenes, fluorogenic substrate, phosphatidylinositol-specific phospholipase C*

1 BACKGROUND AND OVERVIEW OF THE PROJECT

1.1 *Listeria monocytogenes*

Listeria monocytogenes is a gram-positive bacterial pathogen, that can be found throughout the environment in soil, water sources, plants and animals. It can easily survive and grow in a wide range of temperatures (-0,4 – 45°C) and pH values (4,6 – 9,5) with high levels of salt (up to 20%) [1]. Therefore, it is likely that *L. monocytogenes* could survive the food conserving process and make it directly to the consumer. It has been also demonstrated that *L. monocytogenes* cannot be completely eliminated by cleaning and sanitation processes and can persist for months or even years in the environment [2]. Main cause of transmission of this pathogen to humans is considered to be the consumption of contaminated food. Therefore, the aforementioned adaptability of *L. monocytogenes* adds to the risk of acquiring the infection, especially from ready-to-eat and raw food. The disease which can develop in human body after the initial exposure is called listeriosis and poses the greatest risk to immunocompromised patients, older adults, pregnant women and patients undergoing immunosuppressive treatment. *L. monocytogenes* is usually responsible only for sporadic infections, but a few outbreaks have been recorded throughout the years. Even though the incidence of listeriosis is admittedly rather low, it is compensated with relatively high mortality rate of 20-30% worldwide [3]. Common clinical manifestation in mild cases is gastroenteritis. In more severe cases it is presented by sepsis, meningitis, encephalitis, and in pregnant women it can cause mother-to-fetus infection, even leading to an abortion [4]. Patients with listeriosis are treated with antibiotics, mainly penicillin or ampicillin, sometimes in combination with gentamicin [5].

In order to minimize the risk of contracting this pathogen, there is a high demand for a cost-effective and sensitive detection method, preferably with an on-site use. Conventional assays used for detection of *L. monocytogenes* in samples are usually genotypic. These methods

require culture enrichment followed by cultivation on selective agar medium, which needs to be performed in a laboratory. As a result, these tests are laborious and time-consuming, since a safe negative result is usually available after 4 days and positive result can be obtained after 4-6 days [6]. This is rather inconvenient, mainly in regards to identifying the contaminated product and recalling it from the store shelves. Therefore, many research groups are currently focused on development of faster and more sensitive detection methods.

1.2 Design of the fluorogenic substrate

Over the years it has been shown, that many species of bacteria can be detected based on their production of specific enzymes. These assays employ fluorogenic, chemiluminescent or chromogenic probes able to react specifically with one chosen enzyme, leading to release of a detectable molecule. Thanks to the simplicity of their use and high sensitivity, fluorogenic probes are sought after means of detection. Their attractivity lays especially in their ability to be used for detection in coloured samples, such as blood or urine. General structure of fluorogenic probes consists of at least two parts: an enzyme-specific domain, which is identical or structurally very similar to a natural substrate of detected enzyme, and a fluorophore. Fluorophore is a molecule with an ability to re-emit light following an initial excitation by an external light source. Photons emitted by the excited fluorophore upon its relaxation back into the ground state have lower energy than those absorbed, resulting in elongation of their wavelengths and decrease in frequency. This change is caused by a partial energy dispersion in the form of vibrations or heat into the solution, otherwise called a non-radiative decay. Fluorescence is a very quick phenomenon, and the emitted light ceases immediately after the external light source is turned off.

The enzyme chosen for its fluorogenic detection of *L. monocytogenes* is phosphatidylinositol-specific phospholipase C (PI-PLC). Main advantage of PI-PLC is that it is an exoenzyme, meaning that the bacteria excrete it into the surrounding environment. This fact significantly simplifies the design and following synthesis of an effective probe. The role of PI-PLC in living organisms is to help facilitate cell-to-cell spread, by enabling the escape of *L. monocytogenes* from primary and secondary vacuoles (or phagosomes). These envelopes are formed upon the initial entry into a host cell and the subsequent spread to neighbouring cells respectively. Walls of these vacuoles are formed from the membrane of the eukaryotic host cell. The cytosolic (inner) side of this membrane contains, as its minor component, the natural substrate of PI-PLC – phosphatidylinositol.

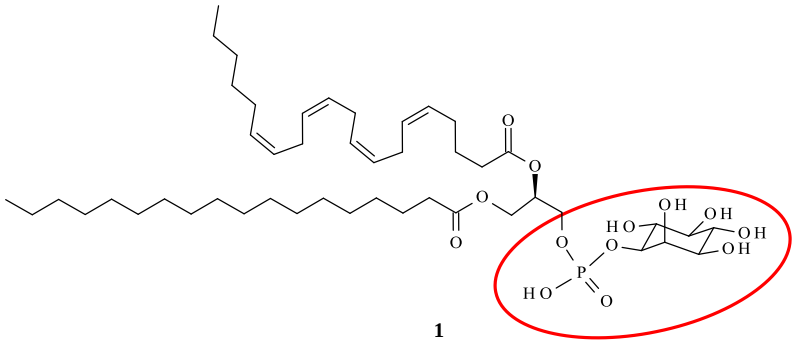


Figure 1: An example of natural glycerophospholipidic substrate of PI-PLC with highlighted myo-inositol 1-phosphate group.

Phosphatidylinositol is a glycerophospholipid composed of two fatty-acids, glycerol and myo-inositol 1-phosphate group, with the latter one being the part which binds to the active site of PI-PLC, subsequently undergoing an enzymatic cleavage. Therefore, when designing the

optimal substrate for detection of PI-PLC we need to include the myo-inositol 1-phosphate group in its final structure, preferably directly bound to a fluorescent marker.
Fluorophore was chosen to be 4-methylumbelliferone, because of its excellent fluorogenic and biological properties. The fluorescent profile of this compound is highly dependent on the pH values of the solution.

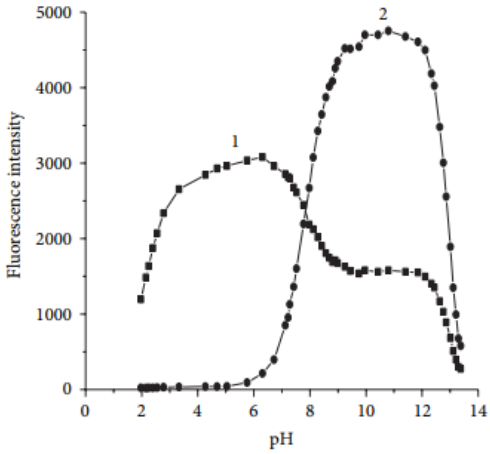


Figure 2: Relationship between fluorescence intensity and pH values at $\lambda_{ex}/\lambda_{em}$: 1=320 nm/ 445 nm, 2= 360nm/ 445 nm [7].

4-methylumbelliferone exhibits strong fluorescence in almost neutral aqueous conditions with maximum excitation wavelength (λ_{ex}) of 320 nm and maximum emission wavelength (λ_{em}) of 445 nm (Figure 2). At this λ_{ex} it can be observed, that with the drop in pH values, the fluorescence intensity also decreases. If the pH becomes more basic, the intensity of the fluorescence signal also increases at 445 nm, but the excitation band at 320 nm subsided and is replaced by a new one at 360 nm. These findings make 4-methylumbelliferone an excellent fluorophore for our purposes.
During the previous years of research invested into this topic by our research team, a few other variants of 6 were already synthesized and biologically tested. This project is a continuation of said research, whose results will be eventually compiled in a comprehensive publication. It is also currently still in progress, therefore we don't list the exact reaction steps for syntheses of the substrates 6a-c, but overall, it is an eight-step process. Key building blocks used for synthesis of 6 were 2,3,5,6-di-O-isopropylidene-4-(tetrahydropyran-2-yl)-myo-inositol (2), methyl N,N-diisopropylchlorophosphoramidite (3), 4-methylumbelliferone (4) and variously substituted 4-hydroxybenzaldehyde (5).

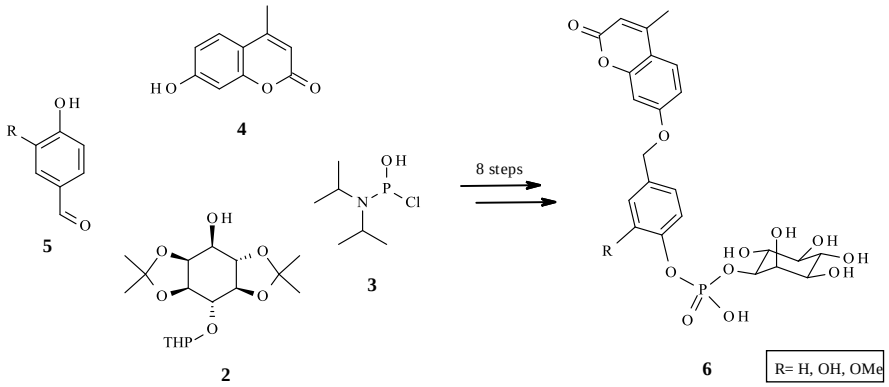
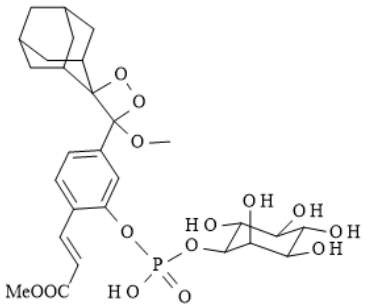


Figure 3: Key components for the eight-step synthesis of the designed substrates with an unsubstituted (6a) and hydroxy- (6b) and methoxy- (6c) substituted linker.

Designed fluorogenic probes have a considerable potential to provide specific and sensitive detection of *L. monocytogenes*. This assumption is based on described characteristics of their chemiluminescent counterparts, which resulted from the research cooperation of NEMIS Technologies AG and university in Tel-Aviv. In general, this publication details synthesis of various dioxetane compounds and their use for determination of presence, absence, quantification, and identification of different microorganisms [8]. One of these inventions was developed particularly for the detection of *L. monocytogenes* (Figure 4).



9

Detection of *Listeria monocytogenes* with Compound **9**				
Inoculation density (CFU/mL)	Organism	Mean RLU (n = 3)	Standard error (%, n = 3)	Signal to noise ratio (to sterile)
10^5	*L.i.*	33	8.3	2.3
10^5	*E.c.*	7	5.7	0.5
10^5	*L.m.* 1	11913	1.7	832
10^5	*L.m.* 2	10258	9.0	713
10^4	*L.m.* 2	242	9.0	17
10^3	*L.m.* 2	31	2.7	2.2
10^2	*L.m.* 2	12	2.9	0.9
0	sterile	14	6.9	1

Figure 4: Structure of chemiluminescent probe 9 and a table containing its chemiluminescence profile in different conditions [8].

Similar to our substrates, chemiluminescent probe 9 is composed of an enzyme-specific myo-inositol 1-phosphate group bound to a phenoxy-dioxetane luminophore (AquaSpark). This probe allowed detection results to be obtained within half an hour from time it was added to the sample of *L. monocytogenes*, previously cultivated for 6 hours. Acquired light signal also had a high signal to noise ratio, as is mentioned in the third and fourth row of the table in Figure 4. Furthermore, other bacterial colonies were tested as selectivity related negative control, namely *Listeria innocua* (L. i.) and *Escherichia coli* (E. c.), which do not produce the PI-PLC enzyme. It has been shown that regardless of the growth of these culture, they could not be detected by the probe **9**, further proving its specificity.

1.3 Effect of substituents on stability and reactivity

To establish the best structure design of **6,** we need to understand the mechanism of its reaction with PI-PLC during detection (Figure 5), which was derived from previously acquired data for similar compounds. In the first step, the PI-PLC enzyme catalyses cleavage of the O-P bond between the phenolic oxygen and phosphorus from the phosphodiester group. This is initiated by abstraction of the neighbouring hydroxy group by basic residues in the active site of the enzyme. Resulting oxyanion acts as a nucleophile and attacks the phosphorus atom to form a pentacovalent transition state, rapidly collapsing into myo-inositol 1,2-cyclic phosphate by-product and a negatively charged intermediate containing the fluorophore [9]. This intermediate subsequently undergoes a spontaneous elimination reaction, during which the shift of electrons from the phenolic oxyanion through the benzene ring expels the fluorophore in its anionic form. Presence of this reporter molecule in the sample is observable upon illumination of said sample with UV light source. The fluorophore absorbs the photons, promoting itself into an excited state, from which it rapidly relaxes back into the ground state by releasing the absorbed light. Emitted photons have lower energy and longer wavelengths, placing them into the visible spectrum (blue). The overall rate of this

enzymatic reaction is dependent on the character of the linker, namely electronic and steric effects of its substituents.

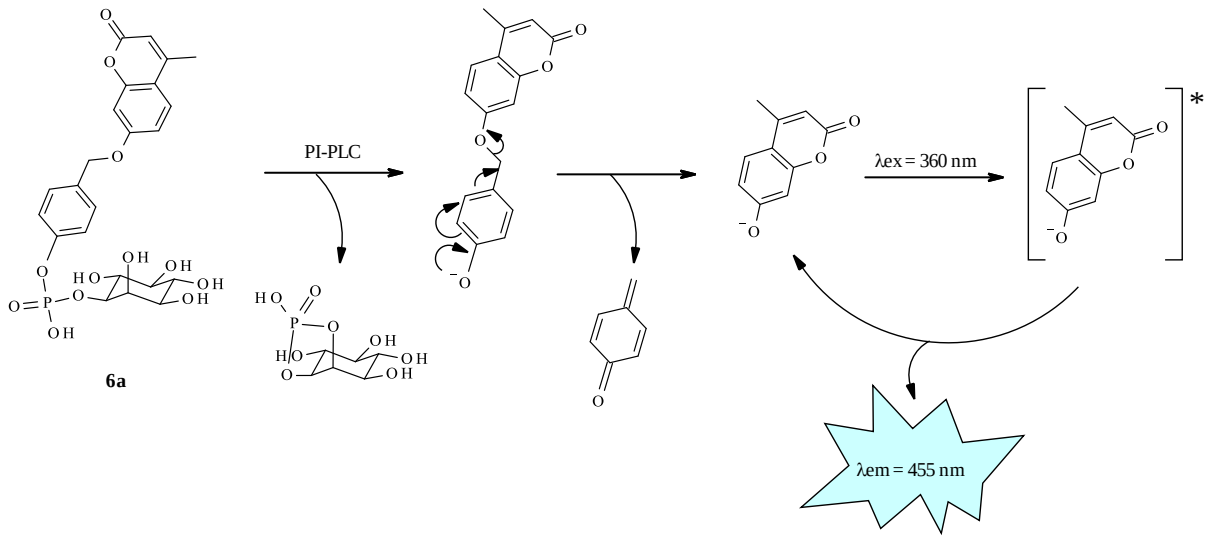


Figure 5: Mechanism of an enzymatic cleavage of the probe 6a during the detection assay.

During the research conducted by our colleagues, the great importance of a linker was shown. If the fluorophore was directly connected to the myo-inositol 1-phosphate group, the substrate exhibited low stability, which resulted in low background to noise ratio during fluorescence measurements [10]. Moreover, low chemical stability prevented any commercial use due to unacceptably short shelf life. This drawback can be easily solved by introducing a linker into the structure of the final substrate. Linkers in general are a great way to add stability to the overall structure while still enabling the desired release of a fluorophore upon the enzymatic cleavage. In our case, we employ a very simple and commonly used benzylic linker, whose efficiency can be improved with different substituents. In the aforementioned mechanism it has been shown, that a negatively charged intermediate is formed upon enzymatic cleavage of the probe. Therefore, an electron-donating substituent would be able to enhance the stability of the structure by increasing the electron density in the benzene ring of the linker. This would also increase the activation energy of formation of the phenolic oxyanion, hence lowering the background signal of the substrate.

Influence of linker modifications in close proximity to the O-P bond undergoing the enzymatic cleavage can be demonstrated on an example of these three probes 8a-c (Figure 6). Structure of these substrates differs in the number of electron donating methyl substituents in the ortho positions to the phenolic oxygen. Increasing number of methyl groups was experimentally proven to add stability to probes 8b and 8c. This manifested as a significant decrease in their abiotic hydrolysis in a buffer solution in comparison to the probe 7 without the linker (Figure 6).

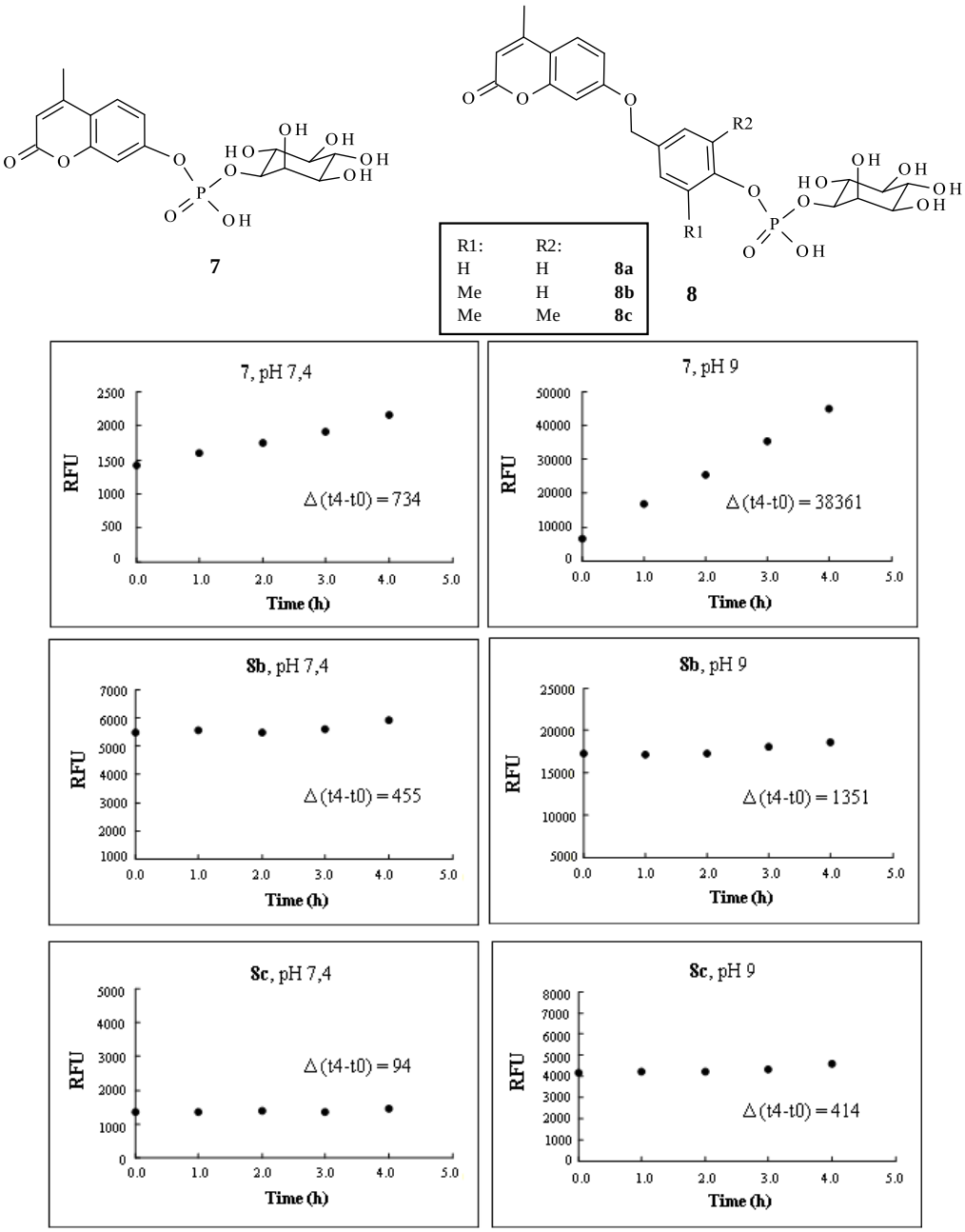


Figure 6: Effect of methyl substituents on abiotic hydrolysis of substrates 8a and 8b in aqueous solution with different pH values in comparison to 7 without a linker. Results were recorded over the time period of 4 hours, with the difference in fluorescence intensity caused by decomposition of substrate represented by Δ(t4-t0).

However, the methyl substituents created a considerable steric hindrance, which was shown only in the presence of the PI-PLC enzyme, where it remarkably restricted the desired enzymatic cleavage of the O-P bond. Fluorometric measurements in Figure 7 showed a substantial decline in fluorescence intensity of substrates 8b and 8c in comparison to the unsubstituted 8a, making them not suitable for detection of *L. monocytogenes*. Replacement of methyl group for hydroxy group could be more effective, based on its greater influence as an electron donating substituent resulting from the resonance effect of its lone electron pairs on oxygen. Hydroxy group is also smaller in size, so it should pose less of a steric hindrance during the enzymatic reaction. This remains to be proven after the completion of syntheses of all three probes 6a-c.

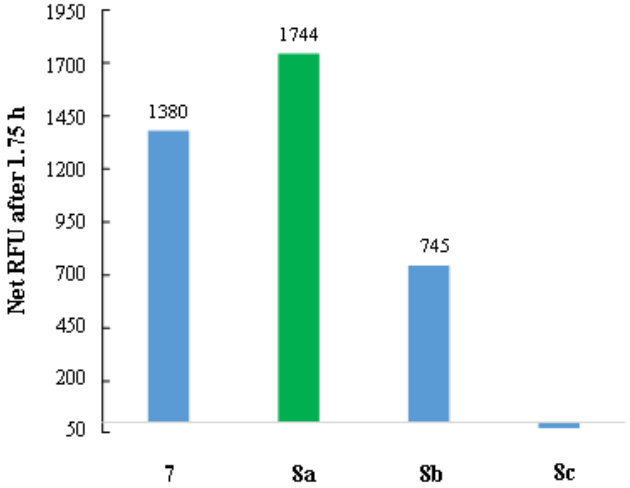


Figure 7: Intensities of fluorescence for probes with differently substituted linker 8a-8c compared to the substrate with no linker 7.

2 CONCLUSION

In this paper we demonstrated the specificity and effectivity of previously synthesized chemiluminescent and fluorogenic substrates designed for selective detection of *L. monocytogenes*. By employing differently substituted linkers we can modify the chemical and fluorescent properties of these probes. It has been shown, that steric effects of these substituents need to be taken into consideration, since they can inhibit the enzymatic cleavage of substrates during detection. Even two methyl groups surrounding the cleaved bond were enough to completely prevent the enzymatic reaction. Therefore, we opted for the usage of smaller hydroxy substituted linker. Based on previous results, this substrate should exhibit increased stability and fluorescence intensity than their predecessors.

Acknowledgements

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VYBRANÉ ASPEKTY KVALITY ŽIVOTA PACIENTOV S DIABETES MELLITUS

SELECTED ASPECTS OF THE QUALITY OF LIFE OF PATIENTS WITH DIABETES MELLITUS

Andrea Šuličová, Tatiana Šantová, Zuzana Šimová, Jana Cinová, Zuzana Novotná, Ľubica Derňarová

Abstrakt

Pojem kvalita života reprezentuje rozličné aspekty života: biologické, psychické a sociálne. Kvalita života je významným ukazovateľom vyhodnocovania vplyvov chronického ochorenia, ako je napríklad diabetes mellitus. Je to celoživotné chronické civilizačné endokrinné a metabolické ochorenie. Dodržiavanie liečebných opatrení má významný vplyv na priaznivú kompenzáciu ochorenia a následne na rozličné aspekty kvality života pacientov s diabetes mellitus.

Kľíčová slova: *diabetes mellitus, kvalita života, pacient*

Abstract

The term quality of life represents various aspects of life: biological, psychological and social. Quality of life is an important indicator for evaluating the effects of a chronic disease, such as diabetes mellitus. It is a lifelong chronic civilizational endocrine and metabolic disease. Adherence to treatment measures has a significant impact on the favorable compensation of the disease and consequently on various aspects of the quality of life of patients with diabetes mellitus.

Key words: *diabetes mellitus, quality of life, patient*

1 KVALITA ŽIVOTA PACIENTOV S DIABETES MELLITUS

Kvalita života je súborom faktorov, ktoré človeku poskytujú blaho, či už materiálne alebo emocionálne. Ide o komplex podmienok, ktoré musí jednotlivec mať, aby uspokojil svoje potreby. Kvalitu života je výstižne definovaná: „ako celková spokojnosť so životom a všeobecný pocit osobnej pohody, duševnej harmónie, životnej spokojnosti. Kvalita života je mnohorozmerná, má svoje aspekty biologické, filozofické, sociologické, psychologické, ekonomické i politické. Súvisí s integritou a vyspelosťou osobnosti, vzdelaním a inteligenciou, s otázkami zdravia, hodnotového systému jednotlivca a spoločnosti“ (1, 2).

Podľa SZO/WHO je zdravie definované ako: „stav telesnej, psychickej a sociálnej pohody a nielen neprítomnosť choroby“. Zdravie človeka je úzko prepojené s kvalitou jeho života. SZO/WHO uvádza, že kvalita života vyjadruje „ako ľudia vnímajú svoje miesto v živote, v kontexte kultúry a hodnotových systémov v ktorých žijú a vo vzťahu ku svojim cieľom, očakávaniam a záujmom.“ Tiež je kvalita života vymedzovaná ako „pocit jednotlivcov alebo skupín obyvateľstva, že sú uspokojované ich potreby, a že im nie sú odopreté príležitosti k dosiahnutiu šťastia a naplnenia života“ (3). Meranie kvality života sa stalo dôležitým aspektom pri hodnotení výstupov zdravotnej starostlivosti či efektivity liečby z perspektívy pacienta (4). Kvalita života: „v sebe vždy odráža pocit pohody vychádzajúcej nielen z telesného, ale aj zo sociálneho a duševného stavu každého jedinca.“ (5).

Priebeh ochorenia diabetes mellitus je ovplyvnený faktormi, ktoré majú aj psychosociálny charakter, pretože ide o chronické, nevyliečiteľné a progredujúce ochorenie. Chorého človeka ovplyvňuje, ba až obmedzuje v niektorých aktivitách denného života. Toto ochorenie si vyžaduje dlhodobú disciplinovanosť, aby chorý mohol žiť „normálny“ život. Dôsledky ochorenia diabetes mellitus sa premietajú do roviny biologickej, psychosociálnej a ekonomickej.

1.1 Biologická rovina ochorenia diabetes mellitus

V biologickej (fyzickej) rovine musí pacient dodržiavať liečebné režimové opatrenia v oblasti užívania liekov – perorálnych antidiabetík (PAD) alebo aplikácie inzulínu, v oblasti stravovania, pohybovej aktivity a selfmonitoringu glykémie. Pacienti s DM sú nastavení na celoživotnú liečbu buď vo forme užívania PAD alebo vo forme injekčnej – subkutánnej aplikácie inzulínu pomocou inzulínového pera alebo inzulínovej pumpy. To si vyžaduje , aby boli dostatočne edukovaní o správnej aplikácii inzulínu, dodržiavaní dávky inzulínu, frekvencie aplikácie, správnom postupe aplikácie do podkožia a striedaní miesta vpichu v rámci prevencie lipodystrofie tkaniva. Musia dodržiavať diétne opatrenia a nutnosť konzumácie jedla po aplikácii inzulínu. Inzulínové pero a glukomer by mali nosiť stále so sebou, mať dostatočnú zásobu náplne inzulínu a tiež testovacích prúžkov na meranie glykémie. Súčasťou liečby je nevyhnutnosť primeranej pohybovej aktivity. Z pohľadu Mojta (2016) sa dobrá metabolická kompenzácia diabetu môže dosiahnuť len v prípade, ak sa na liečbe rovnako podieľa medikamentózna liečba, fyzická aktivita a primeraná diéta (6). Pohybová aktivita napomáha znižovaniu hladiny glukózy v krvi. Po fyzickej stránke je nutné, aby pacient s DM dodržiaval tieto režimové opatrenia v rámci životného štýlu, nakoľko majú podstatný vplyv na kompenzáciu ochorenia, cieľom ktorej je dosiahnuť hodnoty glykémie v hodnotách čo najbližších fyziologickému rozhraniu hladiny glukózy v krvi. Je potrebné vyhnúť sa zvýšeným alebo až vysokým hodnotám glykémie, pretože opakované hyperglykémie majú vplyv na vznik predovšetkým chronických komplikácií ako je diabetická retinopatia, neuropatia, nefropatia a angiopatia (až vznik diabetickej nohy). Pacienti, ktorí sú nastavení na inzulínoterapiu by mali byť edukovaní o rizikách hypoglykémie v prípade nenajedenia po aplikácii inzulínu, aplikácie vyššej dávky inzulínu alebo v prípade ochorenia. Hypoglykémia vzniká pomerne rýchlo a môže vyústiť až do bezvedomia. Všetky tieto liečebné opatrenia zasahujú do fyzickej oblasti kvality života. Okrem nutnosti dodržiavať liečebné a režimové opatrenia ovplyvňujú kvalitu života aj rôzne príznaky komplikácii DM.

1.2 Psychosociálna rovina ochorenia diabetes mellitus

V psychosociálnej oblasti sa ochorenie DM premieta do psychického prežívania, v behaviorálnej rovine, ako sa pacient chová a v rovine sociálnej ako ochorenie ovplyvňuje roly a rodinný a pracovný život pacienta. U pacientov s diagnostikovaným ochorením diabetes mellitus, hlavne u tých, ktorí si musia subkutánne aplikovať inzulín, je zvýšené riziko vzniku depresie. Môžu sa prejaviť rôzne, no najčastejšie príznaky sú zvýšená únava, úzkosť, smútok, poruchy spánku a až suicidálne myšlienky. Depresie tak môžu ovplyvniť fungovanie pacienta, stratí záujem o starostlivosť o vlastné zdravie, začne zanedbávať svoju liečbu a to môže viesť k akútnym a chronickým komplikáciám.

K sociálnym dôsledkom patrí okrem choroby a zdravotného postihnutia aj diskriminácia na pracovnom trhu, niekedy aj v školách, a nepriaznivá sociálna situácia, vzhľadom na vyššie finančné náklady na stravovanie, lieky, testovacie prúžky na meranie glykémie, senzory a pod., na možnú nezamestnanosť, prípadne na nízke invalidné dôchodky. Náklady spojené s diabetom zahŕňajú aj väčšie využívanie zdravotníckych služieb, stratu produktivity a invaliditu. Tie sú veľkou záťažou pre jednotlivca, a tiež rodinu.

2 PRIESKUM KVALITY ŽIVOTA PACIENTOV S DIABETES MELLITUS

Hlavným cieľom prieskumu bolo zistiť, analyzovať, porovnať a vyhodnotiť ako je ovplyvnená kvalita života pacientov s ochorením diabetes mellitus v rôznych oblastiach života na základe ich subjektívneho vyjadrenia. Zistiť ako vnímajú pacienti svoju kvalitu života, identifikovať ako ochorenie ovplyvnilo ich biologické potreby, zistiť u pacientov ako diabetes ovplyvnil ich psychosociálne potreby.

Vzorku respondentov tvorilo 78 pacientov s ochorením diabetes mellitus, z toho 40 respondentov (51%) má diabetes mellitus 1. typu a 38 respondentov (49%) má diabetes mellitus 2. typu. Vzorku tvorilo 35 mužov (45%) a 43 žien (55%), ktorí sa nachádzali v produktívnom veku od 20 do 59 rokov. K zberu údajov sme použili štandardizovaný dotazník WHOQOL – BREF.

2.1 Analýza výsledkov prieskumu

Tab. 1 Subjektívne hodnotenie kvality života

Možnosti	**Respondenti s diabetes mellitus I.typu**		**Respondenti s diabetes mellitus II.typu**	
	Počet	**%**	**Počet**	**%**
1-Veľmi zlá	0	0,00	1	2,63
2-Zlá	2	5,00	2	5,26
3-Ani dobrá, ani zlá	11	27,50	19	50,00
4-Dobrá	20	50,00	12	31,58
5-Veľmi dobrá	7	17,50	4	10,53
SPOLU	**40**	**100**	**38**	**100**
Aritmetický priemer	**3,80**		**3,42**	

Tab. 2 Subjektívne hodnotenie schopnosti pracovať

Možnosti	**Respondenti s diabetes mellitus I.typu**		**Respondenti s diabetes mellitus II.typu**	
	Počet	**%**	**Počet**	**%**
1-Veľmi nespokojný/á	2	5,00	4	10,53
2-Nespokojný/á	3	7,50	5	13,15
3-Ani spokojný/á, ani nespokojný/á	4	10,00	10	26,32
4-Spokojný/á	23	57,50	15	39,47
5-Veľmi spokojný/á	8	20,00	4	10,53
SPOLU	**40**	**100**	**38**	**100**
Aritmetický priemer	**3,80**		**3,26**	

Tab. 3 Výskyt negatívnych emócií (zlá nálada, zúfalstvo, úzkosť, depresia)

Možnosti	**Respondenti s diabetes mellitus I.typu**		**Respondenti s diabetes mellitus II.typu**	
	Počet	**%**	**Počet**	**%**
1-Nikdy	2	5,00	2	5,26
2-Zriedka	21	52,50	12	31,58
3-Celkom často	12	30,00	13	34,22

4-Veľmi často	5	12,50	9	23,68
5-Stále	0	0,00	2	5,26
SPOLU	**40**	**100**	**38**	**100**
Aritmetický priemer	**2,50**		**2,92**	

2.2 Diskusia

Diabetes mellitus je komplexné ochorenie, ktoré zasahuje do všetkých oblastí života a zdravia. Našim cieľom bolo identifikovať bio-psycho-sociálne dopady ochorenia na kvalitu života prostredníctvom subjektívneho vyjadrenia respondentov s obidvoma typmi diabetes mellitus. Použili sme dotazník Svetovej zdravotníckej organizácie WHOQOL – BREF, skrátenú verziu dotazníka kvality života. V našom príspevku sa sústredíme skôr na psychosociálne dôsledky ochorenia diabetes mellitus ako vybraného aspektu kvality života.

Respondenti v našej vzorke síce popisujú, že ich ochorenie nemá výraznejší vplyv na psychosociálne potreby, ale častokrát uvádzajú stavy úzkosti a strach z vývoja komplikácii. Preto je potrebné venovať sa aj psychickému prežívaniu pacientov s diabetes mellitus. Owis a kol. (2023) konštatujú, že v súvislosti s rastúcou prevalenciou tohto ochorenia na celom svete sú k dispozícii iba obmedzené informácie, ktorý dotazník je najefektívnejší pre diabetického pacienta. V prehľadovej štúdii sledovali vzťah šiestich rôznych dotazníkov kvality života (QoL) a duševného zdravia. Zistenia identifikovali SF-12 ako najviac validovaný a časovo efektívny dotazník ktorý umožňuje medzikultúrnu adaptáciu, ktorú možno použiť v populačných štúdiách na celom svete. Podporujú používanie SF-12 u dospelých pacientov. Odporúčajú realizovať v budúcnosti multicentrický prospektívny výskum, ktorý pomôže objasniť kauzalitu o súvislostiach medzi duševným zdravím a QoL a identifikovať bariéry u ľudí s DM zahŕňajúce jednotlivcov z rôznych kultúrnych prostredí (7). Abbas a kol. (2023) sledovali účinnosť kognitívnej behaviorálnej terapie u pacientov s DM 2. typu na anxietu, kvalitu života a liečebnú adherenciu. Dospeli k záveru, že kognitívna behaviorálna terapia spôsobila podstatné zlepšenie úzkostných a depresívnych symptómoch u pacientov s DM 2. typu. Tiež sa potvrdilo, že tento typ terapie je účinný a na dôkazoch založená liečba na riešenie symptómov depresie a úzkosti zlepšuje liečebnú adherenciu a kvalitu života u diabetických pacientov. Pomáha pacientom zvládať každodenné rutiny, udržať motiváciu pre liečbu a rozvíjať pozitívne postoj k životu (8).

Zaujímavým zistením pre nás bolo, že respondenti s DM 1. typu vykazovali priemerne vyššiu spokojnosť ako pacienti s DM 2. typu, a to vo viacerých oblastiach napr., v oblasti spokojnosti s osobnými vzťahmi, spokojnosti so sebou, podporou priateľov, spokojnosti so zdravím, zmyslom života, bezpečnosťou v každodennom živote, schopnosťou sústrediť sa, energiou na bežný život, rozvíjaním záujmov a schopnosťou pracovať. Prevažne negatívne hodnotili schopnosť prijať svoj fyzický vzhľad, rozvíjanie svojich záujmov a najlepšie hodnotili respondenti položky, ktoré sa týkajú pohybu, sociálnych vzťahov, zmyslu života a informácií potrebných na každodenný život. Iba menšia časť pacientov vyjadrila nespokojnosť s jednotlivými oblasťami kvality života s tým, že ich kvalita života nie je vôbec porovnateľná so zdravým jedincom (9).

Moawd (2022) konštatuje na základe porovnania výskytu distresu u vysokoškolských študentov s diabetom 1. a 2. typu, že obe skupiny vykazovali prítomnosť distresu bez signifikantných rozdielov. Táto záťaž súvisiaca s DM ovplyvňuje kvalitu života a autor uvádza potrebu ďalšej štúdie na posúdenie a prevenciu dlhodobých negatívnych javov vplyvu distresu na kvalitu života, spojeného s progresiou tohto ochorenia. Prioritou by mohla byť psychologická intervencia s cieľom pomôcť študentom s DM znížiť vplyv stresu z ochorenia DM (10).

Diabetes a pridružené komplikácie výrazne zasahujú do bežného života pacienta, v neposlednom rade by mal byť bežnou súčasťou liečby diabetika aj kontakt so psychológom a sociálnym pracovníkom. Práve z finančného hľadiska, ale aj pre pretrvávajúce tabuizovanie psychologickej pomoci, býva sociálna, najmä však psychická sféra tohto ochorenia veľmi zanedbávaná. Pritom sa ukazuje, že až 50 percent diabetikov pociťuje veľmi často negatívne emócie. Depresia sa u diabetikov vyskytuje dvakrát častejšie ako v zdravej populácii. Intervenujúca pomoc psychológa môže zvyšovať sebadôveru pacienta, to vedie k lepšiemu selfmonitoringu, znižuje výskyt negatívnych emócií a v konečnom dôsledku vedie k lepšej kompenzácii ochorenia diabetes mellitus. Prijatie tohto ochorenia, disciplína v životospráve, edukácia diabetika a jeho blízkych rozhodujú o tom, či sa z cukrovky stane nevyliečiteľná choroba alebo životný štýl (11).

2.3 Záver

Liečba diabetu má niekoľko cieľov, no ten hlavný je, aby mal pacient čo najkvalitnejší, plnohodnotný a aktívny život, ktorý bude čo najmenej obmedzený a bude sa najviac blížiť k normálu. Kvalitu života týchto pacientov nezaručuje len liečebno-preventívny režim, ale aj sociálno-ekonomické zázemie. V rámci zvyšovania kvality života pacientov s DM je potrebné neustále upozorňovať na dôležitosť dobrej metabolickej kontroly a dôsledného selfmonitoringu glykémie. To všetko však nie je možné bez dôkladnej edukácie pacienta a znalosti rizík, ktoré zo sebou ochorenie prináša.

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HODNOTENIE POTENCIÁLU OVSA SIATEHO PRE REMEDIÁCIU PÔD KONTAMINOVANÝCH KADMIOM

ASSESSMENT OF THE POTENTIAL OF SOWED OAT FOR REMEDIATION OF CADMIUM-CONTAMINATED SOILS

Libuša Lengyelová, Beáta Piršelová, Ľudmila Galuščáková, Veronika Kubová

Abstrakt

Štúdie posledných rokov poukazujú na potenciálne využitie ovsa siateho (*Avena sativa*) pre remediáciu pôd kontaminovaných kadmiom. V danej štúdii hodnotíme toleranciu ôsmich odrôd ovsa (cvs. Aragon, Prokop, Pushinskij, Racoon, V2 6/19, Václav, Valentin a Vok) na ióny kadmia (Cd^{2+} 50 mg/kg pôdy) a tiež ich remediačný potenciál. Testované odrody ovsa vykazovali vysokú toleranciu na Cd a prednostne akumulovali Cd v koreňoch. Najvyšší obsah Cd akumulovala v koreňoch aj výhonkoch odroda V2 6/19, najmenej odroda Vok. Vzhľadom na nízke hodnoty translokačného faktora (TF 0.21-0.34) a bioakumulačného faktora pre výhonky (BAF 0.17-0.35) vo všeobecnosti testované odrody ovsa nevykazujú dobrý remediačný potenciál pre pôdy kontaminované Cd. Vysoká tolerancia týchto odrôd na Cd a zároveň vysoký akumulačný potenciál koreňov (BAF 0.80-2.00) však naznačuje možnosti využitia týchto odrôd pre fytostabilizáciu Cd kontaminovaných pôd.

Kľúčové slová: *Kadmium, ovos, remediácia, tolerancia*

Abstract

In recent years studies point to potential use of oats (*Avena sativa*) for remediation of soils contaminated with cadmium. In this study, we evaluate the tolerance of eight oat varieties (cvs. Aragon, Prokop, Pushinskij, Racoon, V2 6/19, Václav, Valentin and Vok) to cadmium ions (Cd^{2+} 50 mg/kg soil) and also their remediation potential. The tested oat varieties showed a high tolerance to Cd and they preferentially accumulated Cd in roots. The highest Cd content was accumulated in roots and also in shoots by the V2 6/19 variety, and the least content of Cd was by the Vok variety. Due to low values of translocation factor (TF 0.21-0.34) and bioaccumulation factor for shoots (BAF 0.17-0.35), in general, the tested oat varieties do not show a good remediation potential for Cd-contaminated soils. However, the high tolerance of these varieties to Cd and the high accumulation potential of roots (BAF 0.80-2.00) indicate the possibility of using these varieties for phytostabilization of Cd contaminated soils.

Key words: *Cadmium, oat, remediation, tolerance*

1 ÚVOD

Kontaminácia pôd rizikovými prvkami predstavuje globálny problém. Predpokladá sa, že v celej EÚ je kontaminovaných vyše pol milióna lokalít, a pokiaľ tieto lokality nebudú identifikované a vyhodnotené, budú naďalej predstavovať potenciálne závažné environmentálne a zdravotné riziká. Ekologické problémy súčasnosti ako aj čoraz väčší dôraz na zdravie človeka vytvárajú tlak smerom k hľadaniu prírode blízkych spôsobov využitia resp. dekontaminácie zamorených pôd. Jednou z možných techník je použitie fytoremediácie, t.j. pestovanie rastlín, ktoré sa vyznačujú schopnosťou hyperakumulácie ťažkých kovov na kontaminovanej pôde. Rastliny potenciálne vhodné na remediáciu pôd by mali vyhovovať

nasledovným požiadavkám: vysoká akumulácia rizikových prvkov v pletivách bez výrazného poškodenia rastlín, rýchly rast a značná produkcia biomasy, jednoduchosť agronomického manažmentu a ekonomický záujem o zbernú biomasu (Raskin a kol., 1997). Doterajšie štúdie poukazujú na veľké rozdiely v akumulácii kovov medzi rastlinnými druhmi a tiež odrodami. Viaceré neúspešné experimenty s tolerantnými rastlinami v remediačných programoch sú pripisované práve prehliadnutiu environmentálnych interakcií špecifických pre genotyp.
Kadmium (Cd) je neesenciálny prvok pre rastliny a je považovaný za jeden z najtoxickejších ťažkých kovov vďaka jeho vysokej mobilite v prostredí a schopnosti vyvolávať toxicitu už pri nízkych koncentráciách v organizmoch (Benavides a kol., 2005). Toxické účinky Cd na rast rastlín, metabolizmus a aktivitu enzýmov sú dobre zdokumentované: Cd inhibuje rast rastlín, narúša fotosyntézu, metabolizmus cukrov, asimiláciu živín a činnosť viacerých enzýmov [8].
Ovos siaty (*Avena sativa* L.) z čeľade Poaceae (lipnicovité) je viacúčelová obilnina pestovaná v mnohých častiach sveta. Výnimočné postavenie má ovos siaty z hľadiska jeho využitia v rastlinnej výrobe, keďže sa nejedná len o významnú kŕmnu plodinu, ale i potravinársku obilninu s vysokou dietetickou a nutričnou hodnotou. Ovos akumuluje vo svojich pletivách vyššie množstvo Cd ako napr. kukurica alebo horčica a vykazuje tiež lepšiu toleranciu voči stresu (Azizian a kol., 2011; Boros-Lajszner a kol., 2019). Vďaka týmto vlastnostiam sa stáva preferovaným kandidátom pre remediáciu Cd kontaminovaných pôd. Cieľom práce bolo zhodnotiť remediačný potenciál vybraných odrôd ovsa siateho pre pôdy kontaminované kadmiom.

2 MATERIÁL A METÓDY

2.1 Založenie nádobového pokusu

Experiment bol založený ako nádobový s 8 odrodami ovsa siateho (*Avena sativa* L.): Pushinskij, Vok, Valentin, Vaclav, V2 6/19, Prokop, Racoon a Aragon vo variantoch K (kontrola) a Cd. Semená ovsa boli zasiate (10 semien/nádoba) do pôdneho substrátu (Klasman TS2), po ich zasiatí bol do pôdy aplikovaný roztok Cd v dávke 50 mg Cd/kg substrátu (vo forme $CdCl_2.2H_2O$). Rastliny boli pestované v rastovej komore (Fitotron), v podmienkach rastu: (t = 24°C, vlhkosť = 60%, intenzita osvetlenia = 20 000 lux a fotoperióda 12 h deň / 12 h tma). Zálievka bola prispôsobená maximálnej sorpčnej kapacite substrátu a potrebám rastlín. Po 20 dňoch kultivácie bol odobratý rastlinný materiál pre analýzy. Pokus prebehol v 3 biologických opakovaniach.

2.2 Stanovenie biomasy koreňov a výhonkov a tolerančného indexu

Po ukončení kultivácie bola stanovená čerstvá hmotnosť (FW) a suchá hmotnosť (DW) výhonkov a stanovený tolerančný index podľa vzťahu:

TI (%) = (biomasa stresovaných rastlín / biomasa kontrolných rastlín) x 100

2.3 Stanovenie obsahu kadmia

Rastlinný materiál (0,5 g) bol homogenizovaný v zmesi 5 ml vody, 5 ml koncentrovanej HNO_3 p.a. (Merck, Darmstadt, Nemecko) a 1,5 ml H_2O_2 p.a. pomocou mikrovlnnej rúry Mars Xpress. Kadmium sa stanovilo pomocou optickej emisnej spektroskopie s indukčne viazanou plazmou (ICP-OES 725, Varian 725 ES ICP, Melbourne, Austrália) podľa Kováčika a kol. (2019).

2.4 Stanovenie bioakumulačného a translokačného faktora

Na základe obsahu Cd v pletivách bol stanovený bioakumulačný faktor (BAF) a translokačný faktor (TF) podľa Usman a kol. (2019).

BAF = obsah kovu v pletive / obsah kovu v pôdnom substráte
TF = obsah kovu vo výhonku / obsah kovu v koreni

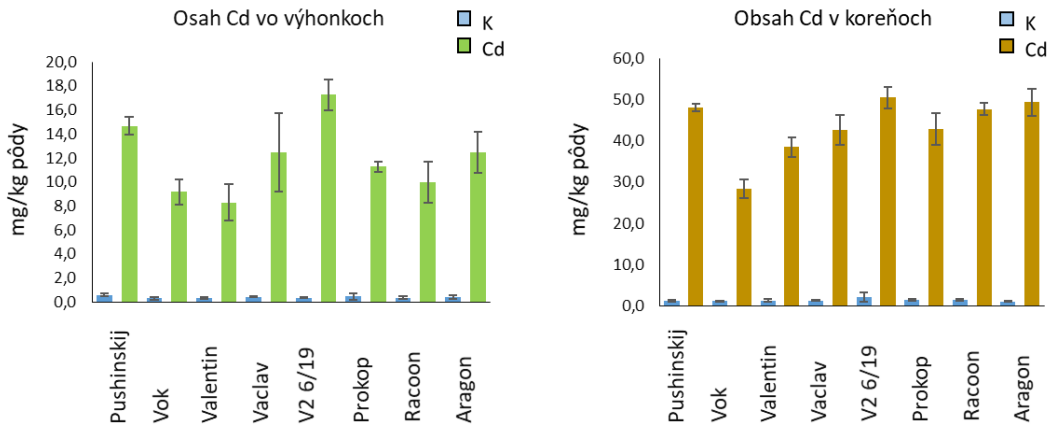
3 VÝSLEDKY A DISKUSIA

Testované odrody ovsa prejavili vysokú toleranciu na dávku Cd 50 mg/kg pôdy. Tolerančné indexy sa pohybovali v rozmedzí 93.50-125.43 % (pre čerstvú hmotnosť výhonkov) a 94.53-122.96 (pre obsah sušiny výhonkov (Tabuľka 1). Najvyššiu toleranciu prejavila odroda Pushinskij a najnižšiu odroda Prokop. Na vysokú toleranciu na dávky Cd do 20 mg/kg pôdy poukázali viacerí autori (Tůma a kol., 2014; Marchel a kol., 2018). Na druhej strane, inhibícia rastu, pokles obsahu fotosyntetických pigmentov ako aj výnosu boli zaznamenané už pri dávkach 10 mg/kg pôdy (Azizian a kol., 2011; Rolka, 2015; Boros-Lajszner a kol., 2019).

Tabuľka 1 Tolerančný index stanovený na základe čerstvej hmotnosti (FW) a obsahu sušiny výhonkov (DW).

	Tolerančný index (%)							
Odroda	Pushinskij	Vok	Valentin	Vaclav	V2 6/19	Prokop	Racoon	Aragon
FW	125.43	115.13	105.12	105.05	113.48	93.50	105.14	120.61
DW	122.96	105.09	106.94	98.69	107.92	94.53	98.57	111.74

Dané odrody sa líšili množstvom akumulovaného Cd v pletivách. Najviac Cd akumulovali vo svojich výhonkoch odrody V2 6/19 a Pushinskij (17.27 a 14.67 mg/kg sušiny) a najmenej odroda Valentin (8.3 mg/kg sušiny). Akumulácia v koreňoch bola u všetkých odrôd vyššia, najviac Cd akumulovali vo svojich koreňoch odrody V2 6/19, Aragon a Pushinskij (50.45; 49.35 a 48.05 mg/kg sušiny) a najmenej odroda Vok (28.4 mg/kg sušiny) (Obr. 1). Porovnateľné množstvá Cd akumulovali aj výhonky ovsa cv. Moozart pri dávke 53,61 mg/kg pôdy (Azizian a kol., 2011).



Obr. 1 Obsah kadmia vo výhonkoch a koreňoch testovaných odrôd ovsa. Údaje vyjadrujú aritmetický priemer ± smerodajnú odchýlku. K – kontrola, Cd – kadmium.

Pre zhodnotenie remediačného potenciálu ovsa sme stanovili bioakumulačný faktor (BAF) a translokačný faktor (TF). BAF vyjadruje účinnosť akumulácie kovu vzhľadom na jeho množstvo v pôde a TF vyjadruje schopnosť rastlín translokovať kov do vyšších častí rastlín. Hodnoty BAF odzrkadľujú množstvo Cd v pletivách. Hodnoty BAF pre korene boli vyššie (0.80-2.00) ako pre výhonky (0.17-0.35). Na slabý transport kovu z koreňov do výhonkov poukazujú aj pomerne nízke hodnoty TF (0.21-0.34) (Tabuľka 2).

Tabuľka 2 Hodnoty bioakumulačného a translokačného faktora pre testované odrody ovsa.

Odroda	Bioakumulačný faktor (BAF) pre korene	Bioakumulačný faktor (BAF) pre výhonky	Translokačný faktor (TF): výhonky/korene
Pushinskij	0.98 ± 0.02	0.29 ± 0.02	0.31 ± 0.03
Vok	1.14 ± 0.05	0.18 ± 0.03	0.32 ± 0.08
Valentin	0.80 ± 0.05	0.17 ± 0.03	0.22 ± 0.04
Vaclav	1.62 ± 0.07	0.25 ± 0.08	0.29 ± 0.08
V2 6/19	1.03 ± 0.05	0.35 ± 0.09	0.34 ± 0.02
Prokop	1.71 ± 0.08	0.23 ± 0.01	0.26 ± 0.00
Racoon	1.00 ± 0.03	0.20 ± 0.01	0.21 ± 0.02
Aragon	2.00 ± 0.074	0.25 ± 0.04	0.25 ± 0.05

Dané výsledky poukazujú na genotypovú variabilitu v akumulácii kovu, obsah Cd v koreňoch iba slabo koreluje s obsahom Cd vo výhonkoch (R=0.377) čo je výsledkom rozdielov v translokácii Cd do výhonkov.

4 ZÁVER

Testované odrody ovsa vykazovali vysokú toleranciu na kadmium a prednostne akumulovali Cd v koreňoch. Najvyšší obsah Cd akumulovala v koreňoch aj výhonkoch odroda V2 6/19, najmenej odroda Vok. Vzhľadom na nízke hodnoty TF a BAF pre výhonky vo všeobecnosti testované odrody ovsa nevykazujú dobrý remediačný potenciál pre pôdy kontaminované Cd. Vysoká tolerancia týchto odrôd na Cd a zároveň vysoký akumulačný potenciál koreňov však naznačuje možnosti využitia týchto odrôd pre fytostabilizáciu Cd kontaminovaných pôd. Hlbšie štúdium mechanizmov tolerancie ovsa na Cd a modifikácia metodických prístupov môžu prispieť ku zvýšeniu remediačného potenciálu ovsa.

Poďakovanie

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EVALUATION OF ARSENIC TOLERANCE OF OAT (*AVENA SATIVA* L.)

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Abstract

We evaluate the tolerance of oat (*Avena sativa* L.) to arsenic in two experimental approaches. In early stages of ontogenesis, we evaluated the effect of arsenic (As 10 $mg.l^{-1}$ solution) on root growth of seedlings of 22 oat varieties. The tested varieties showed considerable variability in response to As, the tolerance index (TI) ranged from 68.18-126.67%, with the highest tolerance shown by the Valentin variety and the lowest by the Ivory variety. The Václav variety reached TI=125.53%. We also evaluated the growth of this variety in soil contaminated with 10, 20 and 50 mg $As.kg^{-1}$. Within the given experiment, the variety Václav showed a high tolerance in the entire range of As doses (TI>100%). The stimulatory effect of As on tested parameters is explained by mechanism of hormesis. Knowing the tolerance of varieties to As is a presumption for successful cultivation of this crop in As-contaminated soil and at same time the use of this crop in remediation of As-loaded soils.

Key words: *arsenic, oat, tolerance, genotypic variability*

1 INTRODUCTION

Heavy metals and metalloids are important environmental contaminants. Increased accumulation of these elements in soil causes a decrease in yields of agricultural crops and threatens individual links of food chain. The solution to the given problem lies on the one hand in the application of suitable remedial measures technologies and also in search and breeding of tolerant plant varieties.

Arsenic (As) is a dangerous environmental contaminant. Common soil As concentrations range between 1-50 $mg.kg^{-1}$, with an average value for world soils of 4.4 $mg.kg^{-1}$ for podzols and 9.3 $mg.kg^{-1}$ for organic soils, and a median value of 7.2 $mg.kg^{-1}$ for Slovakia soils (Dragun, 1998). Arsenic occurs in environment in various organic and inorganic compounds. Of inorganic compounds, these are mainly arsenates-As(V) and arsenites-As(III), while arsenites are more prevalent in anaerobic soil and are more toxic than arsenates (Finnegan and Chen, 2012). In plants, mainly arsenic compounds occur, as the received forms of As(V) are reduced to forms of As(III) by means of arsenic reductase (Xu et al., 2007).

There is no evidence that arsenic (As) is essential for plant growth, although small amounts of arsenic can stimulate plant growth and increase plant biomass (Onken and Hossner, 1995). In addition, small yield increases have been observed at low levels of As, especially for tolerant plants such as corn, potatoes, rye, and wheat (Carbonell et al., 1998; Gulz et al., 2005; Jacobs et al., 1970). However, with increasing concentration As becomes eventually very toxic for all plants, causing oxidative stress, chlorosis, necrosis, inhibition of growth and finally death (Zhao et al., 2009).

Oat belongs among the important agricultural crops with universal use, but its tolerance to heavy metals and metalloids is relatively poorly studied. The aim of this study is to evaluate the tolerance of selected oat varieties to arsenic within two experimental approaches.

2 MATERIAL AND METHODS

2.1 Experiment 1

Seeds of 22 varieties of oat (*Avena sativa* L.) were pre-germinated in Petri dishes in dark at 23°C for 48 hours. Subsequently, viable, approximately identical sprouts were transferred to a new medium with a volume of 20 ml in the following variants: distilled water (control) and As solution (5 mg/l).

The solutions of arsenic (AsIII) were prepared from certified reference material for arsenic (Sigma-Aldrich, Darmstadt, Germany). After 48 hours of cultivation, the length of roots was measured using a ruler and the fresh weight (FW) of the roots was measured, too. The tolerance index (TI) was calculated as a ratio of the mean fresh weight (FW) of plants grown in the presence of arsenic, and the mean FW of the control plants expressed as a percentage (Wilkins, 1978). The experiment was set up in three replicates.

2.2 Experiment 2 - pot experiment

In the pot experiments, plastic containers (diameter 15 cm) were filled with 300 g dry peat substrate (Klasmann KTS 2, Klasmann-Deilmann GmbH, Germany, pH KCl. 6.7, gravimetric soil water content max. 70%, total arsenic (As) content 1.13 $mg.kg^{-1}$, water soluble arsenic (As) content 0.15 $mg.kg^{-1}$ soil, nitrogen (N) content 1.65 $g.kg^{-1}$, carbon (C organic) content 81.59 $g.kg^{-1}$, phosphorus content (P) 0.38 $g.kg^{-1}$, potassium (K) content 0.43 $g.kg^{-1}$), to which 20 seeds were sown. After sowing, arsenic in doses of 10, 20 and 50 $mg.kg^{-1}$ of soil (As10 to As50) was applied to the soil substrate. The solutions of arsenic (AsIII) were prepared from certified reference material for arsenic (Sigma-Aldrich, Darmstadt, Germany). The plants were then regularly watered (every third day), with the water volume corresponding to maximum 80% of the soil's water-holding capacity (150 ml). The pot experiment was conducted in a growth chamber (average night temperature 12°C, average day temperature 23°C, humidity 60–70%; radiation intensity of 400 $\mu mol.m^{-2}.s^{-1}$). The experiment was set up in three replicates. After 12 days of growth in contaminated soil, the following parameters were measured: shoot length, fresh weight FW and dry weight (DW) of shoots and photosynthetic pigments content in leaves.

2.2.1 Determination of Growth Parameters and Tolerance Index

The length of the roots was measured with a ruler. After measurement the FW of roots, the DW was determined after drying the roots in an oven for 48 hours at 60°C.The tolerance index (TI) was calculated as a ratio of the mean dry weight (FW) of shoots grown in the presence of arsenic, and the mean FW of shoots of control plants expressed as a percentage (Wilkins, 1978).

2.2.2 Determination of Photosynthetic Pigments

The contents of photosynthetic pigments: chlorophyll a (Chl*a*), chlorophyll b (Chl*b*), and carotenoids were determined spectrophotometrically (spectrophotometer UV-2601, Shimadzu, Japan) in fully developed third assimilating leaves at three wavelengths: 470 nm, 648 nm, and 664 nm. Acetone (80%) was used for pigment extraction. The amount of pigments (chlorophylls and carotenoids) was determined according to Lichtenthaler (1987) in six replicates in each variant of the experiment.

2.2.3 Statistical Analyses

The obtained results were statistically analysed using XLSTAT software. Basic statistical characteristics (arithmetic mean, standard deviation) were determined. The differences between variants of the experiment were examined using t-test or the Kruskal–Wallis test, followed by Dunn's post hoc test ($p<0.05$).

3 RESULTS AND DISCUSSION

The roots of tested oat varieties showed variability in response to arsenic. Changes in growth parameters are shown in Table 1.

Table 1. Effect of arsenic (As) on growth parameters of root of selected cultivars of oat

Cultivar	Length of roots (cm) Control	Length of roots (cm) As	FW of roots (g) Control	FW of roots (g) As
Swbetania	88.90 ± 10.11	83.71 ± 10.25 *	0.063 ± 0.009	0.060 ± 0.006
Bingo	87.02 ± 10.14	79.68 ± 10.69 *	0.043 ± 0.007	0.051 ± 0.004 *
Valentin	89.62 ± 10.67	86.40 ± 12.06	0.039 ± 0.007	0.049 ± 0.007 *
Pomoro	89.54 ± 9.48	86.44 ± 10.91	0.066 ± 0.005	0.070 ± 0.009
Václav	92.74 ± 10.79	76.51 ± 9.29 *	0.047 ± 0.006	0.059 ± 0.004 *
Tatran	100.17 ± 10.62	89.17 ± 11.22 *	0.062 ± 0.008	0.062 ± 0.006
Pushkinskij	90.26 ± 11.24	86.25 ± 10.41 *	0.050 ± 0.010	0.060 ± 0.008 *
Vok	91.12 ± 11.13	91.54 ± 10.21	0.045 ± 0.006	0.057 ± 0.004 *
CD SOL Fl	88.38 ± 12.71	78.51 ± 11.27 *	0.050 ± 0.009	0.050 ± 0.007
V2 6/19	83.93 ± 10.00	87.75 ± 12.51 *	0.068 ± 0.008	0.067 ± 0.013
Prokop	99.50 ± 9.05	96.34 ± 10.00	0.050 ± 0.008	0.055 ± 0.008
PS 243	60.60 ± 7.37	73.70 ± 11.40 *	0.043 ± 0.008	0.052 ± 0.004 *
Viliam	88.02 ± 11.59	69.31 ± 8.99 *	0.063 ± 0.008	0.052 ± 0.004 *
V2 11/19	84.46 ± 9.46	66.54 ± 10.70 *	0.048 ± 0.005	0.048 ± 0.005
Ac Percy	85.87 ± 9.41	79.71 ± 9.64 *	0.051 ± 0.006	0.047 ± 0.007
V2 1/19	92.36 ± 11.92	85.74 ± 11.85 *	0.043 ± 0.009	0.041 ± 0.006
Bison	83.80 ± 10.12	48.93 ± 9.56 *	0.054 ± 0.007	0.042 ± 0.004 *
Ozon	76.74 ± 11.91	49.18 ± 13.46 *	0.043 ± 0.005	0.037 ± 0.002
Aragon	111.79 ± 16.61	88.36 ± 18.98 *	0.057 ± 0.006	0.052 ± 0.005
Bay Yan2	100.93 ± 23.46	84.43 ± 14.21 *	0.05 ± 0.006	0.045 ± 0.009
Ivory	81.79 ± 13.30	52.45 ± 11.30 *	0.032 ± 0.010	0.024 ± 0.003 *
Racoon	78.12 ± 11.87	63.30 ± 11.18 *	0.044 ± 0.004	0.030 ± 0.005 *

Data are presented as means ± SD from three biological replicates. * the level of significance of the differences against the control at $p < 0.05$ (t-test). FW – fresh weight.

A significant stimulatory effect of As on root elongation was shown in the case of varieties V2 6/19 and PS 243 (root elongation by 4.55% and 21.62%). In the case of the other varieties, root growth was inhibited (Table 1), with the strongest inhibition in the case of the variety Bison. The tolerance indices determined for fresh biomass of roots were in the range of 74.03-127.56. The varieties Valentin, Vok, Václav, PS 243 and Pushkinskij showed the highest tolerance to As, and the lowest tolerance had varieties Ivory, Bison, Viliam, Racoon and Ozon (Fig. 1). The stimulatory effect of As on plant growth was also pointed out by Onken and Hossner (1995).

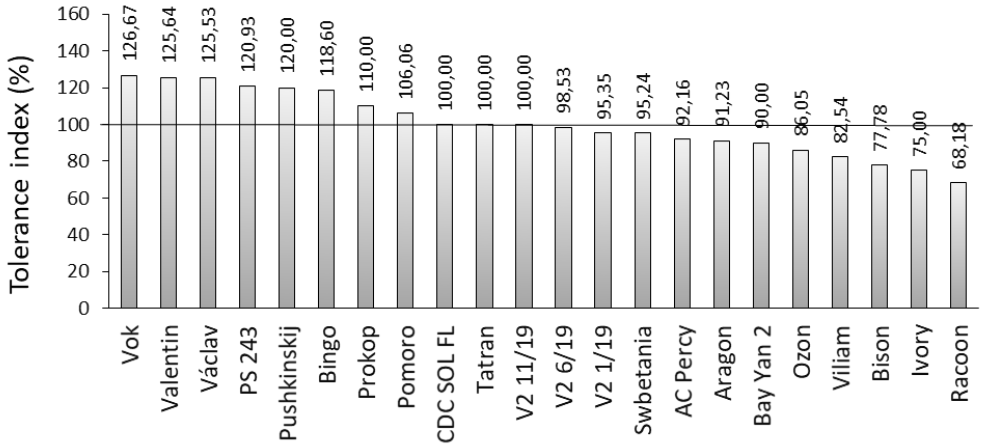

Fig. 1. Tolerance index for arsenic based on fresh weight of roots of selected cultivars of oat

The Václav variety showed also a high tolerance to As doses of 10, 20 and 50 mg.kg^{-1} of soil substrate and the tolerance indices reached values >100% (Table 2). Doses of As10 and As20 stimulated shoot growth by 5.82% and 11.92% and increased fresh biomass of shoots by 11.92% and 12.32%. The dry matter content increased significantly (by 13.65% and 14.57%) due to higher doses of As (As20 and As50) (Fig. 2).

Table 2. Tolerance indexes based on fresh weight (FW) and dry weight (DW) of oat shoots cv. Václav.

	Tolerance index (%)		
	As10	**As20**	**As50**
Fresh weigth	111.91	112.31	108.77
Dry weigth	112.16	113.65	114.57

The increased content of dry matter corresponded to the increased content of photosynthetic pigments, but a significant increase in Chl*a* (by 44.87%), Chl*b* (by 36.40%) and carotenoids (by 49.30%) was only observed due to the influence of the highest dose of As50 (Fig. 3).

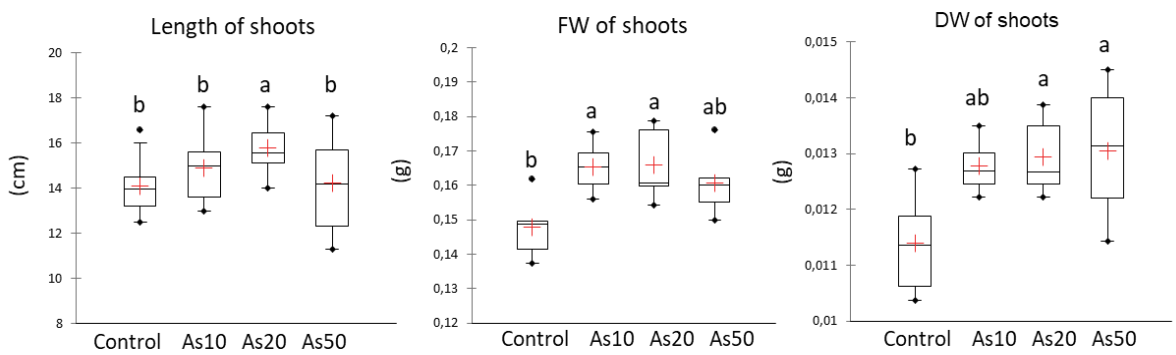

Fig. 2. Effect of arsenic (As) on the growth parameters of oat cv. Václav.

Data are presented as means ± SD from three biological replicates. The differences between cultivars were determined using the Kruskal–Wallis test followed by Dunn's post hoc test for multiple comparisons. Different letters on the top of bars indicate a significant difference ($p<0.05$) between variant of experiment. FW – fresh weigth, DW – dry weigth.

An increased accumulation of photosynthetic pigments due to lower AsIII (1- 2 mg.l^{-1}) doses was also recorded in the leaves of wheat (Li et al., 2007) and onion (Sushant and Ghosh, 2010). In shoots, hormesis is often associated with enhanced photosynthesis activity, which improves plant development (Agathokleous, 2021; Jia et al., 2015). Modulation of the proportion between chlorophylls *a* and *b* (Chl *a*/*b* ratio) can improve photosynthesis efficiency in plants that face environmental challenges, such as low N availability, excess light, and metal (metalloid) exposure (Agathokleous, 2021). Increased concentration in carotenoids could act as part of the protection mechanism against As-induced oxidative stress (Gusman et al., 2013).

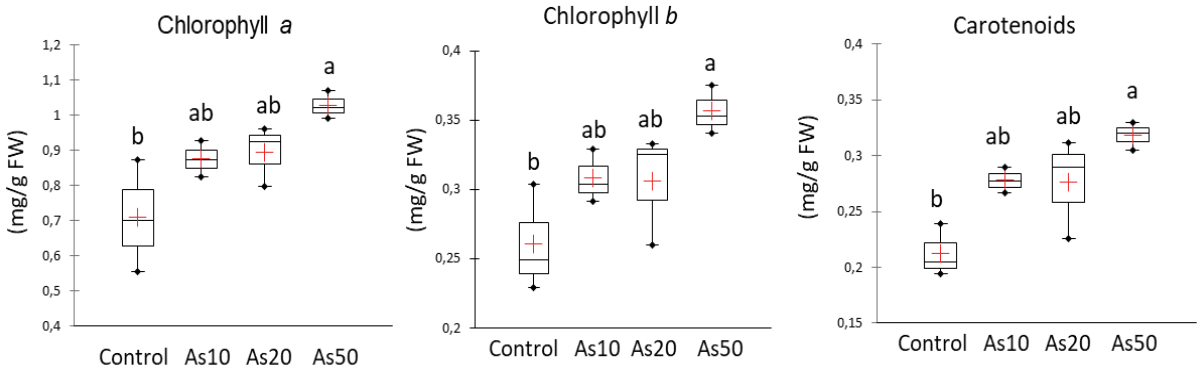

Fig. 3. Effect of arsenic (As) on the photosynthetic pigment contents in leaves of oat cv. Václav.

Data are presented as means ± SD from three biological replicates. The differences between cultivars were determined using the Kruskal–Wallis test followed by Dunn's post hoc test for multiple comparisons. Different letters on the top of bars indicate a significant difference ($p<0.05$) between variant of experiment.

4 CONCLUSION

In early stages of ontogenesis, the tested oat varieties manifested high variability in response to arsenic. The tolerance index ranged from 68.18 to 126.67%. The lowest tolerance was shown by the Racoon variety and the highest by the Vok variety. The Václav variety showed high tolerance even when growing in As contaminated soil. Doses of 10 and 20 mg.kg^{-1} of soil had a stimulating effect on growth and the content of photosynthetic pigments. As a result of dose of 50 mg As.kg^{-1}, we also did not notice growth inhibition, this dose increased the dry matter content of shoots and the content of photosynthetic pigments. We explain the stimulating effect of As by mechanism of hormesis. The given study needs to be expanded by testing the tolerance of other oat varieties in As contaminated soil. The evaluation of As accumulation by tissues can contribute to the evaluation of their remedial potential for As contaminated soils.

Acknowledgments

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STAROSTLIVOSŤ O PACIENTA S PERGAMENOVOU KOŽOU

CARE OF THE PATIENT WITH PARCHMENT SKIN

Zuzana Novotná, Jana Cinová, Zuzana Šimová, Andrea Šuličová, Tatiana Šantová

Abstrakt

Starnutie kože je multifaktoriálny proces, ktorý sa začína v priebehu tretieho decénia u každého jedinca. Príčinou je kombinácia genetických faktorov a vplyvu životného prostredia. U seniorov dochádza na koži k ďalším zmenám, ktoré sú spojené so starnutím a výskytom ochorení, ktoré môžu mať významný vplyv na jej kvalitu a mieru odolnosti. Pergamenová koža je pomenovanie pre kožu s narušenou výživou, čo spôsobuje, že sa stáva tenkou, suchou, krehkou a ľahko zraniteľnou. Následkom pergamenovej kože dochádza často k vzniku traumatických rán, označovaných ako pergamenové rany. V klinickej praxi sa im často nevenuje dostatočná pozornosť, hlavne preto že sú nesprávne diagnostikované a neadekvátne ošetrované, pričom sa často zamieňajú za dekubity. Kľúčovými princípmi pri predchádzaní pergamenových rán je prevencia, používanie jednotných klasifikačných systémov pri ich hodnotení a správna liečebná intervencia.

Kľúčové slová: *pergamenová koža, senior, starnutie, pergamenová rana, klasifikácia, liečebná intervencia.*

Abstract

Skin aging is a multifactorial process that begins during the third decennium of each individual. The cause is a combination of genetic factors and environmental influences. In the case of seniors, other changes occur in the skin, which are associated with aging and the occurrence of diseases, which can have a significant impact on its quality and level of resistance. Parchment skin is the name given to skin with impaired nutrition, which causes it to become thin, dry, fragile and easily vulnerable. As a result of parchment skin, traumatic wounds, known as skin tears, often occur. In clinical practice, they are often not given enough attention, mainly because they are misdiagnosed and inadequately treated, while they are often mistaken for pressure ulcers. The key principles in the prevention of skin tears are prevention, the use of uniform classification systems in their evaluation and the correct therapeutic intervention.

Key words: *parchment skin, senior, aging, skin tears, classification, treatment intervention*

1 PERGAMENOVÁ KOŽA

S pribúdajúcim vekom a pôsobením viacerých faktorov je spojený pomalší proces regenerácie buniek a ich nedostatočná obranyschopnosť. Príčinou sú hlavne vnútorné faktory, ale významný vplyv na to, akým spôsobom bude proces starnutia organizmu, tkanív a buniek prebiehať má aj životný štýl a enviroment. K negatívnym faktorom, ktoré zásadne prispievajú k vonkajšiemu starnutiu kože patrí dlhodobý účinok opakovanej expozície ultrafialového svetla. Jedná sa o kumulatívny proces, ktorý závisí predovšetkým od fototypu kože a množstva slnečného žiarenia (tzv. photoaging). UV žiarenie vyvoláva komplexnú sekvenciu špecifických reakcií, ktoré spôsobujú poškodenie kožného tkaniva. Oblasti vystavené slnečnému žiareniu sú klinicky charakterizované jemným a hrubým zvrásnením

kože, drsnosťou, suchosťou, stratou pevnosti, rozšírením drobných ciev a pigmentovými škvrnami Výrazne sa zvyšuje incidencia benígnych a malígnych novotvarov kože (Bednářová 2018). Samotné starnutie kože sa začína ukončením zmien na hormonálnej úrovni v období dospievania. S pribúdajúcim vekom sa pokožka mení a postupne sa zhoršuje jej elasticita a dostatočné vyživovanie. Koža sa stáva tenšou a tým aj viac náchylnou k mechanickému poraneniu (12). Osobitne u seniorov sa vyskytuje špecifický problém tzv. pergamenová koža. Poranenie takejto kože sa označuje ako pergamenová rana. Je definovaná ako akútna traumatická rana spôsobená pôsobením mechanických síl na krehkú kožu, ktorá sa podobá papieru alebo pergamenu (13).

1.1 Starnutie kože

V starobe prebiehajú v koži anatomické a fyziologické zmeny. Vplyv na tieto zmeny majú gény, ktoré sú dedičné a pôsobenie času, čo sa nazýva vnútorné starnutie. Tento typ starnutia je charakterizovaný spomalením metabolickej aktivity a atrofiou kože so stratou pružnosti. Povrchová vrstva kože (epidermis) sa stenčuje a postupne dochádza k jej atrofii, čo má za následok presvitanie ciev a ich dilatáciu. Nezávisle od vonkajších faktorov dochádza postupne k zníženiu seba obnovy a obranyschopnosti buniek, mení sa pigmentácia kože, kožné riasy ochabujú (1). Koža je často suchá a starnúci jedinec môže pociťovať zvýšené svrbenie, ktoré je často dôvodom na intenzívne škrabanie kože s následkom jej mechanického poškodenia. Znižuje sa tvorba a rozpustnosť kolagénu, ubúdajú kolagénové vlákna a koža stráca svoju elasticitu skracovaním a zhrubnutím elastických vlákien. Atrofiou väziva tukového podkožného tkaniva vznikajú hlboké kožné záhyby. Vekom sa koža stáva priepustnejšou pre rôzne chemické látky. Druhý typ starnutia kože je vonkajšie starnutie, ktoré dokáže človek čiastočne ovplyvniť. Znamená to, že od útleho detstva je potrebné sa snažiť o dobrú životosprávu, t. z. eliminovať faktory ako sú: poruchy spánku, stres, fajčenie, alkohol, prach, emisie, nadmiera slnečného žiarenia, nevyvážená nezdravá strava, nevhodný pitný režim (12).

1.2 Prejavy a klasifikácia pergamenovej kože

Pergamenová koža je tiež označovaná ako papierová alebo krehká koža. Je charakterizovaná ako pokožka veľmi tenká a krehká, vysoko náchylná ku vzniku poranenia. Vyskytuje sa prevažne u seniorskej populácie, z dôvodu množstva telesných zmien, ktoré sa dejú v procese starnutia, ako napr.: stenčenie epidermis a redukcie podkožného tuku, čo spôsobuje zníženú elasticitu a suchosť kože (5). Na pergamenovej koži častejšie dochádza ku vzniku traumatických rán, ktoré sa označujú ako pergamenové rany tzv. „skin tears“. Prejavy „skin tears“ sú definované ako rany spôsobené strihom, trením, tlakom alebo akoukoľvek traumou spôsobenou na koži, čo môže viesť až k oddeleniu jednotlivých vrstiev kože (13). Zvyčajne majú nepravidelný tvar, môžu mierne secernovať, alebo sú skôr suché. Sú bolestivé a majú sklony k pomalému hojeniu. Radia sa k akútnym traumatickým ranám, ale majú tendenciu k prechodu do chronických, zle sa hojacich rán, ktoré výrazne ovplyvňujú celkový zdravotný stav seniora. Lokalizované sú najčastejšie na horných končatinách v oblasti chrbta ruky, ramien alebo na dolných končatinách u pacientov s ochoreniami žíl a tepien. Pergamenová koža je typická u pacientov s kŕčovými žilami a chronickou žilovou nedostatočnosťou. Rizikovou skupinou vzniku „skin tears“ sú najčastejšie krehký seniori s pergamenovou kožou, poruchami výživy, dehydratáciou a rôznymi ochoreniami ciev (5).

V súčasnej klinickej praxi sa diagnostika pergamenových rán stáva stále naliehavejším problémom, vzhľadom k tomu, že sa často zamieňajú s inými typmi rán, alebo sú podceňované a prehliadané. Vo väčšine zariadení sa nepoužíva žiadny klasifikačný systém, čo má za následok predlženie hojenia kožných lézii, infekcie a bolesti, čo predlžuje a predražuje hospitalizáciu pacienta. Pre zlepšenie kvality starostlivosti o pacientov a zároveň zníženie

nákladov na ich hospitalizáciu je dôležité odborné a kompetentné zhodnotenie rozsahu a charakteru poškodenia kože.
K tomu účelu slúžia rôzne meracie nástroje a klasifikácie. K hodnoteniu „skin tears“ sa vytvoril a pôvodne používal klasifikačný systém Payne-Martin, ktorý bol založený na určovaní veľkosti straty tkaniva (udávané v %), pričom definoval a charakterizoval kožné lézie. Systém nebol nikdy validizovaný a klinicky overený. Modifikovanou verziou Payne-Martin skóre je klasifikačný systém Skin Tear Audit Research (STAR), ktorý je validovaný a overený, a využíva sa hlavne v Austrálii a Japonsku (5). Je v ňom navyše zahrnuté rozlišovanie farieb t.z. posúdenie, či je koža bledá, tmavá alebo tmavnúca. Na základe potreby zjednodušenia a štandardizácie klasifikácie „skin tears“ bol vytvorený v roku 2011 medzinárodný panel pre pergamenovú kožu (International Skin tear Advisory Panel – ISTAP).
Klasifikačný systém ISTAP definuje pre „skin tears“ tri kategórie na základe závažnosti epidermálnej a dermálnej straty (13).
Riziko vzniku – pokožka je krehkejšia a náchylnejšia k poraneniu
Typ 1: Žiadna strata kože – lineárne alebo vrstvene strhnutá koža, ktorá môže byť premiestnená/vrátená tak, aby zakryla ložisko rany.
Typ 2: Čiastočná strata povrchovej vrstvy kože – čiastočná strata povrchovej rany kože, ktorú nemožno premiestniť tak, aby pokryla ložisko rany.
Typ 3: Úplná strata povrchovej vrstvy kože – celková strata povrchovej vrstvy kože, ktorá obnažuje celé ložisko rany (6).

Obr.1: Klasifikácia pergamenovej rany podľa ISTAP (14).

Po preukázaní dobrej validity tohto hodnotiaceho nástroja sa začala jeho implementácia do klinickej ošetrovateľskej praxe. Dôsledná klasifikácia a dokumentácia „skin tears“ je kľúčovou pre dodržiavanie účinných liečebných postupov. Tento nástroj zaisťuje dodržiavanie štandardov použiteľných pre klinickú prax v zmysle hodnotenia, prevencie a liečby vzniku „skin tears“ (6).

1.3 Rizikové faktory vzniku pergamenovej kože a prevalencia pergamenových rán

Prevalencia pergamenových rán je v jednotlivých štátoch a inštitucionalizovanej starostlivosti rôzna, odlišné sú aj preventívne a liečebné postupy. Rozdiely sú dané odlišným vybavením zdravotníckych zariadení a absenciou jednotného meracieho nástroja na ich hodnotenie. Rôznorodosť je daná aj typom oddelenia, najvyššia je na oddeleniach poskytujúcich dlhodobú starostlivosť a na geriatrických a kardiologických oddeleniach. Bohužiaľ výskumy, ktoré sa venujú incidencii a prevalencii „skin tears" sú zriedkavé, napriek tomu, že v klinickej praxi je výskyt tohto typu traumatických rán častý a vyžaduje si pozornosť(5).

K hlavným rizikovým faktorom patrí vek, podvýživa, dehydratácia, polyfarmácia, pády, zmyslové zmeny a mechanické vplyvy. Faktory, ktoré majú vplyv na poškodenie a liečbu už patologicky zmenenej kože možno rozdeliť na vnútorné a vonkajšie. K vnútorným patrí hlavne vek, stav prekrvenia kože, prítomnosť zápalu, nutričný stav a závažnosť štádia chronického ochorenia a polymorbidita. K vonkajším faktorom sa radí trenie a strižná sila, tlak na kožu a podkožie, expozícia moča a stolice, pôsobenie niektorých liekov, ako aj nevhodné ošetrenie už vzniknutých lézií (3,4).

Vek – zmeny na koži súvisiace s vekom sa najviac týkajú detí a seniorov. U predčasne narodených detí a novorodencov je príčinou poranenia najmä nedokonale vyvinutá pokožka. Zvýšené riziko je spojené s nedostatočnou rohovinovou vrstvou, zníženou epidermálnou kohéziou, nezrelou termoreguláciou a imunitným systémom. U starnúcej populácie sú vyšším rizikom pre vznik pergamenovej kože a rán zmeny spojené so starnutím kože, prítomnosť edémov, vyššie riziko tlakových poranení, ako aj kvalita starostlivosti o závislých a imobilných seniorov. Významným faktorom okrem už spomenutých príčin a rizík je aj tzv. Batemanova senilná purpura, ktorá podľa literatúry bola prítomná pri 40 % pergamenových rán (10).

Nutričný stav – adekvátna výživa a hydratácia pomáhajú udržiavať optimálnu funkciu tkanív a integritu kože. Predovšetkým optimálny príjem proteínov, vitamínov C, E, A, B, D, K, minerálov ako horčík, zinok, meď, vápnik a selén. Riziko „skin tears" stúpa u pacientov , ktorí sú podvyživení a dehydratovaní. Vyšší výskyt vzniku alebo zhoršeného hojenia rán je u kachektických alebo obéznych pacientov. V prípade kachexie je problémom malnutrícia, ktorá ma negatívny dopad na hojenie rán (9). Pri obezite sa zvyšujú nároky na srdcovú aktivitu a schopnosť srdca dostatočne okysličiť a vyživiť všetky bunky organizmu. Ak srdce nie je schopné zvýšené nároky pri obezite zaistiť, môže dôjsť k ischémii a tým aj k zhoršeniu procesu hojenia. Zmnožené tukové tkanivo pri obezite neochraňuje kožu proti okolitému tlaku, ale vytvára väčšie riziko traumatizácie v súvislosti s menším cievnym vybavením tukového tkaniva (11). Podpora výživy je dôležitá zvlášť u seniorov v rámci pooperačnej starostlivosti a u pacientov s chronickými ranami, alebo so spomaleným procesom hojenia rán. Jednoduchou a dostupnou možnosťou podpory nutrície u pacientov s viacerými rizikovými faktormi je indikácia výživových doplnkov, ktoré sú obohatené o bielkoviny, vitamíny a stopové prvky napr. formou sippingu (3).

Stav prekrvenia tkanív a kože – pri ochoreniach ciev a srdca môže dochádzať k nedostatočnému prietoku krvi tkanivami a ich zhoršenému vyživovaniu a okysličeniu. Pri zníženej perfúzii krvi tkanivami dochádza aj k hromadeniu metabolitov, ktoré prispievajú k vzniku rán a zhoršujú stav a priebeh hojenia už prítomných rán. Lokálne opuchy, ktoré často sprevádzajú ochorenia ciev a srdca spôsobujú zhoršenie stavu kože a prispievajú k vzniku infekcie.

Infekcia v rane – je častou komplikáciou liečby rán. Zápal v rane spôsobuje spomalenie a stagnáciu hojenia, predlžuje hospitalizáciu pacienta a zvyšuje ekonomické náklady. Dôležitým markerom zápalu je C-reaktívny proteín (CRP), ktorého referenčná hodnota je do 10 mg/l. Po 6-8 hodinách od aktivácie mikroorganizmov dochádza k miernemu vzostupu hodnôt, po 14-48 hodinách hodnoty dosahujú maximum (9).

Polyfarmácia – na hojenie rán môžu mať negatívny vplyv niektoré lieky. U seniorov je častým javom užívanie viacerých liekov súčasne, čo môže zvyšovať riziko pádu a vznik traumatických poranení, taktiež môže pacienta predisponovať k vzniku liekových interakcií. Seniori, ktorí sú ohrození vznikom pergamenových rán sú pomerne často liečení kortikosteroidmi, cytostatikami, antiflogistikami, imunosupresívami a antikoagulanciami. Ich dlhodobé užívanie má vplyv na spomalenie epidermálnej regenerácie a syntézu kolagénu (9,12).
Mechanické a fyzikálne faktory – medzi najčastejšie mechanické vplyvy, ktoré môžu poškodiť kožu a podkožie patria tlak, strihová sila a trenie. Sú často spojené s manipuláciou pacienta a jeho mobilitou. Nevhodné a neodborné postupy pri polohovaní a presúvaní pacienta, nadmerné používanie náplastí a neodborná starostlivosti o mechanicky, chemicky a fyzikálne zaťažovanú kožu môžu vytvoriť podmienky pre vznik traumatických poranení, zvlášť u pacientov s pergamenovou kožou (11). Osobitnou problematikou sú pády a poranenia, ktoré vznikajú pri neistej chôdzi, poruchách rovnováhy a senzorických či sluchových deficitoch, zhoršenom videní a nedostatku osvetlenia, polyfarmácii, zlej obuvi, nevhodnom vybavení priestorov, v ktorých sa pacient zdržiava, a pod. Častý výskyt pádov, znížená mobilita a závislosť pacienta v denných aktivitách významne napomáha k vzniku pergamenových rán. Nežiadúcim faktorom môže byť aj dlhodobé pôsobenie tepla alebo chladu, náhle tepelné zmeny a radiačná terapia (10).
Účinky vlhkosti, tekutín a chemikálií – pre zachovanie funkčnej kožnej bariéry je dôležité jej pH, ktoré sa pohybuje na koži v rozmedzí 4-6. Pôsobením chemických vplyvov pH stúpa, a tým sa pokožka stáva priepustnejšou. Znižuje sa jej bariérová funkcia a narastá riziko bakteriálnej kolonizácie (11). Zásaditý povrch kože je jedným s faktorov, ktorý môže prispievať k vzniku „skin tears“. Dlhodobá expozícia vlhkosti a tekutín (pot, moč, stolica, dezinfekčné prostriedky, mydlá) vyvoláva maceráciu alebo vysušovanie kože a tým redukciu mazovej vrstvy, ktorá kožu chráni. U pacientov s krehkou a citlivou kožou, ktorá je neustále mechanicky dráždená dvíhaním, presúvaním, polohovaním, trením, tlakom tak dochádza veľmi ľahko k vzniku kožných poranení. Problematické v klinickej praxi môže byť aj nadužívanie detergentných a dezinfekčných mydiel, antiseptických a dezinfekčných roztokov, ktoré sa často nechávajú na koži pôsobiť aj niekoľko hodín (11). Ich pôsobením dochádza ku kožným reakciám, vysušovaniu kože a následne k jej poškodeniu. Pri ich neprimeranom používaní v rámci ošetrenia rán môže dochádzať k vysychaniu spodiny rany, alebo spomaleniu až zastaveniu samotného hojenia (4).

1.4 Ošetrovanie a liečba pergamenovej kože a rán

Základom starostlivosti o kožu krehkých seniorov sú preventívne intervencie, ktoré by mali smerovať k včasnému rozpoznaniu rizikového pacienta, pravidelnému a dôslednému hodnoteniu jeho kože a plánovaniu individuálnej starostlivosti (9). Dôležitou podmienkou pre kvalitnú ošetrovateľskú starostlivosť je edukovaný ošetrovateľský personál, ktorý dokáže zostaviť a dodržiavať plán starostlivosti o pacienta s pergamenovou kožou, prípadne informovať aj rodinných príslušníkov alebo opatrovateľov pacienta o potrebe prevencie pergamenových rán. Spôsob postupu ošetrenia by sa mal riadiť jednoduchým návodom, ktorý je v súlade so štandardizovanou škálou ISTAP (13). Prvým krokom je príprava na ošetrenie, ktorá zahŕňa kontrolu krvácania, vyčistenie rany a úprava polohy kožného laloku. Druhým krokom je zhodnotenie rany a jej klasifikácia. Odborné posúdenie je podmienkou výberu terapeutického krytia, ktoré obsahuje podľa potreby produkty na samotné krytie, antimikrobiálny zásah, sekundárne krytie a fixáciu. Ďalším krokom je správne aplikovanie vybraného krytia a posledným revízia a zhodnotenie účinnosti zvolenej liečby (8). Jedným z významných opatrení vzniku „skin tears“ by malo byť aj zavedenie preventívnych protokolov, v ktorých by mali byť zahrnuté kľúčové intervencie a stratégie:

- identifikovať a eliminovať zdroje poranení kože,
- zaistiť dostatok osvetlenia priestorov, v ktorých sa pacient pohybuje a celkovú bezpečnosť prostredia pacienta,
- zvážiť použitie ochranných chráničov na predkolenia u pacientov po opakovaných poraneniach v danej lokalite,
- zabezpečiť starostlivosť o nechty pacienta v zmysle pravidelného strihania a zmäkčovania nechtov a kože rúk a chodidiel,
- redukovať, alebo nepoužívať adherentné materiály, preferovať špeciálne prostriedky určené na pergamenovú kožu,
- zaistiť kvalitnú hygienickú starostlivosť, ktorá je založená na používaní pre kožu šetrných prostriedkov (napr.: s pH neutrálne mydlá, gély),
- zaradiť pravidelné používanie hydratačných zvlhčovačov kože (krémy, gély, telové mlieka), nanášanie 2x denne znižuje výskyt pergamenových rán o 50%,
- zabezpečiť optimálnu hydratáciu pacienta dostatočným príjmom vhodných tekutín, priebežne počas celého dňa,
- realizovať pravidelné a šetrné polohovanie imobilných pacientov s využívaním polohovacích zariadení a prostriedkov,
- nosiť ochranné pomôcky, obväzy, ponožky, dlhé rukávy, pančuchy, špeciálne upravené odevy a chrániče na zabránenie vzniku mechanického poškodenia kože,
- zaistiť šetrnú a bezpečnú manipuláciu s pacientom za použitia vhodných pomôcok, eliminovať používanie náplastí, dezinfekčných prostriedkov na báze alkoholu, nenosiť šperky, ktoré dráždia a odierajú pokožku (5, 6, 13).

V oblasti liečby pergamenových lézií a rán je primárne dôležitý ich podrobný opis a klasifikácia. Zdokumentovanie rany by malo zahŕňať lokalitu, rozsah straty kože alebo kožného laloka, prítomnosť infekcie a bolesti, stav okolitej kože a stupeň jej secernácie. Najvhodnejším spôsobom ošetrenia týchto rán je vlhké hojenie. Epitelové bunky si vyžadujú vlhkosť, aby mohli migrovať z okrajov rany do jej stredu a došlo tak k reepitelizácii a úplnému zhojeniu (3). Terapeutické krytia vlhkého hojenia sú navrhované tak, aby stimulovali proliferáciu buniek, chránili pred vstupom infekcie a vznikom sekundárnych infekcií, absorbovali prípadný exudát a umožnili atraumatický preväz. Výber vhodného krytia je podmienený správnym posúdením. Pochopenie princípu a zásad vlhkého hojenia rán a ovládanie jednotlivých fáz hojenia je základným predpokladom pre správne rozhodnutia personálu pri výbere vhodného krytia (4,15).

Vzhľadom k tomu, že v súčasnosti sú dostupné zdokonalené a vysoko účinné krytia, určené na fázové hojenie rán odporúčajú sa tieto typy:

Hydrogely – používajú sa najčastejšie pri rehydratácii spodiny rany. Jedná sa o gelové krytie na báze hydrofilných polymérov. Udržiavajú optimálnu vlhkosť, absorbujú prebytočný exudát, chránia ranu pred infekciou, odstraňujú nekrózu a povlaky. Množstvo použitého hydrogelu je rôzne, závisí od fázy hojenia rany. Podľa klasifikácie ISTAP sa odporúčajú pri 2 a 3 type „skin tears“. V klinickej praxi sa často využívajú napr.: Hemagel, Flamigel, GranuGel, Prontosan gel (7).

Neadherentné (nepriľnavé) krytia – sa odporúčajú na suché aj vlhké, secernujúce rany. Podľa ISTAP sú vhodné pre všetky typy „skin tears“. Vyrábajú sa z rôznych materiálov, základ tvorí silikónová alebo viskózová mriežka. Ich hlavným efektom je ochrana rany pred priľnutím a traumatizáciou rany pri snímaní sekundárneho krytia. Najčastejšie používané neadherentné krytia impregnované masťou sú napr.: Atrauman alebo Grassolind. K krytiam impregnovaným silikónom, ktoré sú výrazne drahšie, ale môžu byť používané až 7 dní patrí napr.: AskinaSilNet alebo Mepitel. Silflex (7, 15).

Antiseptické krytia – základom tohto krytia je textília, ktorá je impregnovaná antiseptickou látkou (napr.: jódom, striebrom, chlorhexidínom, bismutom a pod.). Vyrábajú sa v rôznych

formách: gély, transparentné fólie, sieťky, peny. Používajú sa hlavne na infikované rany, na okolie invazívnych vstupov ako sú kanyly a drény. Môžu sa aplikovať profylakticky na drobné poranenia kože, akútne aj chronické rany. K známym produktom patrí: MepilexAG, AtraumanAg, AquacelAg (2, 7).
Hydrokoloidné krytia – urýchľuje proces hojenia rany, sú neadherentné, čím eliminujú bolesť pri preväze. Sú určené k liečbe povrchových neinfikovaných rán s menšou sekréciou, alebo bez sekrécie. Môžu sa využívať preventívne na zmenšenie tlaku na kožu (2,7, 15).

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KVALITA ŽIVOTA PACIENTA S ULCUS CRURIS VENOSUM

QUALITY OF LIFE OF PATIENTS WITH ULCUS CRURIS VENOSUM

Tatiana Šantová, Silvia Cibríková, Terézia Fertaľová

Abstrakt

Chronická rana predstavuje pre pacienta záťaž, bez ohľadu na vek, alebo pohlavie, či krajinu. Jedná sa o celosvetový problém. Dlhotrvajúci priebeh liečby a náchylnosť k infekciám predstavujú značný deficit v prežívaní každodenného života, a tým značne znižujú jeho kvalitu. Vredom predkolenia trpí v spojenom kráľovstve 1 človek z 5 vo veku nad 80 rokov, v mladšom veku je to 1 z 500 obyvateľov, no aj napriek tomu v dôsledku hektického životného štýlu má výskyt časom stúpajúci charakter aj u mladších osôb. Na Slovensku chronickou ranou trpí asi 1% obyvateľstva v susedných krajinách (Česko, Poľsko) taktiež okolo 1% celkového počtu obyvateľov. V porovnaní inými štátmi sa výskytom nachádzame v priemere. Do popredia sa dostávajú nové postupy v liečbe, vyvíjajú sa nové krytia s rôznymi liečebnými zložkami, čoraz častejšie, najmä v zahraničí sa začína využívať VAC podtlaková terapia, v našich podmienkach v dôsledku nedostatku prístrojov a chronických lôžok to bohužiaľ nie je tak rozšírené. Stálym a základným terapeutickým krokom je bandážová terapia, ktorá je najjednoduchšia, najmenej ekonomicky zaťažujúca a najefektívnejšia v oblasti prevencie ako aj samotnej liečby.

Kľúčové slová: *ulcus cruris venosum, kvalita života, pacient, prieskum*

Abstract

A chronic wound is a burden for the patient, regardless of age or gender or country. This is a worldwide problem. The long-term course of treatment and the susceptibility to infections represent a significant deficit in the experience of everyday life, and thus significantly reduce its quality. In the United Kingdom, 1 in 5 people over the age of 80 suffer from a leg ulcer, at a younger age it is 1 in 500 inhabitants, but despite this, due to a hectic lifestyle, the incidence is increasing over time even in younger people. In Slovakia, about 1% of the population in neighboring countries (Czech Republic, Poland) and about 1% of the total population suffer from this chronic wound. In comparison with other states, we are in the average. New procedures in treatment are coming to the fore, new covers with various therapeutic components are being developed, VAC negative pressure therapy is being used more and more often, especially abroad, unfortunately it is not so widespread in our conditions due to the lack of devices and chronic beds. Bandage therapy is a permanent and basic therapeutic step, which is the simplest, least economically burdensome and most effective in the field of prevention as well as treatment itself.

Key words: *ulcus cruris venosum, quality of life, patient, survey*

1 CHARAKTERISTIKA OCHORENIA ULCUS CRURIS VENOSUM

Vred predkolenia žilového pôvodu je najčastejšie sa vyskytovanou chronickou ranou a je terminálnym prejavom chronickej žilovej nedostatočnosti. Najčastejšie ju nachádzame u osôb nad 65 rokov, no neobchádza ani mladšie vekové kategórie s prítomnosťou iných chronických systémových ochorení až polymorbiditou. Na Slovensku sa incidencia tohto ochorenia pohybuje odhadom v počte 19 500 osôb. Vekom a pribúdajúcimi pridruženými ochoreniami sa výskyt tohto ochorenia zvyšuje, častejšie však postihuje ženské pohlavie. Dĺžka liečby

závisí od včasnej diagnostiky, formy liečby, celkového zdravotného stavu a sebestačnosti jedinca. Pri venóznom vrede je rana lokalizovaná výlučne na predkolenia, od členkov po oblasť pod kolenami, čím sa odlišuje od vredu arteriálneho pôvodu, kde je defekt popisovaný v oblasti päty a prsov na nohách. Najvyššie % vredov sa nachádza nad členkami, najmä z vnútornej strany a na dolnej tretie lýtka. (1).

Tabuľka č. 1: Klasifikácia chronickej žilovej insuficiencie CEAP (1994)

Stupeň	Príznaky
C 0	Bez prejavov žilového ochorenia, negatívny nález
C 1	Retikulárne vény, teleangiektácie
C 2	Varikózne vény (viac ako 3mm)
C 3	Edém
C 4	Kožné zmeny: pigmentácia, ekzém, vymiznutie podkožného tuku (biela atrofia)
C 5	Zhojený vred predkolenia
C 6	Aktívny vred predkolenia

1.1 Klinické príznaky a diagnostika

Pre prvé štádium je bazálnym symptómom edém predkolení, najmä v okolí členkov, corona phlebectatic*a* (perimaolárne teleangiektázie), čo sú rozšírené, voľným okom viditeľné fialovo sfarbené žilky nachádzajúce sa najmä v okolí vnútornej strany členkov charakterizujúce stázu venóznej krvi. V počiatočnom štádiu pacienti popisujú taktiež svrbenie a pocity tlaku, ktoré sa zmiernia pri elevácii končatín. V druhom štádiu sa k edémom pripája dermite ocre, čo sú žltohnedé škvrny vznikajúce ukladaním hemosiderínu pri zvýšenej priepustnosti cievnej steny, dermatoskleróza, rozpad podkožia, následkom čoho vzniká jak nazývaný atrophia blanche (biele, bledé jazvy), prípadne prejavy kontaktnej alergickej dermatitídy. Viditeľná atrofia až úplné vymiznutie podkožného tuku. Tretie štádium charakterizujú otvorené rany (vredy), nachádzajúce sa výlučne na predkoleniach, nikdy nie na dorze nôh alebo prstoch (tie sa vyskytujú pri vredoch arteriálneho pôvodu). Zápach a hnis značia prítomnosť infekcie. (2).Vyšetrenie aspekciou nám napovedá o celkovom stave pacienta, úroveň výživy, primeranosť hydratácie, postoj tela, jeho symetriu, stupeň mobility a iné možné odchýlky od normy týkajúce sa predovšetkým dolných končatín. Všímame si známky rozšírenej žilovej kresby, prítomnosť varixov alebo edému v ľahu a stoji, zmeny zafarbenia (pigmentácie, jazvy, atrofické zmeny). Náležitý záujem venujeme už vzniknutým ulceráciám, hodnotíme veľkosť, lokalizáciu, okraje a ich podmínovanie, hĺbku, stav spodiny rany, prítomnosť exudácie, povlečenie a zápach. Palpačné vyšetrenie nám napovie o teplote kože, opuchoch a následnom napätí pokožky, presakovaní, prítomnosti alebo neprítomnosti periférnych pulzácií. Funkčné vyšetrenie cievneho systému nám napovedá o stave a schopnosti ciev a cievnych spojok podieľať sa na procese cirkulácie krvi. Prvým vyšetrením je Pethesov test, ktorý spočíva v podviazaní lýtka gumovou hadičkou nad kolenom. Pacient 30 sekúnd chodí, následne prebieha hodnotenie. Laboratórna diagnostika sa zameriava predovšetkým na bakteriologické vyšetrenie výteru zo spodiny infikovanej rany na kultiváciu mikroorganizmov a citlivosť na antibiotiká.. Diagnostika za pomoci zobrazovacích techník: USG Doppler je neinvazívna bezbolestná vyšetrovacia metóda, pri ktorej sa za pomoci ultrazvuku vizualizuje tok krvi cez tepny a poskytuje informáciu o priemernej rýchlosti prúdenia krvi. Touto metódou dokáže vyšetriť veľké žily a tepny na horných, dolných končatinách a krku. Následne je možné využiť aplikáciu kontrastnej látky, čo ponúka kvalitnejšie zobrazenie smeru a rýchlosti toku krvi cievami. Diagnostikovať je možné trombózu, nedomykavosť chlopní hlbokých a periférnych žíl. Ďalším vyšetrením je digitálna fotopletysmografia, ktorá na princípe infračerveného žiarenia dopadajúceho na pokožku zobrazuje plnenie periférnych kapilár, pričom vyjadruje priamu úmernosť plnenia hlbších a hrubších žíl. Flebografia je RTG

invazívne zobrazovacie vyšetrenie periférnych alebo centrálnych žíl, pri ktorom sa aplikuje kontrastná látka na jódovej báze do cievneho systému pacienta (3).

1.2 Liečba Ulcus cruris venosum

Princíp lokálnej liečby spočíva vo vyčistení rany za pomoci prípravkov s obsahom proteolytických enzýmov (Iruxol Mono, Nexodrib 2/5g), ktoré majú za úlohu kumulovať a štiepiť proteíny v rane, čím stimulujú proces rastu nového epitelu. Zároveň zmierňujú známky zápalu, tlmia bolesť, rozkladajú mikrotromby. Nanášajú sa v tenkej vrstve na vlhký povrch rany a prekrývajú tlakovým obväzom. Nevýhodou je, že aplikácia je možná najviac 14 dní, ak nie sú prítomné žiadne známky zlepenia, je nutné liečbu proteolytickými enzýmami ukončiť a hľadať iný spôsob debridementu, najčastejšie sa pristupuje k chirurgickej nekrektómii. Ak sa objavia prvé známky infekcie a zápalu, je nutné zmeniť metódu lokálnej liečby a prejsť na využívanie vlhkej terapie, ktorá predstavuje aplikáciu prípravkov s obsahom hydrokoloidov (Hydrocoll, Hydrosorb) a antiseptík s obsahom aktívneho striebra (Melgisorb Ag, Aquacel Ag+) alebo aktívneho uhlia (Vliwaktiv, Vliwazell) spolu s nepriľnavým mastným tylom (Atrauman Ag) alebo kombináciou striebra a uhlia (Actisorb). Vhodnou alternatívou a frekventovane využívanou pomôckou sú produkty s obsahom zložiek podporujúcich granuláciu tkaniva. Na okolie rany je vhodné aplikovať indiferentnú alebo rybaciu pastu, ktorá chráni okolité tkanivo pred mokvaním. V momentálnej dobe stúpa do popredia liečba podtlakovým VAC systémom, ktorý aktívne odsáva sekrét a podporuje tvorbu nových cievnych kapilár. Ak vred nereaguje na lokálnu a celkovú liečbu, je potrebné odobrať vzorky na biopsiu za účelom vylúčenia ulcerovaného tumoru (4). Chirurgická liečba spočíva v odstránení odumretého epitelu zo spodiny a okrajov rany, či už formou debridementu alebo nekrektómie.(5) Fyzikálna liečba sa zameriava na využívanie infračerveného žiarenia v podobe Solux lampy známej ako horské slnko. Zmierňuje známky zápalu, pôsobením tepla podporuje prirodzený debridement, stimuláciu a kumuláciu leukocytov, najmä makrofágov a fagocytov. Menej často je indikovaná elektrostimulácia a magnetoterapia. (Pizinger. 2012). Proces celkovej terapie sa zameriava najmä na kompenzáciu pridružených ochorení (Arteriálna hypertenzia, Diabetes mellitus, srdcové zlyhávanie, hyperlipidémia) a úpravu životného štýlu, a to zníženie hmotnosti na čo najprimeranejšiu úroveň, najlepšie v rozmedzí hodnôt 18,5-25 BMI(6).

2 DIMENZIE KVALITY ŽIVOTA S CHRONICKOU RANOU

Pri každom úraze v okolí rany sa bolesť výrazne zhoršuje. Adjuvantná liečba analgetikami má časom stúpajúcu tendenciu v dôsledku nárastu bolestí a tolerancie liekov, čo výrazne ovplyvňuje kvalitu života pacienta. Nepríjemný zápach a nadmerná sekrécia z ulcerácií spôsobuje zníženie prirodzeného sebavedomia. Zápach je dôsledkom odumierania tkaniva a infekcie, čo si vyžaduje liečbu antibiotikami lokálne alebo celkovo, prípadne hospitalizáciu. Svoj podiel na tomto negatívnom faktore si nesie aj tolerancia alebo zle nastavená analgetická liečba, infekcia v rane, nemocničné prostredie, psychické faktory ako strach, stres a frustrácia. Bolesti v pokoji aj pri vyvíjaní aktivity nútia pacienta stiahnuť sa, v niektorých prípadoch až pripútať sa na lôžko, znížiť nároky na pohybovú aktivitu (7). Psychologický rozmer vnímania kvality života predstavuje predovšetkým vlastnú osobnostnú pohodu. Je vysoko subjektívne vnímaná a u každého jedinca reprezentuje individuálny rozmer vnímania, charakterových vlastností. Výsledkom dlhodobej vysokej hladiny stresu je systémové poškodenie nadobličiek vysokou tvorbou a hladinou kortizolu, čo negatívne vplýva na biochemické procesy v tele, fyzický stav, vrátane zhoršenia psychického stavu, ktorý je osobitne prepojený so strachom. Strach a frustrácia: Pacienti s vredom predkolenia sa obávajú zhoršenia zdravotného stavu, tvorby nových rán, strach z bolesti ako aj novej traumy v podobe úrazu, čo potvrdzuje aj výsledok výskumu. Frustrácia sa vyskytuje v súvislosti s dĺžkou a náročnosťou liečby,

zníženou sebestačnosťou a obmedzením spoločenských aktivít. K tomu sa pripája strach zo samoty, straty zamestnania, zvýšených výdavkov. (7).Chronická rana ako taká, a bolesť s ňou súvisiaca sa podieľajú na znížení kvality aj v socializačnej stránke života. Zamestnanie a dostatočný finančný príjem tvoria ďalší z rady faktorov hodnotenia kvality života. Problém nastáva, keď je pacient nútený ukončiť výkon svojho povolania v dôsledku ochorenia, ktoré mu spôsobuje ťažkosti s chôdzou a bolesti. Pri výkone povolaní, kde je nutné dlhodobé státie, alebo chôdza ako poštár, práca v pásovej výrobe, na stavbe, je nutné zmeniť zamestnanie, čo ohrozuje príjem pacienta a tým zabezpečenie základných životných potrieb a nákladov spojených s liečbou. Hrozba zníženého príjmu a zvýšených výdavkov predstavuje rapídne zníženú kvalitu života pacienta ako u zamestnaných pacientov, tak u dôchodcov, čo vplýva na finančnú situáciu v rodine (7).

2.1 Ciele prieskumu

Hlavným cieľom je identifikovať a porovnať dopad ochorenia ulcus cruris venosum na jednotlivé oblasti kvality života. Parciálnymi cieľmi prieskumu sme chceli identifikovať dopad biologických , psychických a sociálnych zmien na kvalitu života v súvislosti s chronickou ranou.

2.2 Metodika

Zber údajov sme realizovali metódou štandardizovaného dotazníka Wound-QOL, ktorý je určený na zisťovanie kvality života pacientov s chronickou ranou. Súčasťou úvodnej časti boli demografické údaje respondentov, a to konkrétne vek a pohlavie respondentov. Dotazník Wound-QOL sa skladá zo 17 uzavretých otázok zameraných na jednotlivé dimenzie kvality života pacienta s chronickou ranou (fyzické a psychické zdravie, samostatnosť pohybu a aktivít denného života, voľnočasové aktivity a finančná záťaž). Každá otázka sa skladá z piatich slovne vyjadrených možností odpovede: vôbec nie, trochu, stredne, dosť, veľmi; ktoré sú hodnotené počtom bodov 0 až 4 podľa slovného vyjadrenia (vôbec nie – 0b, trochu – 1b, stredne – 2b, dosť – 3b, veľmi – 4b). Metodika vyhodnocovania spočíva v zrátavaní celkového počtu bodov, pričom platí, že kvalita života pacienta je podstatne znížená od počtu bodov 13 a viac. Čím viac bodov, tým závažnejšie narušená kvalita života jednotlivca. Návratnosť z 50 rozdaných dotazníkov bola 50 (100%). Získané informácie boli spracované a vyhodnotené pomocou grafov.

2.3 Súbor

Prieskumnú vzorku tvorili 50 respondenti mužského a ženského pohlavia vo veku 58-80 rokov s vredom predkolenia žilového pôvodu, ktorí boli hospitalizovaní na oddelení dermatovenerolológie a oddelení vnútorného lekárstva. Prieskum sme realizovali vo Fakultnej nemocnici s poliklinikou Jána Adama Reimana v Prešove, na oddelení vnútorného lekárstva (30 respondentov) a oddelení dermatovenerológie (20) respondentov. Realizácia prebiehala v mesiacoch marec a apríl 2023.

2.4 Výsledky prieskumu

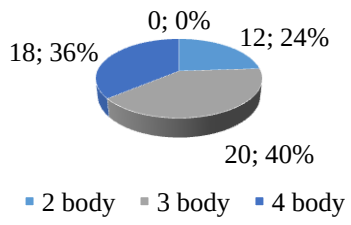
Skupinu respondentov tvorilo 50 pacientov hospitalizovaných na oddelení vnútorného lekárstva a oddelení dermatovenerológie vo FNsP J.A. Reimana v Prešove. Údaje získané n interpretujeme prostredníctvom grafov s príslušným komentárom.

Demografické údaje

Prieskumu sa zúčastnili respondenti medzi 54. a 80. rokom života. Priemerný vek všetkých respondentov bol 66.3 roka. Na demografickú otázku ohľadne pohlavia odpovedalo všetkých 50 respondentov, z toho 22 mužov (44%) a 28 žien (56%). To potvrdzuje fakt, že výskyt

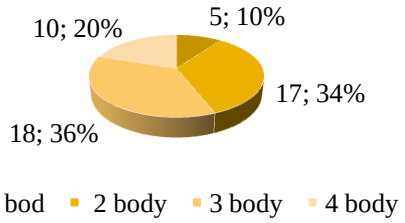
vredov predkolenia je u pacientov ženského pohlavia častejší, ako u pacientov mužského pohlavia.

Otázka č. 1: V posledných 7 dňoch som mal/a bolesť v rane
Na túto otázku ohľadom bolesti v rane odpovedalo všetkých 50 respondentov (100%). 12 respondentov (24%) označilo odpoveď "stredne" (2 body), Najviac respondentov, v počte 20, čo zodpovedá 40% opýtaných sa identifikovalo odpoveďou "dosť", ktorá je hodnotená počtom bodov 3. Ďalších 18 respondentov označilo položku "veľmi" s najväčším dosiahnuteľným množstvom bodov, a to v počte 4. Táto skupina vyjadruje 36% celkového počtu. Výsledky prieskumu na danú otázku preukázali, že chronická rana pre pacienta znamená prítomnosť bolesti v rane rôznej intenzity.



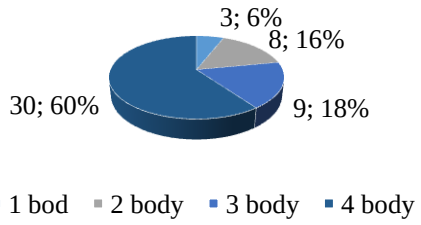
Graf č. 1: Bolesť v rane za posledných 7 dní. (zdroj: vlastné spracovanie)

Otázka č. 2: V posledných 7 dňoch som mal/a nepríjemný zápach z rany
Odpoveď poskytli všetci oslovení respondenti. Položku "trochu" s hodnotou 1 bod zaškrtli piati respondenti (10%).Položku "stredne" (2b) zaznačilo 17 respondentov (34%), .Najfrekventovanejšie označovanou je termín "dosť" s počtom bodov 3, ktorou sa identifikovalo 18 respondentov (36%). 10 respondentov ženského pohlavia, čo je 20%, označilo možnosť "veľmi" (4b).



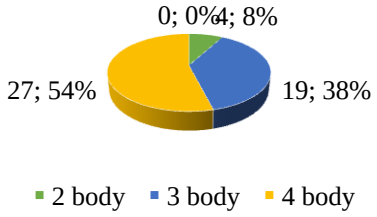
Graf č. 2: Nepríjemný zápach z rany za posledných 7 dní. (zdroj: vlastné spracovanie)

Otázka č. 7: V posledných 7 dňoch ma frustrovalo, že liečenie trvá tak dlho
Otázku zodpovedali všetci zúčastnení respondenti. Dĺžka liečby frustrovala "trochu" len 3 (6%) mužských respondentov, "stredne" frustrovala 8 respondentov (16%), všetci ženského pohlavia. S možnosťou "dosť" sa stotožnilo iba 9 respondentov (18%), päť žien (55,6%) a štyria muži (44,4%). Bohužiaľ, najčastejšie označovanou možnosťou s najvyšším počtom bodov (4b) bola položka "veľmi", v počte 30 respondentov, čo je až 60% celkového počtu respondentov. Odpovedalo 15 žien a 15 mužov (50%/50%).



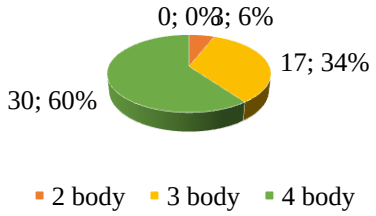
Graf č. 3: Frustrácia z dĺžky liečby. (zdroj: vlastné spracovanie)

Otázka č. 8: V posledných 7 dňoch som si robil/a starosti kvôli svojej rane
Svoju odpoveď poskytlo všetkých 50 respondentov, z toho štyria respondenti (8%), uvideli, že si kvôli rane robili starosti "stredne", ďalších 19 respondentov 38% označili termín "dosť". Je v celku alarmujúce, že až 54% respondentov zapojených do prieskumu označilo možnosť "veľmi", spolu 27 respondentov pre danú položku.



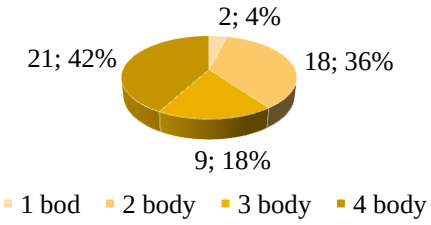
Graf č. 4: Starosť kvôli rane. (zdroj: vlastné spracovanie)

Otázka č. 9: V posledných 7 dňoch som mal/a strach zo zhoršenia alebo nových rán
Strach zo zhoršenia alebo tvorby nových rán potvrdilo všetkých 50 respondentov, traja označením položky "stredne" (6%) , ďalších 17 (34%) sa bojí "dosť", a zvyšných až 30 respondentov má veľký strach a označili termín "veľmi", čo tvorí 60% všetkých zúčastnených. Respondenti ženského pohlavia sa zhoršenia a tvorby nových rán obávajú viac.



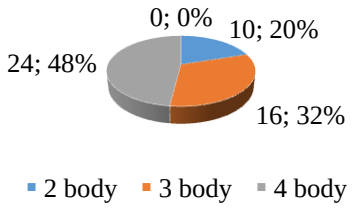
Graf č. 5: Strach zo zhoršenia alebo tvorby nových rán. (zdroj: vlastné spracovanie)

Otázka č. 10: V posledných 7 dňoch som mal/a strach, že sa udriem do rany
Strach z úrazu alebo nového poškodenia v oblasti rany uviedli všetci respondenti, dvaja muži (4%) to potvrdilo termínom "trochu", termínom "stredne", čo spolu tvorí 18 respondentov (36%). 9 respondentov – 18% vzorky uviedlo možnosť "dosť", 42% respondentov spolu 21 oslovených odpovedalo na mieru obavy termínom "veľmi".



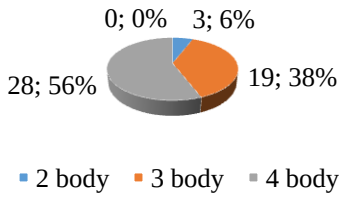
Graf č. 6: Strach z úrazu. (zdroj: vlastné spracovanie)

Otázka č. 11: V posledných 7 dňoch som sa kvôli rane ťažko pohyboval/a
Zhoršený pohyb potvrdili všetci zúčastnení, 20% označením termínu "stredne" – 10 respondentov , nasledujúcu možnosť "dosť" označilo 16 respondentov (32%), konkrétne "Veľmi" zhoršenú pohyblivosť uviedlo 24 respondentov, čo tvorí 48% všetkých oslovených respondentov.



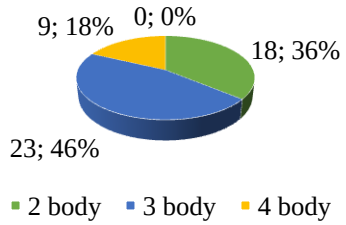
Graf č. 7: Sťažený pohyb. (zdroj: vlastné spracovanie)

Otázka č. 12: V posledných 7 dňoch bola chôdza po schodoch kvôli rane namáhavá
Na otázku ohľadom námahy pri chôdzi po schodoch sa traja respondenti (6%) vyjadrili termínom "stredne",19 respondentov – 38%, sa stotožnilo s položkou "dosť". Najfrekventovanejšie označovanou možnosťou bola najvyššie bodovo hodnotená možnosť "veľmi" (4b). konkrétne 28 odpovedí, čo tvorí až 56% všetkých odpovedí.



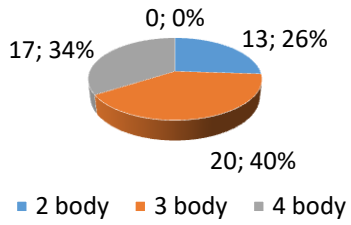
Graf. č. 8: Chôdza po schodoch. (zdroj: vlastné spracovanie)

Otázka č. 13: V posledných 7 dňoch som mal/a kvôli rane problémy v každodenných činnostiach
S odpoveďou "stredne" sa na otázkou ohľadne problémov v každodenných činnostiach stotožnilo 18 respondentov (36%) . Možnosť "dosť" označilo až 23 respondentov, čo tvorí dokonca 46% všetkých odpovedí. Položkou "veľmi" sa identifikovalo len 9 respondentov (18%).



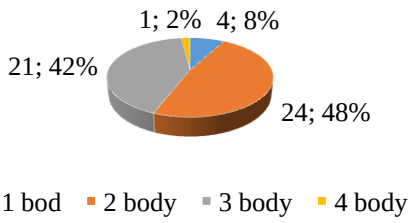
Graf č. 9: Problémy v každodenných činnostiach. (zdroj: vlastné spracovanie)

Otázka č. 16: V posledných 7 dňoch som sa cítil/a závislý/á od pomoci iných ľudí
V spojitosti so závislosťou na iných ľuďoch sa vyjadrila celá vzorka respondentov, 13 respondentov (26%), označilo možnosť "stredne", čo znamená 2 body. Termínom "dosť" sa identifikovalo až 20 respondentov, čo predstavuje 40% z celkového počtu. Zostávajúcich 17 respondentov (34%) sa stotožnilo so stupňom závislosti na iných položkou "veľmi", čo predstavuje štyri body.



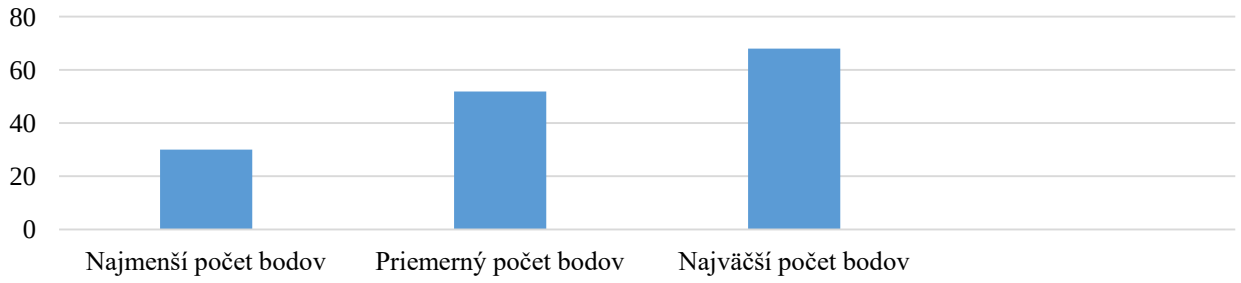
Graf č. 10: Závislosť na iných. (zdroj: vlastné spracovanie)

Otázka č. 17: V posledných 7 dňoch bola rana pre mňa finančnou záťažou
Na otázku v súvislosti s finančnou záťažou sa štyria respondenti (8%) vyjadrili označením termínu "trochu", Až 48% oslovených respondentov v počte 24, sa pri danej otázke identifikovalo možnosťou "stredne". 21 respondentov (42%) označilo, že ich rana je "dosť" finančnou záťažou. Len jeden respondent (2%) zaškrtol položku, že jeho rana je finančne "veľmi" zaťažujúca. Z tohto vyplýva, že pre každého pacienta predstavuje chronická rana istú mieru finančnej záťaže.



Graf č. 11: Finančná záťaž. (zdroj: vlastné spracovanie)

Počet bodov
Najnižší dosiahnutý počet bodov na vzorke 50 respondentov bol 30 bodov. Najvyšší počet dosiahol 68, čo je maximálne možný dosiahnuteľný počet. Priemerný počet bodov bol 51,88 bodov.



Graf č. 12: Počet bodov. (zdroj: vlastné spracovanie)

2.5 Diskusia

V úvodnej časti prieskumu sme si stanovili hlavný problém a ciele. Hlavným cieľom bolo zistiť úroveň kvality života pacientov s chronickou ranou vred predkolenia žilového pôvodu. V čiastkových cieľoch sme sa venovali jednotlivým oblastiam denného života. Následne sme pokračovali analýzou výsledkov prieskumu, ktorý bol realizovaný prostredníctvom štandardizovaného dotazníka Wound-QOL. V závere empirickej časti sa venujeme zhrnutiu získaných údajov. Komparácia neprebehla pre nedostupnosť relevantnej štúdie, práce. Výsledky nášho prieskumu hovoria o tom, že z celkového súboru 50 respondentov tvorilo 56% pacientov ženského pohlavia a 44% pacientov mužského pohlavia. Na otázku ohľadom veku sa číselné údaje pohybovali medzi 54. a 80. rokom života. Najviac respondentov (58%) sa nachádzalo vo vekovom rozmedzí 60-70 rokov. Výsledky nášho prieskumu poukazujú na zhoršenie kvality fyzického zdravia v otázkach bolesti, sekrécie a zápachu z rany. Veľká väčšina respondentov hodnotí tieto zmeny ako veľmi zaťažujúce, reagujú negatívne, v otázke ohľadom bolesti sa v položke "dosť" zhodlo až 40% (väčšiu časť tvorili ženy), v položke "veľmi" až 36% respondentov (rovnaký počet bez ohľadu na pohlavie), čím považujeme bolesť za veľmi zaťažujúci determinant vnímania kvality života. Pri zápachu z rany sa termínom "dosť" identifikovalo až 36% respondentov, z toho viac respondentov bolo mužského pohlavia. Sekréciu udávali všetci respondenti, podľa štádia ochorenia v rozmedzí "stredne" až "veľmi", najviac identifikácií termínom "dosť", čo tvorí až 36% celkových odpovedí, v danej položke viac mužov, v zvyšných položkách dominujú ženy. Psychická pohoda je rovnako dôležitá ako fyzická pohoda. Zaujímala nás prítomnosť psychickej záťaže, frustrácie, skleslosti v dôsledku dlhodobej liečby a strachu z úrazu alebo tvorby nových rán. Výsledky jednoznačne preukázali prítomnosť psychickej nepohody v rôznych úrovniach. Psychickú skleslosť termínom "dosť" identifikovalo až 46% respondentov. Frustráciu z dĺžky liečby uviedlo termínom "veľmi" až 60%, kde odpovedal rovnaký počet žien aj mužov. Istú mieru starosti uviedli všetci respondenti, najviac označovanou položkou bola položka "veľmi", ktorá bola označená v 54%. Strach z úrazu (40% respondentov – "veľmi"), strach zo zhoršenia a tvorby nových rán označilo 60% respondentov termínom "veľmi Kvalita spánku v súvislosti s chronickou ranou je značne obmedzená, čo potvrdzujú aj výsledky nášho prieskumu. Najviac respondentov (36%) označilo termín "stredne", čomu vďačíme za relatívne dobre zvládnutý manažment liečby chronickej bolesti. Samostatnosť a podpora rodiny hrá veľkú rolu v procese liečby, ako aj podporný faktor podnecujúci stúpajúcu krivku kvality života. "veľmi" sťažený pohyb uviedlo až 48% z celkového počtu respondentov, viac mužov ako žien. Obmedzený pohyb po schodoch bol zaznačený položkou "veľmi" až v 56%, rovnaký počet žien aj mužov. Problém v aktivitách denného života potvrdilo termínom "dosť" až 46% oslovených respondentov, 60,9% odpovedí na túto otázku tvorili respondentky ženského pohlavia. Ohľadne odkázanosti na inú osobu sa najviac respondentov stotožnilo s termínom "dosť", konkrétne v 40% súboru, nasleduje termín "veľmi" s percentuálnym vyhodnotením 34% celku, čo poukazuje na jednoznačnú závislosť

a zníženú sebestačnosť v rôznych stupňoch a formách. Znížená sebestačnosť, zhoršená pohyblivosť a nepriaznivý fyzický a psychický stav často spojený so strachom a predsudkami sa podpisujú na sociálnej izolácii pacientov. Musia obmedzovať svoje doterajšie voľnočasové aktivity a aktivity s inými. V otázke obmedzenia vlastných voľnočasových aktivít vedie položka "veľmi" a to až v 48% s rovnakým počtom ženských a mužských respondentov. Obmedzenie aktivít s inými ľuďmi potvrdili v rôznych úrovniach všetci respondenti, najviac však položkou "dosť", čo tvorí 44% celku v rovnakom počte ženských a mužských oslovených respondentov. V otázke finančnej záťaže boli odpovede miernejšieho charakteru, prevažovali termíny "dosť" (42%) a "stredne", čo tvorí až 48% všetkých odpovedí. Týmto výsledkom sme potvrdili zásah ekonomického aspektu do kontextu kvality života.

2.6 Záver

Dôsledkom vysokého veku obyvateľstva a znižujúcim sa novým prírastkom, sa dostávame do fázy, kedy krivka pacientov s prítomnosťou chronických rán výrazne stúpa, na rozdiel od krivky kvality života, ktorá ma rapídne klesajúcu tendenciu. Prieskumom sme chceli identifikovať a zhodnotiť jednotlivé dimenzie kvality života, ktoré boli narušené prítomnosťou chronickej rany. Výsledky nášho prieskumu jednoznačne preukázali negatívne vnímanú a hodnotenú kvalitu života pacientov s vredom predkolenia v činnostiach denného života. Kvalita bola hodnotená v rôznych dimenziách a úrovniach. Najväčší rozsah negatívnych vyjadrení odráža psychická stránka kvality života, najmä záťaž, frustrácia a strach, za ňou nasledujú fyzikálne zmeny, predovšetkým prítomnosť výraznej bolesti, ktorej liečbe by sme sa bo budúcna mohli venovať vo väčšej miere, pretože v kontexte s kombináciou psychickej bolesti má veľmi negatívny vplyv na prežívanie a úroveň kvality života.

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VPLYV EDUKÁCIE NA SELFMONITORING PRI LIEČBE DIABETES MELLITUS

THE INFLUENCE OF EDUCATION ON SELF-MONITORING IN THE TREATMENT OF DIABETES MELLITUS

Andrea Šuličová, Tatiana Šantová, Zuzana Šimová

Abstrakt

Edukácia je proces vzdelávania a výchovy. Cieľom edukácie u pacientov s ochorením diabetes mellitus (DM) je dosiahnuť a udržať pacienta v aktívnej a konštruktívnej úlohe spolutvorcu liečby. Edukácia sa pokladá za základ liečby DM. Medzi prvé základne liečebné postupy u diabetikov je udržanie optimálneho životného štýlu, ktorý zahŕňa edukačný proces orientovaný na zmeny v stravovaní – diétny režim a pohybovú aktivitu. Základ edukácie pacienta tvoria vedomostí o DM, ciele liečby, diétny a pohybový režim, selfmonitoring glykémie a glykozúrie a prevencia vzniku komplikácií, predovšetkým diabetickej nohy.

Kľíčová slova: *edukácia, pacient, diabetes mellitus, selfmonitoring*

Abstract

Education is a process of education and upbringing. The goal of education for patients with diabetes mellitus (DM) is to achieve and maintain the patient in an active and constructive role as a co-creator of treatment. Education is considered the basis of DM treatment. Among the first basic treatment procedures for diabetics is the maintenance of an optimal lifestyle, which includes an educational process oriented towards changes in diet - dietary regimen and physical activity. The basis of patient education is knowledge about DM, treatment goals, diet and exercise regimen, self-monitoring of blood glucose and glycosuria, and prevention of complications, especially diabetic foot.

Key words: *education, patient, diabetes mellitus, self-monitoring*

1 EDUKÁCIA U PACIENTOV S DIABETES MELLITUS

Diabetes mellitus je typickým chronickým ochorením, pri ktorom bez aktívnej spolupráce pacienta pri liečbe nie je možné dosiahnuť uspokojivé výsledky. Hoci ho nie je možné vyliečiť, dobre liečený pacient s DM má rovnaké šance na kvalitný a uspokojujúci život ako človek bez diabetu (1). Hlavným cieľom edukácie je zlepšenie zdravotného stavu pacienta, kompenzácia ochorenia, vyhnutie sa akútnym a chronickým komplikáciám ochorenia. Terapeutická edukácia pacienta spolu so selfmonitoringom vedie k zlepšeniu vedomostí a zručností a selfmanažmentu pacienta, čo sa prejavuje na zlepšení jeho klinických parametrov. Edukácia jedincov s DM je špecifická z týchto dôvodov:

- Je to celoživotná problematika – udalosti počas života (tehotenstvo, operácie a pod.), stresy (v zamestnaní, v škole, v rodine a pod.), na ktoré pacient reaguje metabolickými výkyvmi, vrátane akútnych komplikácií (hypo – hyperglykémia až kóma),
- dôležitý je význam kontroly klinických a laboratórnych výsledkov – samostatný selfmonitoring, reakcia na laboratórne výsledky a klinické kontroly,
- pretrváva riziko rozvoja chronických komplikácií – napr. mikro a makroangiopatia,
- dostavuje sa kolísanie motivácie – pacient počas života zažíva pocity vyhorenia, oslabuje sa jeho záujem o dodržiavanie terapeutického režimu (2).

Edukácia u pacienta s DM je zameraná na zvládnutie techniky aplikácie inzulínu, druhy inzulínov a čas ich pôsobenia, inzulínové terapeutické režimy, veľkú pozornosť venujeme selfmonitoringu glykémie, glykozúrie a celkovej adaptácii na diabetický režim. Dôležitá je edukácia v oblasti diétnej stravy, tzv. regulovanej stravy a v oblasti dostatočnej a primeranej pohybovej aktivity, ktorá má význam pri znižovaní hodnoty glykémie.

1.1 Selfmonitoring u pacientov s DM

Selfmonitoring spočíva vo využívaní vedomostí a zručností pacienta, ktoré mu pomáhajú kontrolovať vlastný zdravotný stav a zlepšovať účinnosť liečby. Systém sebakontroly nadväzuje na štruktúrovanú edukáciu, ktorá je súčasťou liečby. Hodnotenie kompenzácie môžeme robiť na základe vyšetrovania krátkodobých aj dlhodobých parametrov. Krátkodobé parametre sú glykémia, glykozúria, ketonúria, glykemický profil. Diabetik, vykonávajúci selfmonitoring pomocou glukometra a testovacích prúžkov, musí byť schopný výsledky meraní správne interpretovať a vedieť na ne adekvátne reagovať úpravou dávky inzulínu. Medzi dlhodobé parametre patrí glykovaný hemoglobín (HbA1c), ktorý odráža kompenzáciu v období približne 8 - 10 týždňov. Rovnako medzi uvedené markery patrí lipidový metabolizmus, výška a hmotnosť, očné pozadie, stav periférneho nervového systému a funkcie obličiek (3).

2 HODNOTENIE VPLYVU EDUKÁCIE NA SELFMONITORING U PACIENTOV S DM

Hlavným cieľom prieskumu bolo zistiť vplyv edukácie na selfmonitoring u pacientov s DM 2. typu. Zisťovali sme, či majú dostatok vedomostí a zručností dôležitých pre zabezpečovanie liečebných opatrení v oblasti stravovania, pohybovej aktivity, užívania perorálnych antidiabetík, injekčnej subkutánnej aplikácie inzulínu a merania hladiny glykémie.
Výskumnú vzorku tvorilo 70 respondentov s ochorením diabetes mellitus 2. typu, z toho 40 respondentov (57 %) sú na PAD, 27 (39 %) majú kombinovanú liečbu (PAD + inzulín) a 3 respondenti (4 %) si aplikujú len inzulín. Vzorku tvorilo 41 žien (59 %) a 29 mužov (41 %) vo vekovom rozhraní od 33 do 72 rokov. Prieskum bol realizovaný v diabetologickej ambulancii. Na zber údajov sme použili štandardizovaný dotazník Michigan Diabetes Research and Training Center's Brief. Dotazník obsahuje subškály zamerané na edukáciu a poskytnuté poradenstvo, hodnotenie svojich vedomostí týkajúcich sa ochorenia DM, diéty a dôležitosti jej dodržiavania, významu dlhodobej starostlivosti, bariér pri cvičení a fyzickej aktivite, prekážok v selfmonitoringu a starostlivosti o seba (6).

2.1 Kvantitatívna analýza výsledkov

Tabuľka č. 1 Počet dní v týždni vyjadrujúci meranie hladiny glukózy v krvi

Možnosti	Počet (n)	%
1 deň	9	21
2 dni	8	19
3 dni	4	10
4 dni	3	7
5 dní	2	5
6 dní	0	0
7 dní	16	38
Spolu	42	100

Tabuľka č. 2 Množstvo meraní hladiny glukózy v krvi počas dňa

Možnosti	Počet (n)	%
1 x (ráno)	34	81
2 x (ráno, večer)	6	14
3 x (ráno, obed, večer)	2	5
Spolu	42	100

Tabuľka č. 3 Subjektívne hodnotenie vedomostí o diabetickej diéte

Možnosti	Stupeň Likertovej škály	Počet (n)	%
Slabé	1	2	3
Skôr slabé	2	1	1
Dobré	3	9	13
Skôr vynikajúce	4	21	30
Vynikajúce	5	37	53
Spolu		70	100

Tabuľka č. 4 Vedomosti o vplyve diéty, cvičenia a liekov na hladinu glukózy v krvi

Možnosti	Stupeň Likertovej škály	Počet (n)	%
Slabé	1	6	9
Skôr slabé	2	3	4
Dobré	3	24	34
Skôr vynikajúce	4	11	16
Vynikajúce	5	26	37
Spolu		70	100

2.2 Diskusia

Selfmonitoring glykémie patrí medzi základné parametre hodnotenia kvality a bezpečnosti liečby pacientov so všetkými typmi diabetu. V minulosti sa vyžadoval len u diabetikov liečených inzulínom. V súčasnosti v snahe o čo najlepšiu kompenzáciu diabetu sa využíva v stúpajúcom trende aj u pacientov liečených perorálnymi antidiabetikami (PAD), a to najmä u tých, ktorí majú zvýšené riziko hypoglykémií. Zvýšený dôraz sa kladie na kontrolu postprandiálnych glykémií. Súčasťou úspešného selfmanažmentu diabetu je aj pravidelné monitorovanie hladiny glukózy v krvi. Pod pojmom selfmonitoring (sebakontrola) rozumieme v užšom slova zmysle kontrolovanie glykémií. Pacient si pomocou glukomera stanovuje hladiny cukru nalačno a po jedle v priebehu dňa a noci. V širšom slova zmysle je selfomonitoring aj kontrolovanie glykozúrie (stanovovanie cukru v moči), ketonúrie (stanovovanie ketolátok v moči), prípadne meranie a sledovanie telesnej hmotnosti a krvného tlaku. Množstvo klinických štúdií dokázalo, že intenzívna a dôsledná kontrola hladiny glykémie prináša úspešnejšiu liečbu cukrovky, zlepšenie kvality života diabetikov a podstatné zníženie výskytu komplikácií cukrovky alebo spomalenie rozvoja ochorenia.

V našom súbore respondentov si kontroluje hladinu cukru v krvi každý deň 38%. Z toho viac ako polovica respondentov odpovedala, že si raz do dňa meria hladinu cukru v krvi. Viac ako polovica respondentov si nevedie záznamy o nameraných hodnotách glykémie. Počet meraní glukózy v krvi závisí aj od aktuálneho zdravotného stavu a výskytu príznakov súvisiacich s DM.

Despins a Wakefield (2020) sledovali u jedincov s diabetes mellitus 2. typu vytváranie pocitov z údajov o nameranej glykémii a iné vplyvy ovplyvňujúce sebariadiace správanie.

Pacienti používali hodnoty glukózy a/alebo hodnoty HbA1c na vyhodnotenie kontroly glukózy. Pri vyhodnocovaní hladiny glukózy analyzovali kontext, v ktorom bola hodnota nameraná, optikou osobných parametrov a očakávaní. Pochopenie toho, ako jednotlivci rozumejú údajom o glykémii a vplyvu na správanie pri selfmonitoringu a selfmanažmente diabetu môže pomôcť zdravotníckemu tímu pri optimalizácii spoločných plánov individualizovanej starostlivosti. Autori uvádzajú, že u jedincov s diabetes mellitus 2. typu môže byť prospešná pravidelná tzv. "osviežujúca" edukácia o diabete (4).
Keďže zdravá strava a fyzická aktivita môžu zlepšiť glukometabolickú kontrolu u pacientov s diabetom 2. typu, základom každej terapie by mali byť zmeny životného štýlu. Jediným nástrojom na vizualizáciu okamžitých účinkov stravy a cvičenia na hladiny glukózy v krvi je monitorovanie glukózy v krvi. Kempf a kol. (2010) realizovali štúdiu, ktorej cieľom bolo po 12-týždňovej intervencii v oblasti životného štýlu, zhodnotiť vplyv motivačného a vzdelávacieho programu zameraného na selfmonitoring glukózy a ďalších zdravotných parametrov u diabetikov neliečených inzulínom. 405 účastníkov si merali denný profil glukózy v krvi, vrátane hmotnosti, obvodu pása a krokov/deň. Na začiatku a na konci štúdie sa hodnotil glykovaný hemoglobín (HbA1c), krvný tlak a hladina cholesterolu, zmeny životného štýlu a pocit pohody dotazníkom SF36. 81 % dokončilo program a výrazne zlepšilo kvalitu stravy a fyzickej aktivity, zvýšením o > 2 300 krokov/deň. Účastníci signifikantne znížili hmotnosť, index telesnej hmotnosti, obvod pása, glykémiu, krvný tlak, cholesterol s nízkou hustotou lipoproteínov a vyjadrovali zníženie miery depresie. Úbytok hmotnosti bol signifikantne spojený s celkovým zlepšením glukometabolických parametrov a priemerným znížením o 0,05 % HbA1c/kg. Intervencia v zmene životného štýlu pomocou selfmonitoringu je užitočná pre motiváciu pacientov s diabetom 2. typu k zmenám životného štýlu. Autori konštatujú, že integrácia tejto krátkodobej, vysoko motivačnej a nízkonákladovej intervencie do základnej terapie u pacientov bez inzulínovej terapie by mohla zlepšiť glukometabolický a celkový zdravotný stav (5).
Väčšina respondentov v našom súbore síce má poskytnuté poradenstvo v oblasti pohybovej aktivity, ale respondenti určili, že majú slabé zručnosti v cvičení a väčšina respondentov necvičí vôbec alebo majú mierne bariéry pri cvičení a fyzickej aktivite. Pohyb pacientov s diagnózou diabetes mellitus 2. typu je nevyhnutný pre udržiavanie glykémie, pri predchádzaní možných komplikácií alebo eliminovaní následkov už vzniknutých komplikácií. Respondenti sa vyjadrili, že majú slabé vedomosti v prínosoch zlepšenia kontroly hladiny cukru v krvi, majú dobré zručnosti v kontrole a udržiavaní hmotnosti, väčšina respondentov si kontroluje a udržiava hmotnosť, vynikajúce zručnosti v užívaní inzulínu/liekov a v starostlivosti o nohy, ale iba polovica respondentov sa snaží dodržiavať predpísanú diétu / plán stravovania. Z výsledkov vyplýva, že miera prekážok selfmonitoringu a starostlivosti o seba je prítomná v niektorých oblastiach selfmanažmentu pri DM. Selfmonitoring a starostlivosť o seba pri diabete všeobecne je dôležitá súčasť tohto ochorenia. V závere môžeme zhodnotiť, že najlepšie výsledky boli v sekcii „monitoring prekážok seelfmonitoringu a starostlivosti o seba“ a najhoršie výsledky boli v sekcii „dodržiavanie diéty“ (6).

3 ZÁVER

Pacient zohráva významnú aktívnu rolu nielen v sledovaní parametrov kompenzácie, ale tiež musí aktívne reagovať na namerané hodnoty. Selfmonitoring je teda proces pozostávajúci z dvoch častí: samostatné zistenie určitej nameranej hodnoty a primerané samostatné rozhodnutie o úprave ďalšej liečby (2, 7). Efektivita priaznivej kompenzácie diabetu a rozvoj komplikácií závisí predovšetkým na motivácii, ochote a úrovni vedomostí a zručností pacienta o ochorení DM, na vôli rešpektovať a dodržiavať odporúčania lekára a sestry, k čomu má prispieť efektívna edukácia.

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DETERMINANTY DIABETICKEJ NOHY

THE DETERMINANTS OF DIABETIC FOOT

Terézia Fertaľová, Lívia Hadašová, Tatiana Šantová

Abstrakt

Syndróm diabetickej nohy patrí medzi neskoré komplikácie cukrovky. Pri dodržiavaní odporúčaných postupov je možné tejto závažnej komplikácii predísť. Nie každý pacient s diabetom je ohrozený rozvojom ulcerácie. Medzi kľúčové rizikové faktory patrí strata citlivosti, ischemická choroba dolných končatín a deformita nohy. Bez prítomnosti týchto rizikových faktorov nie je riziko ulcerácie. V predkladanom príspevku uvádzame výsledky skríningu s využitím Michiganského dotazníka pre vyšetrenie polyneuropatie. Pri zistení rizika je potrebné pacientovi venovať zvýšenú pozornosť a zamerať sa na prevenciu syndrómu diabetickej nohy.

Klúčové slova: *diabetická noha, riziko, prevencia, skríning*

Abstract

Diabetic foot syndrome is one of the late complications of diabetes. By following the recommended procedures, this serious complication can be prevented. Not every patient with diabetes is at risk of developing ulceration. Key risk factors include loss of sensation, lower limb ischemic disease, and foot deformity. Without the presence of these risk factors, there is no risk of ulceration. In the present paper, we report the results of screening using the Michigan Polyneuropathy Screening Questionnaire. When risk is identified, the patient should be given extra attention and focus on prevention of diabetic foot syndrome.

Key words: *diabetic foot, risk, prevention, screening*

1 DETERMINANTY DIABETICKEJ NOHY

Definícia Syndrómu diabetickej nohy bola prvýkrát vydaná v roku 1999 organizáciou IWGDF (International Working Group of the Diabetic Foot) a svoju pôvodnú verziu si zachovala aj po doterajších vykonaných štúdiách a výskumoch. Charakterizovaný je ako *„ulcerácia alebo deštrukcia tkanív distálne od členka, vrátane členkového kĺbu, spojená s rôznym stupňom ischémie a neuropatie u diabetikov. Často býva prítomná aj infekcia."* (Krahulec 2013, s. 41). V rozšírenej forme sa môže sa prejavovať sčernením prstov (gangrénami), infekčnými zápalmi mäkkých tkanív prejavujúcimi sa opuchom a začervenaním (flegmóny), ktoré prenikajú do hlbších vrstiev kože až kostí so vznikom osteomyelitídy (zápalom kostnej drene). Následkom týchto zmien sú rozsiahle ulcerácie (zvredovatenie) s rizikom straty tkaniva. V prípade nutnosti vedie tento stav k amputácii končatiny. Ochorenie taktiež môže postihnúť kostí a kĺby, kedy hovoríme o Charcotovej nohe, odborne Charcotová osteoarthropatia (Mojito, 2019).

Jedným z determinantov vzniku syndrómu diabetickej nohy je pravidelná starostlivosť o dolné končatiny, ktoré sú u diabetika citlivé na teplo, tlak a bolesť. Koža je často suchá, popraskaná a zároveň je omnoho náchylnejšia na plesňové, bakteriálne a kvasinkové infekcie. Z tohto dôvodu je potrebné sa o pokožku dôkladne starať a prípadné ochorenia kože liečiť a chrániť nohu aj pred najmenšími poraneniami (Piťhová, 2017).

Podmieniť vznik rany na dolnej končatine môže nesprávna obuv, ktorá vytvára na nohe otlaky. Veľkým rizikom je chôdza s kamienkom v topánke, nesprávna alebo zhrnutá vložka a veľmi úzka ponožka, ktorá zabraňuje dostatočnému prekrvovaniu končatiny. Determinovať vznik drobných rán môžu časté pády, zakopnutia, obezita s hypomobilitou, vznik plesní na nechtoch a nohách. Ďalším ohrozením je pre diabetika celkové zanedbávanie starostlivosti o nohy a ich hygiena. Nedôkladné prezeranie, umytie a osušenie dolných končatín môže viesť k ďalším komplikáciám. Vzhľadom na narušenú citlivosť kože môže zvýšiť riziko výskytu nerovnomerné strihanie nechtov a využívanie mokrej pedikúry. Namáčaním nôh do vody pred strihaním nechtov alebo pred ošetrením kože môže dôjsť k vzniku prasklín a neskôr k vzniku ťažko hojacich sa rán. Tvorbu mikrotrhlín možno dosiahnuť využívaním nevhodných prípravkov, ktoré by kožu ešte viac osušovali. Riziko poranení zvyšuje taktiež používanie rezných a ostrých predmetov pri ošetrení kože (Mokáň, 2021).
Ďalším predisponujúcim terénom, ktorý zvyšuje riziko vzniku syndrómu diabetickej nohy sú vrodené a získané deformity nôh a biomechaniky chôdze. Jedná sa o rizikových pacientov s plochými nohami, vysokým priehlavkom, kladivkovými alebo drapovými prstami, či kostnými výrastkami. Ohrození sú pacienti, ktorí krívajú alebo chybne našľapujú (Krahulec a kol., 2013).
Podľa Národného centra zdravotníckych informácií (2022) sa považuje za rizikovú skupinu ženské pohlavie, vek nad 45 rokov a jedinci s hypertenziou. Ohrození sú fajčiari. Rizikovým faktorom pre vznik ulcerácií je taktiež znížená schopnosť videnia, ktorá zvyšuje riziko pádov. Ďalším faktorom sú sociálno – osobnostné kompetencie jedinca, ktorý odmieta spolupracovať s lekárom. Nedodržuje liečbu a odporúčania, a to z dôvodu vlastnej nezodpovednosti, nedostatku financií, neschopnosti samostatnej starostlivosti, či nedostatku podpory zo strany blízkych osôb. Tieto faktory zvyšujú limity pri návštevách u lekára a znižujú kompetencie v starostlivosti o dolné končatiny.
Výskyt banálnej kožnej rany z akéhokoľvek uvedeného dôvodu sa dokáže veľmi rýchlo zhoršiť. Otvorená rana na končatine vytvára veľmi jednoduchý prístup infekcii, ktorá spôsobuje rýchlejšie šírenie a otváranie rán. Vznikajú diabetické ulcerácie, teda už rozvinuté formy syndrómu diabetickej nohy, ako je neuropatia, angiopatia a neuroischémia. Všetky tieto komplikácie môže zhoršovať prítomnosť komorbidných ochorení (Krahulec, Štrbová, 2018).
Diabetická neuropatia je ochorenie nervového systému, ktorá vzniká pri dlhodobo zle kompenzovanom diabete. Nadbytok cukru v krvi organizmus nedokáže odbúravať, a tak spôsobuje poškodenie nervov v celom tele vrátane nervov ovládajúcich tráviaci trakt, močový mechúr, krvný tlak, cievy a srdce. Nevyskytuje sa ako samostatné ochorenie. Jedná sa o skupinu klinických a subklinických syndrómov s rôznou etiológiou, klinických aj laboratórnych prejavov, ktorých spoločnou doménou je dysfunkcia periferného nervového systému. Vplyvom diabetickej neuropatie môže dôjsť k poškodeniu nervových vláken, ktoré sú zodpovedné za senzitívne vnímanie, motoriku a autonómne nervy významné pre vnútorné deje v organizme (Mokáň, 2021). Spočiatku sa prejavuje rôznymi spôsobmi. Nepríjemným pálením, bolesťou a mravčením. Pocitom, akoby mal človek obutú ponožku hoci je bosý. Prejavy sú intenzívnejšie cez noc, a to v takej miere, že diabetický pacient často neznesie prikrytie dekou alebo perinou. Najzávažnejšia je strata citlivosti na nohách, pretože pacient necíti alarmujúcu bolesť pri pôsobení tlaku alebo iných škodlivín. Z tohto dôvodu veľmi ľahko dochádza k popáleninám, otlakom z nesprávne zvolenej obuvi a ďalším drobným poraneniam (ragádom) na končatinách spôsobených napríklad kamienkom v topánke. Rana sa pri neuropatickom defekte najčastejšie objavuje v oblasti najväčšieho tlaku na končatine, teda na brušku palca, na päte a šľapajach (Piťhová, 2017).
Diabetická angiopatia (ischémia) ako ďalší faktor podieľajúci sa na vývoji syndrómu diabetickej nohy definuje Krahulec a kol. (2013, s. 49) ako *„postihnutie veľkých artérií aterosklerózou, ktorá zužuje lúmen artérii.“* Dochádza k zhoršenej pohyblivosti kĺbov a

zníženej záťaži končatín, čo vyvoláva reaktívne zhrubnutie kože (kalus), a tým uľahčuje ischemickú nekrózu tkanív nachádzajúcu sa najbližšie ku kalusu. Vedie k strate integrity kože, podkožného tkaniva (rozpadu) a k vredom. Ischemická noha sa môže prejavovať tmavočervenou kožou alebo naopak nedokrvenou veľmi tenkou kožou bez prítomnosti ochlpenia a nechtov. Objavuje sa pozdĺž klenby, na končekoch prstov, medzi prstami a na päte (Jirkovská, 2022).
Komplikáciou ischemickej a neuropatickej nohy môže byť obojstranný edém nôh, ktorý u diabetického pacienta naznačuje ďalšie zdravotné komplikácie, ako zlyhávanie obličiek, srdca, či žilovej nedostatočnosti. Defekty taktiež vedú k vzniku Charcotovej osteoartropii, vredov a gangrénov. Gangréna dokáže úplne zastaviť prekrvovanie tkanív, čím sa koža stáva modrá, neskôr čierna a hrozí amputácia postihnutej časti na končatine. Charcotova osteoartropia môže vyústiť do trvalej deformity chodidla. Poškodenie spôsobuje krehnutie kostí, ktoré ľahko vedie k fraktúram a rozpadom. Na poškodenom mieste vyrastie nová kosť, no končatina ostáva deformovaná. Prvotným príznakom je edém, horúce a bolestivé chodidlo (Jirkovská, 2022).
Vplyvom uvedených faktorov, ich kombináciou s prítomnosťou iných komorbidných ochorení dochádza u pacienta k nedostatočnému cievnemu prekrveniu a poruche zrážanlivosti krvi, čím sa znižuje tkanivová oxygenácia. Konečný patofyziologický stav sa u pacienta prejaví ako rozvinutá, ťažko liečiteľná forma syndrómu diabetickej nohy (Ševčovičová, Tarageľová, 2017).

1.1 Výsledky prieskumu

Podľa odporúčaných postupov publikovaných The 2019 IWGDF Guidelines on the prevention and management of diabetic foot disease, hlavnými zásadami prevencie syndrómu diabetickej nohy je: identifikovať rizikové nohy, pravidelná inšpekcia a vyšetrenie rizikovej nohy, edukácia pacienta, rodiny a zdravotníckych pracovníkov, zaistenie pravidelného nosenia vhodnej obuvi a liečba rizikových faktorov ulcerácie.
Na základe odporúčaní v rámci prevencie a včasného záchytu syndrómu diabetickej nohy, by sa cielene malo pátrať po neuropatii v čase diagnózy DM 2. typu a po 5 rokoch trvania DM 1. typu. V diabetologickej ambulancii sa na vyšetrenie senzo motorickej neuropatie môže využiť vyhodnotenie taktilnej citlivosti, vyšetrenie vibračnej citlivosti. Dôkladnejšie zhodnotenie a vyšetrenie patrí do kompetencie neurológa. Jednou z najnovších metód diagnostiky diabetickej polyneuropatie je tzv. Neurotest, ktorý dokáže určiť poruchu tých nervov, ktoré inervujú kožné potné žliazky. Neurotest je dostupný v lekárni a dokáže si ho urobiť aj sám pacient. Raz ročne je hradený aj zdravotnou poisťovňou. Na diagnostiku senzomotorickej neuropatie sa najčastejšie používa tzv. Michiganský dotazník.

Cieľ prieskumu

Cieľom nášho prieskumu je posúdiť riziko diabetickej neuropatie pomocou Michiganského dotazníka.

Metóda

Pre naplnenie definovaného cieľa sme zvolili skríning včasného štádia diabetickej neuropatie prostredníctvom Michiganského dotazníka podľa Feldmana (1994). Michiganský dotazník pozostáva z 12 otázok, na ktoré sa odpovedá „áno – nie“. Následne sa výsledok získaných bodov spočíta a výsledný súčet sa vydelí číslom 12. Výsledok 1,5 a viac znamená prítomnosť diabetickej neuropatie. Zaraďovacím kritériom bolo ochorenie Diabetes mellitus II. typu. Vyraďovacím kritériom bolo prítomnosť syndrómu diabetickej nohy. Celkovo sme skrinovali 45 pacientov. Pred zaradením do štúdie sme žiadali informovaný súhlas respondentov.

Výsledky

Súbor respondentov v našej štúdii boli pacienti s ochorením Diabetes mellitus II. Typu bez prítomnosti syndrómu diabetickej nohy. Oslovili sme pacientov a ich rodinných príslušníkov, ktorí prejavili záujem o spoluprácu. Kontakty sme získali z diabetologických ambulancií. Z oslovených 54 respondentov prejavili záujem o spoluprácu 45. V úvode rozhovoru sme overili zaraďovacie a vyraďovacie kritéria štúdie a udelenie súhlasu so zaradením do štúdie.

Priemerný vek respondentov bol 56,4 roka. Priemerná doba liečby na DM 2. typu je 10 rokov. Objektívne nálezy na dolných končatinách sme zisťovali prostredníctvom skrátenej formy Michiganského dotazníka. Priemerné skóre Michiganského dotazníka bolo 1,84. Skóre 1,5 a viac svedčí pre neuropatiu. 53% respondentov je v nízkej miere ohrozenia neuropatiou, 7% je v strednej miere ohrozenia a 40% respondentov je vo vysokej miere ohrozenia neuropatiou. Prehľad výsledkov uvádzame v tabuľke 1.

Tabuľka 1 Výsledky Michiganského dotazníka

Priemerné skóre	Nízka miera ohrozenia	Stredná miera ohrozenia	Vysoká miera ohrozenia
1,84	53%	7%	40%

Zistili sme, že približne u polovice respondentov sa príznaky začínajúcej neuropatie už objavili. Za najčastejšie pacienti uvádzali pocit ťažkých alebo slabých nôh, zhoršenú citlivosť, suchú kožu a praskliny. Respondentov s dosiahnutým skóre, ktoré svedčí pre strednú a vysokú mieru neuropatie sme inštruovali o ďalších postupoch a prípadných rizikách s cieľom zamedziť vzniku syndrómu diabetickej nohy.

2 DISKUSIA

Jedným z kľúčových zásad prevencie syndrómu diabetickej nohy je identifikácia rizikovej nohy. U pacientov s veľmi nízkym rizikom ulcerácie je vhodné realizovať skríning raz ročne. U pacientov s nízkym rizikom ulcerácie sa odporúča realizovať skríning raz za 6 – 12 mesiacov. Stredné riziko ulcerácie raz za 3 – 6 mesiacov a u pacientov s vysokým rizikom ulcerácie sa odporúča skríning ulcerácie raz za 1 – 3 mesiace.

V našom prieskume sme posudzovali riziko diabetickej neuropatie pomocou Michiganského dotazníka. Zistili sme, že 53% respondentov je v nízkej miere ohrozenia neuropatiou, 7% je v strednej miere ohrozenia a 40% respondentov je vo vysokej miere ohrozenia neuropatiou.

Diabetická senzomotorická polyneuropatia postihuje približne jednu tretinu ľudí s diabetom (Ziegler, Tesfaye et al., 2022).

Diabetická periférna neuropatia je diagnostikovaná v neskorom, často predulceróznom štádiu v dôsledku nedostatku včasného systematického skríningu a schválenia testovania monofilamentov, ktoré identifikuje iba pokročilú neuropatiu. V porovnaní s úspechom programov diabetického skríningu oka a obličiek je jednoznačne neuspokojená potreba objektívneho spoľahlivého biomarkera na detekciu včasnej diabetickej periférnej neuropatie (Burgess et al., 2021). Autori Ziegler, Landgraf et al. (2022) publikovali štúdiu, ktorou zisťovali podrobné informácie o postupoch a hodnotení skríningu a diagnostiky senzomotorickej polyneuropatie v klinickej praxi. Autori zistili, že napriek vysokej miere skríningu je ochota zaviesť štandardizované testovacie postupy a hodnotenie riadiť sa usmerneniami medzi lekármi pri skríningu a klinickej diagnostike nízke (Ziegler, Landgraf et al., 2022).

Úspešná prevencia a liečba syndrómu diabetickej nohy závisí na dobre organizovanom tíme s akcentáciou holistického prístupu. Efektívna organizácia vyžaduje zaistenie systému realizácie edukácie, skríning, znižovanie rizika, liečba a kontrola jednotlivých aktivít.

Pri identifikácii problému by pacient mal navštíviť svojho praktického lekára, ktorý zhodnotí situáciu a odporúča vyšetrenie u odborníkov, predovšetkým v podiatrickej ambulancii, ktorá rieši problém syndrómu diabetickej nohy (Nicolaas et al., 2019). Na Slovensku doteraz nemáme zriadené podiatrické ambulancie a interdisciplinárne podiatrické tímy, ktoré zaisťujú prevenciu a celý management SDN.

3 ZÁVER

Následkom syndrómu diabetickej nohy, ktorý patrí medzi najzávažnejšie komplikácie diabetu je veľká globálna záťaž pacientov a systému zdravotnej starostlivosti, zaťažuje rodinu pacienta, zdravotníckych pracovníkov. Prevenciou, vzdelávaním pacientov a zdravotníckych pracovníkov môžeme prispieť k zlepšeniu tejto situácie.

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STRATÉGIE ZVLÁDANIA ZÁŤAŽE OPATROVATEĽOV

STRATEGIES FOR COPING WITH THE CAREGIVER BURDEN

Terézia Fertaľová, Lívia Hadašová, Silvia Cibríková

Abstrakt

Záťaž opatrovateľov je dlhodobo skúmaným fenoménom, ale predovšetkým u neformálnych opatrovateľov. Vzhľadom na celospoločenský tlak na poskytovateľov sociálnych služieb a predikcie populačného vývoja je nevyhnutné zaoberať sa dlhodobou starostlivosťou o seniorov. V predkladanom príspevku popisujeme teoretické východiska opatrovateľskej služby, záťaže opatrovateľov a stratégie na jej zvládanie. V rámci empírie sme realizovali prieskum, v ktorom sme zisťovali aké stratégie zvládania záťaže využívajú formálni opatrovatelia. Tieto stratégie je nevyhnutné poznať, aby sme mohli pracovať na ich eliminácii a prispieť tak k zabezpečeniu kvalitnej, bezpečnej a dostupnej dlhodobej inštitucionalizovanej starostlivosti.

Kľúčové slová: *stratégia zvládania, záťaž, opatrovateľ, prieskum*

Abstract

Caregiver burden is a long-researched phenomenon, but particularly among informal caregivers. Given the societal pressures on social service providers and population projections, it is imperative to address long-term care for the elderly. In the present paper, we describe the theoretical background of caregiving, the caregiver burden, and strategies for coping with it. We conducted an empirical survey to investigate the coping strategies used by formal caregivers to manage caregiver burden. It is essential to know these strategies so that we can work towards eliminating them and contribute to the provision of quality, safe and accessible long-term institutionalised care.

Key words: *coping strategy, burden, caregiver, research*

1 STRATÉGIE ZVLÁDANIA ZÁŤAŽE OPATROVATEĽOV

K vykonávaniu pracovnej činnosti opatrovateľa napomáha predchádzať záťažovým situáciám a vyrovnať sa s obťažnými situáciami prevencia, ktorá zlepšuje výkonnosť a psychickú pohodu. Odborné literatúry, ktoré sa zaoberajú pojmom prevencia, nazývajú tento stav „coping“, čo v preklade znamená „zvládanie“ (Petlák, Baranovská, 2016) *„Pod pojmom coping rozumieme akýkoľvek spôsob správania, myslenia alebo cítenia človeka, ktorý vedie alebo si myslí, že by ho mal viesť k zvládaniu záťaže“* (Barancová 2014, s. 133). Pri nedostatočnej psychickej pohode opatrovateľov, by bol ich negatívnym postojom najskôr zranený ich pacient, klient. Prevencia spočíva najmä v tom, aby si človek stanovil hierarchiu priorít, ktoré mu napomôžu k zvládaniu záťažových situácií. Človek by sa mal pridržiavať svojich priorít a uprednostniť tie, ktoré sú na prvom mieste. Okrem priorít sa človek musí vyhýbať stresovým situáciám, vybudovať si dostatočnú asertivitu a obklopiť sa sociálnou oporou, ktorá bude slúžiť ako terapeutický faktor. S liečbou je potrebné začať čo najskôr, už v začiatočnom štádiu ochorenia. Pristupujeme ku komplexnej liečbe jedinca, jeho rodiny, poprípade opatrovateľa (Fertaľová, Ondriová, 2022). Zvládanie hrá kľúčovú úlohu pri zlepšovaní fyzickej a emocionálnej pohody opatrovateľov (Chivukula et al., 2018).

Prevenčné metódy, ktoré sa uplatňujú pri predchádzaní so záťažovými situáciami sú relaxačné metódy, psychoterapeutické metódy a medikamentózna liečba.

Relaxačné metódy zahrňujú rôzne uvoľňovacie cvičenia, ako je joga, respiračné, relaxačné cvičenia a telová liečba. Človek si týmito relaxačnými metódami posilňuje duševné zdravie. Jedinec sa cíti zregenerovaný s posilnenou imunitou organizmu a obnovou buniek. Relaxáciou sa záporné spomienky nevymažú, no napomáha k eliminácii negatívnej energie a vzbudzuje sa v ňom radosť. Z hľadiska miesta nie je podstatné, kde sa relaxačné metódy uplatňujú. Uvoľňovacie cvičenia zahrňujú napríklad masírovanie svalov, liečebné metódy založené na tlaku určitých bodov ľudského tela a správne rehabilitačné cvičenia. Respiračné cvičenia sú zamerané na kontrolu správneho dýchania. Telové relaxačné cvičenia sa orientujú na koncentráciu. V poslednej fáze sú cvičenia zamerané na fantáziu, tvorivú schopnosť a zrakové podnety.

Psychoterapeutické metódy umožňujú človeku nazerať na veci z iného uhla. Za pomoci odborníkov človek nájde nový zmysel života, rozvinie si určité kompetencie, získa novú energiu pre kariérny život, ktorý ho bude napĺňať. Človek sa učí spoznať sám seba a tiež sa učí riešiť záťažové situácie.

Medikamentózna liečba je podporná liečba, ktorá sa snaží o zmiernenie dôvodu, ktorý viedol k ťažkostiam. Pri silných prejavoch súvisiacich so záťažou je nutné riešiť situáciu liekmi. Tie pôsobia ako zmierňujúci účinok prežívaného negatívneho stavu. Odporúča sa tiež požívať dostatok minerálov a vitamínov, ktorými sa posilní imunita organizmu, upokojí sa napätie a zmiernia sa úzkostné stavy. Každý človek, ktorý sa chce dostať z daného stavu slabosti, si musí stanoviť ciele, ktoré ho posunú v pred (Obročníková, Majerníková, 2018). Ak sú jednotlivci vystavení stresu, existujú rôzne spôsoby, ako sa s ním vyrovnať. Nazývajú sa „štýly zvládania“, čo je súbor relatívne stabilných vlastností, ktoré určujú správanie jednotlivca v reakcii na stres. Tie sú konzistentné v čase a naprieč situácii. Vo všeobecnosti sa zvládanie delí na reaktívne zvládanie a proaktívne zvládanie. Proaktívni jedinci vynikajú v stabilných prostrediach, pretože sú viac rutinní, rigidní a menej reagujúci na stresory, zatiaľ čo reaktívni jedinci dosahujú lepšie výsledky v premenlivom prostredí.

Stupnica zvládania meria typ mechanizmu zvládania, ktorým sa človek prejavuje. Najčastejšie používané škály sú COPE (Coping Orientation to Problems Experienced), Ways of Coping Questionnaire, Coping Strategies Questionnaire, Coping Inventory for Stresing Situations, Religious-COPE a Coping Response Inventory. Zvládanie je vo všeobecnosti kategorizované do štyroch hlavných kategórií, ktorými sú:

- Zameraný na problém, ktorý rieši problém spôsobujúci úzkosť: Príklady tohto štýlu zahŕňajú aktívne zvládanie, plánovanie, zvládanie obmedzovania a potláčanie konkurenčných aktivít.
- Zameraný na emócie, ktorého cieľom je znížiť negatívne emócie spojené s problémom: Príklady tohto štýlu zahŕňajú pozitívne prerámovanie, prijatie, obrátenie sa k náboženstvu a humoru.
- Zamerané na význam, v ktorom jednotlivec používa kognitívne stratégie na odvodenie a riadenie významu situácie.
- Sociálne zvládanie (hľadanie podpory), pri ktorom jednotlivec znižuje stres vyhľadávaním emocionálnej alebo inštrumentálnej podpory od svojej komunity.

Mnohé zo zvládacich mechanizmov sú v určitých situáciách užitočné. Niektoré štúdie naznačujú, že najprospešnejší môže byť prístup zameraný na problém; iné štúdie majú konzistentné údaje, že niektoré mechanizmy zvládania sú spojené s horšími výsledkami. Maladaptívne zvládanie sa týka mechanizmov zvládania, ktoré sú spojené so zlými výsledkami v oblasti duševného zdravia a vyššou úrovňou psychopatologických symptómov. Patrí medzi neodpútavanie sa, vyhýbanie sa a emocionálne potláčanie.

Človek by nemal očakávať, že sa situácia vyrieši sama, ale treba hľadať východiská hneď na začiatku. Človek si však musí pripustiť, že niekedy problém má. Pre jedinca je dôležité otvoriť sa osobe ktorej dôveruje a nenechať si daný problém len pre seba. Osoba si musí ujasniť dôvody vzniknutej situácie a snažiť sa ju riešiť. Pri niektorých situáciách je potrebné si vytvoriť stanovisko nezáujmu a vytvoriť si nadhľad (napr. pri nepravdivých tvrdeniach o nás). Dôležité je využívať zdravú sebakritiku a asertivitu. Pri predchádzaní záťažových situáciách je vhodná podpora nadriadeného. Vhodná je aj sociálna podpora zo strany rodiny a priateľov. Jedinec sa musí vyhýbať situáciám, ktoré pôsobia naňho stresujúco. Podstatné pri prevencii je dodržiavanie psychohygieny, zapojenie sa do prevenčných tréningov, poprípade vyhľadanie špeciálnej pomoci. V krajných prípadoch sa odporúča zmena pracovného miesta (Morovicsová, 2015).

Segal a kol. (2017) popisujú nasledovné kroky, ktoré by mali prispieť k eliminácii pracovného stresu:

- zadefinovať si prioritné úlohy,
- rozdeliť si plány do niekoľkých krokov, urobiť si postupnosť
- prevziať zodpovednosť,
- byť ochotný robiť kompromisy.

Najdôležitejším krokom pri predchádzaní záťažových situáciách je to, aby človek prijal pravdu na svoju osobu od iných a našiel z nej východisko. Pri prijatí názorov iných nezaujať kritické stanovisko. Človeku napomôže viera v nadpozemskú energiu, napr. viera v Boha, v anjeloch. Dbáme na dostatok telesnej aktivity, spánku a zdravej výživy. Prekonávanie prekážok je dlhodobý proces, vyžaduje si čas. Pozitívnu energiu treba načerpať z pozitívne naladených ľudí, ako sú príbuzní, rodina, deti, kamaráti a priatelia, ktorým sa môžeme zdôveriť s problémami. Človek by nemal byť naivný, nemal by pripisovať svoje problémy iným (Heczko, 2011). K prioritám zaradzujeme vhodnú životosprávu, fyzické aktivity, ako je bicyklovanie, plávanie behanie turistika a pod., ktoré sú prospešné pre zdravie. K nevhodným prevenčným aktivitám patrí nikotín, požívanie liekov, pitie alkoholu, nedostatok spánku, návykové látky a pod. Stravovacie návyky by mali byť vyvážené pomere k aktivite. Ak je výdaj energie vyšší, ako jej príjem, človek to pociťuje na fyzickej únave vyčerpanosťou, ospalosťou a náladovosťou (Lukáčová, Žiaková, 2018). Pri predchádzaní záťažových situácií sa uvádza supervízor, ktorý napomáha k zvládaniu emočných citov. Podieľa sa na vytváraní nápadov ďalšej ošetrovateľskej starostlivosti. Pôsobí ako sociálna a psychologická podpora, ktorá ponúka nový model pri predchádzaní záťaže. Učí ošetrovateľov nadobudnúť nové kompetencie, inému pohľadu na veci, miere zodpovednosti a zmyslu pre tímovú prácu (Bachratá, Kristová, 2017).

Zdravotnícky personál by mal dbať v rámci prevecie o svoj zovňajšok a správnu duševnú hygienu. Najodporúčanejšie zásady pred preťažovaním v zdravotníctve sa pokladá zachovávať pozitívne vzťahy s kolegami, plnenie pracovných činností, odovzdávanie pravdivých informácií v kolektíve, stanovenie reálne dosiahnuteľných cieľov, vyrovnávanie sa z nátlakom, odčlenenie si súkromia od práce, vyhýbanie sa negatívnym návykom, venovanie sa svojím záľubám. Utužovanie si fyzickej kondície, dbanie o svoje zdravie, dostatok oddychu a pozitívnej sebaúcte (Ondriová, Cinová, 2020). Základom toho, aby sa zdravotník cítil lepšie spočíva v starostlivosti o samého seba. Nezaradzujeme sem len starostlivosť o zovňajšok, telesnú kondíciu a životosprávu, ale tiež mieru postoja k sebe samému. Opatrovateľ by sa mal k sebe správať s citom a láskou. Uvedomovať si samého seba a rešpektovať sa taký, aký je. V prípade ukľudnenia samého seba, nájsť si priestor na oddych a samotu v ktorej budeme premýšľať. Pri práci s druhými nebáť sa oceniť kolegov za vykonanú činnosť. Z hľadiska duševnej hygieny je dôležité vybudovať si vzťahy založené na dôvere. *„Ten, kto nemá priateľa, nie je psychicky úplne zdravý“.* V sociálnych vzťahoch by sme nemali uplatňovať iba dôveru, ale aj úctu, vzájomné pochopenie a odpúšťanie

(Křivohlavý 2004, s. 14). Viacerí autori sa zhodujú v riešeniach záťaže. Sám urobil prieskum na základe dobrovoľného dotazníka, kde sa zameral na to, ako reagujú sestry, zdravotníci a ošetrovatelia v stave nekomfortu. Niektoré odpovede boli jednoslovné, iní odpovedali viac slovne, kde opísali množstvo spôsobov, ako sa s týmto stavom vyrovnávajú. Respondenti sa v odpovediach aj zhodujú. Uvádzali najmä širokú verejnosť, ktorá im pomáha pri prekonávaní zo záťažou, a to rodinu, priateľov. Do popredia tiež uvádzali ako riešenie oddychové formy cvičenia a elimináciu konfliktných situácii. Na tieto oblasti poukazujú aj iní autori, ktorí ich popisujú za popredné. Rodina uspokojuje naše emócie vypočutím, objatím, prejavenou láskou, kľudným slovom, pohladením, úsmevom, pozitívnou náladou, pochopením a nájdením spoločného riešenia. Priatelia prinášajú radosť vo vzájomnej dôvere a porozumení v rozhovore, pravdovravnosťou, pomocou, spoločne stráveným časom. Oddychové formy cvičenia sa realizujú v podobe vychádzok v prírode, oddychom v záhrade, relaxom pri ohni, nákupmi, kúpaním, muzikoterapiou, kultúrnym vyžitím, spoločnosťou domáceho miláčika, samotou a spánkom. Pri eliminácii konfliktov sa človek snaží mať nadhľad, nepripúšťať si konflikty na svoju osobu a usilovať sa o ignoráciu problémov (Křivohlavý, 2010). U každého zdravotníka vrátane opatrovateľov, by sa mala prejaviť dostatočná miera zdravého sebapresadzovania- asertivity, ako faktor predchádzania napätosti. Vo svojej profesii musí poukázať na osobné pocity, vedieť povedať nie vo vyžadovaných situáciách, byť otvorený sebanázoru, uplatňovať ľahkú kritiku, byť schopný spracovať komplimenty od iných, vytýčiť si jasné pravidlá na pracovisku, otvoriť sa spolupráci, pomoci a načúvaniu (Obročníková, Majerníková, 2018).
„Cieľom ošetrovateľstva v súvislosti so záťažovou situáciou je obnovenie rovnováhy človeka a prostredia, uľahčenie adaptácie a využívanie efektívnych copingových stratégií“ (Kurucová 2021, s. 61).

1.1 Opatrovateľská služba

Opatrovateľstvo je služba, ktorá sa zabezpečuje seniorom alebo občanom s ťažkým zdravotným postihnutím v prípade, ak sami nie sú schopní obstarať si potrebné práce v domácnosti, alebo pre zlý zdravotný stav je potrebná pomoc druhej osoby. Opatrovateľstvo je predovšetkým pomáhajúca profesia, z toho dôvodu má typické nároky. Tak, ako sa kladie dôraz na kvalifikačné schopnosti opatrovateľa, rovnako dôležitý je ľudský prístup. Pre obsadenie pracovnej pozície opatrovateľa je potrebné brať do úvahy jeho osobnostné predpoklady (Bevelagua, 2015).
Neformálny opatrovateľ je človek, ktorý je pre klienta blízky, ako napríklad rodina, priatelia, ktorí poskytujú služby zadarmo, poskytujú individuálnu celkovú starostlivosť a asistenciu dlhodobo chorým ľuďom a ľuďom s postihnutím. Je to každý, kto poskytuje pomoc tomu kto ju potrebuje, ako napríklad starí ľudia starajúci sa o partnera, deti ktoré sa starajú o svojich rodičov, susedia, ktorí sa starajú o svojich susedov. Zväčša je to iba jedna osoba, ktorá ma rozhodujúcu úlohu v opatrovaní chorého a ostatní jej pomáhajú a podporujú ju (Lepiešová, 2015).
Neformálni opatrovatelia sa rozdeľujú na dobrovoľníkov, ktorí sú spojení s organizáciami sociálneho, prípadne zdravotného sektora starostlivosti. Rozsah poskytovanej starostlivosti je pestrý, náklady vzniknuté v súvislosti so starostlivosťou im môžu byť neskôr preplácané. Rodina zabezpečuje starostlivosť zväčša svojim najbližším rodinným príslušníkom bez finančnej odmeny. V niektorých prípadoch môžu získať peňažný príspevok, ktorý im sčasti nahrádza stratu príjmu. Nepríbuzenské osoby poskytujú starostlivosť v rámci dobrých priateľských vzťahov (Repková, 2010).
Formálny opatrovateľ poskytuje starostlivosť chorému v zdravotníckych zariadeniach, zariadeniach sociálnych služieb alebo opatrovateľ, ktorý opatruje ľudí prostredníctvom

návštev doma. Formálny opatrovateľ podľa Zákona o sociálnych službách č. 448/2008 je fyzická osoba, ktorá:

a) má vyššie odborné vzdelanie získané v odbore vzdelávania so zameraním na opatrovanie alebo na poskytovanie zdravotnej starostlivosti,
b) má úplné stredné odborné vzdelanie získané v odbore vzdelávania so zameraním na opatrovanie alebo na poskytovanie zdravotnej starostlivosti,
c) má stredné odborné vzdelanie získané v odbore vzdelávania so zameraním na opatrovanie alebo na poskytovanie zdravotnej starostlivosti,
d) má nižšie stredné odborné vzdelanie získané v odbore vzdelávania so zameraním na opatrovanie alebo na poskytovanie zdravotnej starostlivosti, alebo
e) absolvovala akreditovaný kurz opatrovania najmenej v rozsahu 230 hodín.

1.2 Záťaž opatrovateľov

Dlhodobá starostlivosť o chorého predstavuje mimoriadne náročný proces (Nemčíková et al., 2020).

Poskytovanie zdravotnej starostlivosti si vyžaduje vedomosti o rizikových faktoroch telesnej či psychickej pracovnej záťaže, pretože práve to môže byť príčinou zdravotných problémov. Nadmerná záťaž a stres môžu mať za príčinu vznik syndrómu vyhorenia ale aj rôznych foriem profesionálnej deformácie. Práca s chorými ľuďmi je veľmi vyčerpávajúca a preto je dôležité, aby opatrovatelia mali informácie o prevencii a o existujúcich problémoch skôr ako bude ohrozené ich zdravie (Kožuchová, 2014).

Podľa charakteru pôsobiacich podnetov a primárnych reakcií sa záťaž delí na biologickú, fyzickú a psychickú. Pri biologickej záťaži jedinec na ňu reaguje primárne biologicky. Fyzickú záťaž vyvoláva predovšetkým nadmerná telesná práca spojená s veľkým energetickým výdajom. V rámci psychickej záťaže ide o proces prvotného psychického spracovania a vyrovnávania sa.

K jedným zo záťaží opatrovateľov je stres. Enormný dopad stresu sa stáva problémom nielen pre samotného opatrovateľa ale aj pre pracovisko. Reakcia na stres je individualizovaná. Reakcia na stresor sa nemusí prejaviť iba v správaní, ale môže prebiehať skryte. Na subjektívne vnímanie stresu opatrovateľ môže reagovať hnevom, strachom, úzkosťou či depresívnymi stavmi. V takej situácii je vhodná prítomnosť a pomoc druhých ľudí, ktorí pôsobia na jedinca pozitívne (Kožuchová, 2014).

Medzi ďalšie stresory v práci formálnych opatrovateľov patria vysoké ambície, pracovná neistota, nedostatočné spoločenské a ekonomické ohodnotenie práce. Profesionálny zdravotník sa musí riadiť zásadami ako stresu predchádzať, hľadať spôsoby zvládania stresu a meniť ich podľa okolností a potrieb. Na prevenciu pred stresom vplýva osobnosť zdravotníka, skúsenosť, momentálny psychický a fyzický stav a pod.

Ďalšou možnou záťažou u opatrovateľov je postupná pracovná deformácia. Každé povolanie môže človeka rozvíjať, ale na druhej strane môže pôsobiť negatívne a deformovať jeho postoje. Hlavne sa to týka formálnych opatrovateľov na začiatku ich profesionálnej kariéry, ktorí citlivejšie prežívajú situácie týkajúce sa klienta. Potrebné je si vytvoriť určitú emocionálnu odolnosť teda profesionálnu adaptáciu, ktorá je nevyhnutná pri ošetrovateľskej starostlivosti. V praxi sa stretávame so situáciou, kedy si zdravotníci neuvedomujú, že ich správanie je sledované chorými a z ich prístupu sa cítia dotknutí. Toto správanie ma charakter profesionálnej deformácie a na laika pôsobí dojmom cynizmu či dokonca istej bezcitnosti v zdravotníctve (Zacharová, Hermanová, Šrámková, 2007).

Autorky Bessenova a Dobromyslova (2012) uvádzajú, že pri profesionálnej deformácii sa akoby niektoré vlastnosti stali drsnejšími, dochádza k preneseniu profesionálneho správania, myslenia do osobného života, čo je príčinou komplikácií v interakcii s ľuďmi mimo pracoviska.

V odborných literatúrach sa často pozornosť zameriava skôr na konkrétne formy spomínanej profesionálnej deformácie ako sú: syndróm vyhorenia, syndróm pomocníka, iatrogénia, lobbing, šikanovanie, agresia.
K záťaži opatrovateľov sa zaraďuje **syndróm vyhorenia**, známy pojem už v druhej polovici 20. storočia. Existuje viacero definícii syndrómu vyhorenia. Jednou z tvrdení je od Dobríkovej (2007 s. 56), kde syndróm definuje *„ako stav totálneho psychického a fyzického vyčerpania, ktoré postihuje najmä ľudí, ktorí dlhodobo čelia závažnej záťažovej situácii.“* K najviac ohrozeným pracovníkom patria ľudia z pomáhajúcich profesií, ktorí sú v úzkom kontakte s ľuďmi a ich úlohou je im pomáhať. Patria tu všetci zdravotnícki pracovníci, ale rovnako aj učitelia, psychológovia či sociálni pracovníci. Neznamená to, že pracovníci z iných odvetví nie sú týmto syndrómom ohrození. Aj prílišne stereotypná pracovná činnosť a nemožnosť osobného a profesionálneho rozvoja môže viesť k vyhoreniu. Príčiny vzniku syndrómu vyhorenia sú v dnešnej dobe aktuálnou témou. Tempo nášho životného štýlu, nároky, ktoré spoločnosť kladie na jedinca, pracovné výkony, ktoré sú od nás vyžadované, toto všetko a mnoho ďalších faktorov majú vplyv na časom apatické správanie zo strany človeka, ktorý upadá do depresie a stráca zmysel aj pri veciach, ktoré ho ešte donedávna napĺňali. Základom ako predísť syndrómu vyhorenia je predovšetkým myslieť na vlastné potreby, udržiavať kontakty s inými ľuďmi, byť asertívny, poznať svoje limity a obmedzenia, získavať informácie o syndróme ale aj o možnostiach psychohygieny.
V ošetrovateľstve je veľmi dôležité posudzovať potreby, zdravotný stav nielen klienta, ale aj toho, kto poskytuje zdravotnú starostlivosť. Posúdenie opatrovateľa v starostlivosti o nevyliečiteľne chorého spočíva v hodnotení správania, povinností, posúdenie fyziologických, emocionálnych a behaviorálnych príznakov stresu.
Existuje niekoľko škál pri posudzovaní záťaže opatrovateľov, výskumom je dokázané, že sa pri včasnej identifikácii záťaže môžeme včas realizovať opatrenia k jej eliminácii a prevencii vzniku syndrómu vyhorenia. Medzi dostupné zdroje použiteľné v praxi na posúdenie záťaže patrí škála *Caregiver Strain Indec* – CSI. Táto škála sa skladá z 13 položiek a za každú kladnú odpoveď sa pripočítava jeden bod. Najväčšie dosiahnuté skóre je 7 a znamená veľmi vysokú záťaž. Škála posudzuje tri oblasti. Prvou je objektívna záťaž, do ktorej môžeme zaradiť obmedzenie súkromia, rekreačných aktivít, času pre priateľov a rodinu. Druhou oblasťou je subjektívna záťaž a tu patrí manipulácia opatrovateľom zo strany klienta alebo prehnané požiadavky od klienta. Treťou oblasťou je psychická záťaž a sem patrí stres zo vzťahu medzi klientom a opatrovateľom ale aj úzkosť či depresia (Kurucová, 2016).
V NANDA International Taxonómii II, je záťaž opatrovateľa vymedzená v rámci ošetrovateľskej diagnózy Preťaženie opatrovateľa (00061, doména 7 – Vzťahy, trieda – Rola opatrovateľa) a je definovaná ako „ošetrovateľský problém človeka s ťažkosťami vyplývajúcimi z vykonávania opatrovateľskej role pri starostlivosti o blízku osobu. Ide o stav, v ktorom jednotlivec poskytujúci ošetrovateľskú starostlivosť v domácom prostredí, prežíva telesnú, psychickú, sociálnu a finančnú záťaž spôsobenú takouto starostlivosťou.
Súčasťou intervencií pre zvládanie a elimináciu preťaženia opatrovateľa je:

- pomôcť opatrovateľovi vyznať sa v problémoch a začať s ich riešením, poskytnúť opatrovateľovi priestor k vyjadreniu názorov a obáv,
- posilniť schopnosť opatrovateľa zvládnuť súčasnú situáciu a prehodnotiť koordináciu starostlivosti s ostatnými povinnosťami, poskytnúť priestor na označenie oblastí, v ktorej potrebuje pomôcť,
- neformálnemu opatrovateľovi pomôcť získať peňažný príspevok za opatrovanie (Zákon č. 447/2008 Z. z.),
- pomôcť opatrovanému využiť finančnú podporu na kompenzáciu, ktorá je určená na prekonanie alebo zmierenie sociálnych dôsledkov ťažkého zdravotného postihnutia,

- viesť opatrovateľa k zapojeniu do svojpomocných skupín, ktoré slúžia napr. na získavanie potrebných informácií, na podelenie sa so svojimi pocitmi, na výmennú skúseností,
- pomôcť naplánovať alternatívne riešenie situácie, napríklad respitnej starostlivosti, odľahčovacej služby (Kurucová, 2021).

1.3 Výsledky prieskumu

Dlhodobá starostlivosť o seniorov môže byť poskytovaná v prirodzenom domácom, rodinnom prostredí. V prípade, že senior je odkázaný na pomoc druhej osoby, domácu starostlivosť nahrádza inštitucionalizovaná starostlivosť. V inštitucionalizovanej starostlivosti sa poskytuje sociálna služba a zdravotná starostlivosť. Za poskytovanie zdravotnej starostlivosti je v zariadeniach sociálnych služieb zodpovedná sestra, ktorá pracuje v tíme. Spolupracuje a vedie formálnych opatrovateľov pri poskytovaní základnej ošetrovateľskej starostlivosti pri uspokojovaní biologických, psychických, sociálnych a spirituálnych potrieb klientov. Dlhodobá inštitucionalizovaná starostlivosť, vzhľadom na prognostické vyhliadky je náročná v oblasti psychickej a fyzickej. Okrem spolupráce so samotnými seniormi je nevyhnutná spolupráca s blízkymi osobami a príbuznými, čo si vyžaduje vysokú mieru erudície, profesionality a empatie zároveň. Práca formálneho opatrovateľa je veľmi dôležitá, no zároveň musíme konštatovať, že je málo lukratívna a finančne podhodnotená, a preto sa v praxi stretávame s regionálnymi rozdielmi, fluktuáciou opatrovateľov a s nedostatkom opatrovateľov. Keďže opatrovatelia pracujú pod vedením sestier, v nasledujúcej časti sa venujeme problematike zvládania záťaže formálnych opatrovateľov.

Cieľ prieskumu

Zistiť stratégie zvládania záťaže formálnych opatrovateľov.

Metóda

Na zistenie stratégie zvládania záťaže opatrovateľov v stresových a ťažkých situáciách a zber empirických dát sme využili štandardizovaný nástroj Brief COPE. Ide o 28 položkový dotazník, ktorým meriame efektívne a neefektívne spôsoby vyrovnania sa so stresujúcou udalosťou. Škálou môžeme určiť či ide o zvládanie zamerané na problém, emócie alebo ide skôr o vyhýbavé správanie. V prieskume sme požili českú verzie škály na základe udelenie súhlasu autora českej verzie škály Brief COPE doc. PhDr. Františka Baumgartnera, CSc.

- Štýlu zvládania zameraného na problém sa týkali položky 2, 7, 10, 12, 14, 17, 23, 25.
- Štýlu zvládania zameraného na emócie boli priradené položky 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28.
- Štýlu vyhýbavého zvládania sa týkalo 8 položiek a to 1, 3, 4, 6, 8, 11, 16, 19.

Respondent má možnosť zo škály štyroch položiek, ktoré vyjadrovali mieru zvládania záťaže, a to 1-nikdy, 2-niekedy, 3-dosť často, 4-veľmi často. Respondent mal možnosť označiť len jednu odpoveď, ktorá vystihovala jeho subjektívny názor.

Vyhodnotenie dotazníka Brief COPE prebiehalo v troch štýloch. Ku každému štýlu zvládania boli priradené iné čísla položiek. Na štýl zvládania zameraného na problém boli položky 2, 7, 10, 12, 14, 17, 23, 25. Škálovanie pri týchto položkách bolo zrátané. Na základe súčtu označených odpovedí bola vyhodnotená miera zvládania problému. Ak mal respondent čo najvyššie skóre nachádza sa v nízkej miere zvládania problému, ak mal vyššie skóre nachádzal sa v nízkej miere zvládania problému, ak mal nižšie skóre nachádzal sa v strednej miere zvládania problému a nižšie skóre predstavuje vysokú mieru zvládania problému. Na štýl zvládania zameraného na emócie boli zamerané položky 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28. Rovnako škálovanie pri týchto položkách bolo zrátané. Na základe súčtu označených odpovedí bola vyhodnotená miera zvládania emócií. Respondenti s najvyšším

skóre sa nachádzajú v nízkej miere zvládania emócií, pretože musia svoje emócie regulovať agresiou, vulgarizmami, podráždenosťou a pod. Nižšie dosiahnuté skóre predstavuje strednú mieru zvládania emócií, čo poukazuje za najvýhodnejšiu cestu pre zdravie a emocionálne vyrovnanie. Najnižšie dosiahnuté skóre je zdraviu opatrovateľa škodlivé, nakoľko sa človek nevie vysporiadať s emóciami a uzatvára sa do seba. Poslednému štýlu vyhýbavému zvládaniu sa týkali položky 1, 3, 4, 6, 8, 11, 16, 19. Rovnako ako pri predošlých dvoch štýloch aj pri tomto boli zrátané škálovacie odpovede. Respondenti s najvyšším dosiahnutým bodovým ohodnotením sa nachádzajú vo vysokej miere vyhýbavého zvládania, zatiaľ čo respondenti s najnižším dosiahnutým bodovým ohodnotením sa nachádzajú v nízkej miere vyhýbavého zvládania. Najvýhodnejšie je, ak sa respondent nachádza v strednej miere vyhýbavého zvládania, pretože nie je zdraviu prospešné, ak človek neustále myslí na problém a nevie sa od neho odpútať.

Výsledky

Respondenti prieskumu boli formálni opatrovatelia, ktorí pracujú v zariadeniach poskytujúcich sociálnu službu seniorom, ktorí sú odkázaní na pomoc druhej osoby. Pozícia opatrovateľa je náročná z hľadiska psychickej a fyzickej záťaže. Mimoriadne náročná bola práca opatrovateľa v období pandémie COVID 19 v rokoch 2020 - 2022. Práca opatrovateľa/opatrovateľky nepatrí medzi lukratívne profesie, napriek tomu je mimoriadne dôležitá, vzhľadom na meniacu sa vekovú štruktúru populácie a jej predikcie v nasledujúcich rokoch. Vyspelosť spoločnosti je určovaná aj schopnosťou postarať sa o slabších a zraniteľných, preto sú našou oblasťou záujmu formálni opatrovatelia, ktorí poskytujú dlhodobú starostlivosť o seniorov inštitucionalizovanej starostlivosti. Prieskumu sa celkovo zúčastnilo 54 respondentov/ opatrovateľov z vybraných zariadení sociálnych služieb a špecializovaných zariadení. Štúdiu sme relaizovalui v meiacoch december 2022 a január 2023.

V nasledujúcej časti uvádzame výsledky štandardizovaného nástroja Brief Cope.

V oblasti zvládania zameraného na problém sa vo vysokej miere zvládania nachádza 14 zúčastnených, čo predstavuje 25,93%. V strednej miere sa nachádzajú 40 respondentov, čo je 74,07%. V nízkej miere sa nenachádzal nikto zo zúčastnených, čo hodnotíme veľmi pozitívne. Znamená to, že respondenti sa nenachádzajú v psychickej labilite, dokážu prakticky pristupovať k riešeniu problémov a k ich zvládaniu.

V oblasti zvládania zameranej na emócie sa vo vysokej miere záťaže nachádzajú 2 opatrovatelia, čo predstavuje 3,70%. Môžu sa prejavovať na pracovisku agresivitou, neľudským prístupom a nízkou mierou empatie. V strednej miere sa nachádza 51 opatrovateľov, čo je 94,4%. Táto stredná miera dosiahnutých výsledkov je potešujúca, pretože to dokazuje, že formálni opatrovatelia/respondenti zvládajú svoje emócie a sú ako personál neškodní pre svoje okolie. Nízkou mierou záťaže zvládania emócií bol vyťažený 1 respondent a to predstavuje 1,85%. Z psychického hľadiska to môže byť problém, pretože neprejavuje svoje emócie navonok, môže trpieť uzavretosťou až apatiou.

V oblasti vyhýbavého zvládania sa nachádza najviac respondentov v strednej miere a to 49, čo predstavuje 90,74%. V nízkej miere vyhýbavého zvládania sa nachádza 5 opatrovateľov, čo je 9,26%. Vo vysokej miere zvládania sa nenachádzal žiaden respondent. Opísané skóre uvádzame v tabuľke 1.

Tabuľka 1 Vyhodnotenie štandardizovaného nástroja Brief Cope

Zvládanie zamerané na problém	**Vysoká miera**	**Stredná miera**	**Nízka miera**
	14	40	0
	25,93%	74,07%	0%
Zvládanie zamerané na emócie	**Vysoká miera**	**Stredná miera**	**Nízka miera**
	2	51	1
	3,70%	94,45%	1,85%
Vyhýbavé zvládanie	**Nízka miera**	**Stredná miera**	**Vysoká miera**
	0	49	5
	0%	90,74%	9,26%

2 DISKUSIA

Každý z nás má určené spôsoby zvládania záťaže. V predkladanom prieskume sme chceli zistiť aké stratégie zvládania záťaže využívajú formálni opatrovatelia pri poskytovaní opatrovateľskej služby v inštitucionalizovanom zariadení.

Zistili sme, že v oblasti zvládania zameraného na problém sa vo vysokej miere zvládania nachádza 25,93%. V strednej miere sa nachádzajú 74,07%. V nízkej miere sa nenachádzal nikto zo zúčastnených, čo hodnotíme veľmi pozitívne. Znamená to, že respondenti sa nenachádzajú v psychickej labilite, dokážu prakticky pristupovať k riešeniu problémov a k ich zvládaniu.

V oblasti zvládania zameranej na emócie sa vo vysokej miere záťaže nachádza 3,70%. Môžu sa prejavovať na pracovisku agresivitou, neľudským prístupom a nízkou mierou empatie. V strednej miere sa nachádza 94,4%. Táto stredná miera dosiahnutých výsledkov je potešujúca, pretože to dokazuje, že formálni opatrovatelia/respondenti zvládajú svoje emócie a sú ako personál neškodní pre svoje okolie. V oblasti vyhýbavého zvládania sa nachádza 90,74%.

Copingové stratégie zohrávajú kľúčovú úlohu pri modulácii fyzickej a psychickej záťaže opatrovateľov. V štúdii, ktorú realizovali Kazemi et al. (2021) zistili, že opatrovatelia s vyššou záťažou starostlivosti používali negatívnejšie stratégie zvládania, ako je vyhýbanie sa úniku a dištancovanie. Pre zber empirických dát použili dotazník o stratégiách zvládania podľa Lazarusa (Kazemi et al., 2021).

Využívané copingové stratégie je potrebné poznať, pracovať s nimi a myslieť na ne v prípade psychického a fyzického preťaženia opatrovateľov, prípadne výskytu syndrómu vyhorenia. Na základe podpory procesu zvládania vhodnými adaptívnymi stratégiami môžeme eliminovať záťažové situácie, ktoré v konečnom dôsledku môžu ohroziť prijímateľa sociálnej služby v prípade, ak formálny opatrovateľ využíva nevhodné copingové stratégie.

3 ZÁVER

Dlhodobá inštitucionalizovaná starostlivosť o seniorov môže súvisieť s preťažením opatrovateľov, vzhľadom na celospoločenský problém súvisiaci s pozíciou pomáhajúcich profesií a hodnotením v spoločnosti. Zistenie, aké stratégie zvládania záťaže formálni opatrovatelia využívajú, je základným predpokladom eliminovania psychickej a fyzickej záťaže.

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VÝSKYT DEPRESÍVNYCH PRÍZNAKOV U ŽIEN PO PÔRODE

OCCURRENCE OF DEPRESSIVE SYMPTOMS IN WOMEN AFTER CHILDBIRTH

Zuzana Šimová, Jana Cinová, Andrea Šuličová, Tatiana Šantová, Zuzana Novotná

Abstrakt

Tehotenstvo, jeho ukončenie pôrodom a popôrodné obdobie je aj za fyziologických okolností záťažovým obdobím pre organizmus ženy. Ženy sa musia prispôsobiť biologickým, emocionálnym, psychologickým a sociálnym zmenám, ktoré vo väčšine prípadov prebiehajú bez akýchkoľvek problémov. Ako sa žena s touto záťažovou situáciou vyrovná, záleží vo veľkej miere na jej osobnosti, na jej odolnosti voči záťažovým situáciám, vrodených vlastnostiach a životných skúsenostiach, aktuálnom zdravotnom stave i sociálnej situácii tehotnej. V niektorých prípadoch tieto zmeny, ktoré pôrod a narodenie dieťaťa prináša, môžu viesť k poruchám nálady, ktoré môžu byť škodlivé nie len pre zdravie ženy, ale aj pre dieťa. Taktiež sa u žien po pôrode môže rozvinúť až popôrodná depresia. Popôrodná depresia nie je vždy dostatočne rozpoznávaná a liečená a môže mať za následok neschopnosť starať sa o novorodenca alebo môže viesť až k ohrozeniu života ženy a dieťaťa. Jej včasné rozpoznanie je dôležité tiež pre možnosť ženu podporiť a začať liečbu čo najskôr, aby sa predišlo negatívnemu vplyvu na jej vzťah s dieťaťom a rozvoju chronicity problémov.

Kľúčové slová: *Popôrodná depresia, Pôrod, Edinburgská škála popôrodnej depresie.*

Abstract

Pregnancy, its end with childbirth and the postpartum period is a period of stress for a woman's body, even under physiological circumstances. Women have to adapt to biological, emotional, psychological and social changes, which in most cases take place without any problems. How a woman copes with this stressful situation depends to a large extent on her personality, her resistance to stressful situations, innate characteristics and life experiences, the current state of health and the social situation of the pregnant woman. In some cases, these changes that labor and the birth of a child bring can lead to mood disorders that can be harmful not only to the health of the woman, but also to the child. Postpartum depression can also develop in women after giving birth. Postpartum depression is not always sufficiently recognized and treated and may result in the inability to care for the newborn or may lead to endangering the life of the woman and the child. Its timely recognition is also important for the possibility of supporting the woman and starting treatment as soon as possible in order to avoid a negative impact on her relationship with the child and the development of chronic problems.

Key words: *Postpartum depression, Childbirth, Edinburgh Postpartum Depression Scale.*

1 POPÔRODNÉ PSYCHICKÉ PORUCHY

Popôrodné obdobie je aj napriek fyziologickému priebehu, pre organizmus ženy zaťažujúce. Z hľadiska duševného zdravia sa zvyšuje riziko manifestácie duševných porúch, z ktorých sa najčastejšie vyskytujú poruchy nálady. V popôrodnom období existujú tri formy psychických

zmien vrátane popôrodného blues (materské blues alebo baby blues), popôrodnej depresie a popôrodnej psychózy (10).
Baby blues je najčastejší popôrodný psychický stav. Postihuje až 50 - 80% žien po pôrode, avšak neklasifikujeme ho ako chorobu, ale ako dočasný stav. Tento stav je spojený s hormonálnymi zmenami v tele ženy. Medzi najčastejšie symptómy patria plačlivosť, úzkosť, náladovosť, podráždenosť, nespavosť, nechutenstvo a nadmerný strach o dieťa. Tieto príznaky vrcholia štvrtý až piaty deň po pôrode. Baby blues nevyžaduje žiadnu liečbu, avšak je dôležité rozpoznať ho, pretože môže viesť k vzniku popôrodnej depresie. Dôležité sú podpora zo strany okolia, povzbudenie a hlavne odpočinok (19).
Závažnejšou diagnózou, ktorá už vyžaduje odbornú pomoc, je popôrodná depresia. Vyskytuje sa u 10-18% rodičiek počas prvého roka po pôrode. Najčastejšie sa vyskytuje v šiestom týždni a medzi 2. a 3. mesiacom po pôrode. K symptómom, ktoré poukazujú na vznik depresie patria úzkosť, smútok, pocity zlyhania, beznádej, nerozhodnosť, strach, nervozita, pocit neschopnosti plnenia úloh matky, stratra záujmu o všetky aktivity, stúpanie alebo pokles hmotnosti, problémy dotýkať sa dieťaťa a poruchy spánku. Medzi ďalšie príznaky radíme nadmernú únavu až vyčerpanosť, ktorá sa spája s nespavosťou a podráždenosťou. Matka môže mať pocit, že dieťa nechcela a nebude ho vedieť milovať. S týmito symptómami klesá schopnosť postarať sa o dieťa (17, 20). Ak sa týmto príznakom nevenuje dostatočná pozornosť, dochádza k ich zosilneniu a zvyšuje sa tu riziko zabitia dieťaťa či vlastnej samovraždy. Tento stav si určite vyžaduje rýchlu diagnostiku, účinnú komplexnú liečbu psychiatrom, ktorá zahŕňa režimové opatrenia, psychoterapiu a v indikovaných prípadoch aj farmakoterapiu (8).
Najvážnejším typom je popôrodná psychóza, ktorú môžeme poznať pod všeobecne známym pojmom „laktačná psychóza“, keďže sa spája s obdobím dojčenia dieťaťa. Je to relatívne vzácne vyskytujúca sa porucha, ktorá sa vyskytuje len v 0,1 – 0,3 % rodičiek. Priebeh ochorenia môžeme označiť za dramatický s náhlym začiatkom, počas prvých 48 až 72 hodín po pôrode. Prvé príznaky sa u žien objavujú prvé dva týždne po narodení dieťaťa. Nepokoj, podráždenosť a poruchy spánku sú typické pre začiatok ochorenia. Rozvoj môže byť veľmi rýchly, pričom symptómy ako chorobne veselá alebo smutná nálada, poruchy správania, poruchy vedomia, bludy a halucinácie sú charakteristické. V ťažkom stupni ochorenia matka môže mať samovražedné myšlienky, prípadne môže myslieť na vraždu dieťaťa. Preto je v tomto prípade nevyhnutná neodkladná psychiatrická hospitalizácia. Nebezpečným faktorom je pozitívna psychiatrická anamnéza (19,10).

1.1 Rizikové faktory popôrodnej depresie

Mughal et al. (2020) identifikovali niekoľko rizikových faktorov, ktorými predisponujú ženy ohrozené popôrodnou depresiou. Patria medzi ne sociálne faktory, pôrodnícke rizikové faktory, životný štýl, psychologické faktory a hormonálne zmeny (14).
Za sociálne faktory ovplyvňujúce popôrodnú depresiu považujeme nedostatok sociálnej podpory a domáce násilie vo forme fyzického, verbálneho a sexuálneho zneužívania manžela/partnera. Ďalšie sociálne rizikové faktory sú nechcené tehotenstvo, sociálny status, nižšie vzdelanie, problémy s partnerom, nezhody vo vzťahu, zlá socioekonomická situácia ženy (4).
Psychosociálne faktory hrajú taktiež dôležitejšiu úlohu v rozvoji popôrodnej depresie ako tie biologické. Medzi hlavné dôvody patrí nevera zo strany partnera, ukončenie vzťahu, zložitá ekonomická situácia, nedostatočná sociálna podpora od blízkych. Predpokladá sa tiež, že popôrodná depresia sa častejšie vyskytuje u žien, ktoré sa nadmerne stresujú a disponujú negatívnym myslením (22).
Nízky vek matky dieťaťa hrá taktiež dôležitú úlohu. Mladé dievčatá sa boja zodpovednosti za život dieťaťa, pretože sa samé cítia ako deti. Častokrát sa môže stať, že budú potrebovať

pomoc od psychológa. Medzi pôrodnícke rizikové faktory patria rizikové tehotenstvo, urgentný cisársky rez, traumatický pôrod, pôrod v epidurálnej analgézii a hospitalizácie počas gravidity. Za rizikové ženy sú považované ženy psychicky nepripravené na materstvo, ženy s nechceným tehotenstvom, ženy s problémami vo vzťahu, prvorodičky, ženy v nepriaznivej životnej situácii (1, 13).
Predchádzajúca história depresie a úzkosti patrí medzi psychologické faktory, ktoré sú spojené s vyšším rizikom popôrodnej depresie. Výskyt porúch duševného zdravia, ako je depresia počas tehotenstva je silným faktorom pri predpovedaní popôrodnej depresie (11).

2 PRIESKUM U ŽIEN V POPÔRODNOM OBDOBÍ

V tomto príspevku sa zaoberáme štúdiou zameranou na hodnotenie depresívnych príznakov u žien po pôrode. Hlavným cieľom bolo zistiť, výskyt depresívnych príznakov u matiek v popôrodnom období. Ďalším cieľom bolo porovnať frekvenciu výskytu depresívnych príznakov u matiek vzhľadom na ich vek, vzdelanie, počet pôrodov a vedenie pôrodu.

2.1 Súbor a metodika

Prieskum sme realizovali v mesiacoch január - február 2022. Celkovo sa prieskumu zúčastnilo 52 matiek, ktoré boli hospitalizované na gynekologicko-pôrodníckom oddelení v nemocnici Svet Zdravia a.s. v Trebišove. Všetky matky boli v období šestonedelia. Priemerný vek matiek bol 27 rokov. Z hľadiska počtu pôrodov bolo 27 matiek prvorodičiek a 25 matiek bolo viacrodičiek. Z hľadiska dosiahnutého vzdelania bolo najviac zastúpených matiek so stredoškolským vzdelaním s maturitou.
Na získanie potrebných údajov sme použili dotazník - Edinburgská škála popôrodnej depresie. Autormi tejto škály sú Cox a kolektív. Tento dotazník je jedným zo spôsobov, ktoré uľahčujú identifikáciu matiek s možným rizikom depresie. Otázky sú zamerané na to, ako sa matka cíti v období po pôrode. Edinburgská škála popôrodnej depresie integruje 10 položiek s použitím 4 – zložkovej Likertovej škály. Každá položka je hodnotená na škále 0 až 3 body, celkové maximálne skóre je 30 bodov. Dosiahnutie 10 bodov a viac sa kategorizuje ako riziko popôrodnej depresie.

2.2 Interpretácia parciálnych výsledkov

Tabuľka 1 Rozdelenie matiek vo vzťahu k riziku vzniku depresie

Skupiny matiek		
	n	**%**
Bez rizika depresie	35	67,4
S rizikom depresie	15	28,8
Samovražedné myšlienky	2	3,8
SPOLU	52	100

Z celkového súboru žien bolo 35 (67,4%) bez rizika vzniku depresie, 15 (28,8%) žien bolo s rizikom vzniku depresie a 2 (3,8%) žien malo samovražedné myšlienky.

Tabuľka 2 Výskyt depresívnych príznakov vzhľadom na vek matky

VEK MATIEK	**Bez rizika depresie**		**S rizikom depresie**	
	n	**%**	**n**	**%**
16-20 rokov	10	28,6	1	5,9
21 – 30 rokov	15	43,4	6	35,3
31 – 39 rokov	10	28,6	10	58,8
SPOLU	35	100	17	100

Na základe výsledkov konštatujeme, že najväčšie zastúpenie žien bez rizika depresie bolo vo vekovom rozmedzí 21-30 rokov (n = 15, 43,4%). Najväčšiu skupinu žien s rizikom vzniku depresie tvorili ženy vo veku 31-39 rokov (n – 10, 58,8%).

Tabuľka 3 Výskyt depresívnych príznakov vzhľadom na vzdelanie matky

VZDELANIE	Bez rizika depresie		S rizikom depresie	
	n	%	n	%
Základné vzdelanie	8	22,8	4	23,5
Učňovské vzdelanie	5	14,3	1	5,9
Stredoškolské vzdelanie	15	42,8	7	41,2
Vysokoškolské vzdelanie	7	20,0	5	29,4
Spolu	35	100	17	100

Z analýzy výsledkov vyplýva, že z hľadiska vzdelania bolo najväčšie zastúpenie žien s rizikom vzniku depresie ženy so stredoškolským vzdelaním (n=7, 41,2%).

Tabuľka 4 Výskyt depresívnych príznakov vzhľadom na počet pôrodov

POČET PÔRODOV	Bez rizika depresie		S rizikom depresie	
	n	%	n	%
Jeden pôrod	21	60,0	6	35,3
Dva a viac pôrodov	14	40,0	11	64,7
Spolu	35	100	17	100

Na základe výsledkov konštatujeme, že prvorodičiek bez rizika depresie bolo 21 (60,0%), viacrodičiek bolo 14 (40,0%). Súbor s rizikom depresie tvorilo 17 matiek, z toho prvorodičiek bolo 6 (35,3%), viacrodičiek bolo 11 (64,7%).

Tabuľka 5 Výskyt depresívnych príznakov vzhľadom na vedenie pôrodu

VEDENIE PÔRODU	Bez rizika depresie		S rizikom depresie	
	n	%	n	%
Spontánny	12	34,3	9	52,9
Operačný	23	65,7	8	47,1
Spolu	35	100	17	100

Z analýzy výsledkov vyplýva, že po spontánnom pôrode bolo 12 (34,3%) žien bez rizika depresie a 9 (52,9%) žien bolo s rizikom vzniku depresie. Po operačním pôrode bolo 23 (65,7%) žien bez rizika depresie a 8 (47,1%) žien bolo s rizikom vzniku depresie.

3 DISKUSIA

Hlavným cieľom štúdie bolo zistiť výskyt depresívnych príznakov u matiek v popôrodnom období. Tehotenstvo a obdobie po pôrode je pre ženu veľmi zaťažujúce. V tomto období sa zvyšuje manifestácia psychických porúch, ktoré sa najčastejšie prejavujú poruchou nálady (7). Uvádza sa, že 14 – 23% tehotných žien a až 88% žien v období po pôrode trpí určitým typom depresívnej poruchy (5). V štúdii Izákovej (2013), ktorej sa zúčastnilo 200 žien po pôrode, boli zaznamenané depresívne príznaky u 11-20% rodičiek v šestonedelí (7). V našom prieskume sme zaznamenali riziko vzniku depresie u 15 matiek. Bez rizika depresie bolo 35 matiek a 2 matky v našom súbore mali už samovražedné myšlienky.

Ďalej sme posudzovali niekoľko faktorov, ktoré môžu mať spojitosť s rozvojom depresie u žien v popôrodnom období. Jedným z faktorov, ktorý sme sledovali bol vek matky a ako teda vplýva vek matky na vznik popôrodnej depresie. Na základe výsledkov sme zistili, že vek je významným ukazovateľom možného rizika vzniku popôrodnej depresie, avšak výsledky skúmania vzťahu medzi vekom matky a popôrodnou depresiou sú nejednoznačné. Niektoré

štúdie poukazujú na asociáciu medzi nižším vekom matky a depresiou (18). V štúdii autorov Muraca, Joseph (2014), ktorá bola realizovaná na populačnej vzorke kanadských žien, taktiež zisťovali súvislosť medzi vekom matky a popôrodnou depresiou. Naopak ich zistenia poukazujú, že so zvyšujúcim sa vekom matky stúpa aj riziko popôrodnej depresie (15). V našej štúdii sme zistili, že najvyššie riziko vzniku depresie je u žien vo veku od 31-39 rokov.

Úroveň vzdelania jednotlivca je jedným z najčastejšie používaných ukazovateľov socioekonomického statusu, pričom nižší socioekonomický status súvisí so zvýšeným rizikom psychiatrických ochorení vrátane depresie. V japonskej štúdii, ktorá bola vytvorená získaním údajov od 90 194 matiek odhalili, že nižšia úroveň vzdelania bola spojená s vyššou prevalenciou popôrodnej depresie a súvisiacich symptómov (12). V štúdii u tureckých žien bol taktiež zaznamenaný vzťah medzi nižším vzdelaním a vznikom popôrodnej depresie (6). V našom prieskume sa tento fakt taktiež potvrdil, pretože najvyššie zastúpenie matiek s rizikom vzniku depresie tvorili matky so stredoškolským a nižším vzdelaním. Naše zistenia korešpondujú taktiež s výsledkami štúdie Schlosserovej a kol. (2012), kde autorky taktiež zaznamenali, že so zvyšujúcim sa vzdelaním dochádza k poklesu rizika rozvoja popôrodnej depresie (21).

Ďalej sme chceli zistiť, ako ovplyvňuje počet pôrodov vznik popôrodnej depresie. Na základe získaných údajov sme zaznamenali, že viacrodičky majú vyššie riziko vzniku popôrodnej depresie ako prvorodičky. Vzťah medzi počtom pôrodov a rizikom vzniku depresie skúmal aj Johnstone et al. (2001) u austrálskych žien. Výsledky ich štúdie taktiež potvrdili zvýšený výskyt rizika vzniku popôrodnej depresie u viacrodičiek (9).

Hoci sa na etiológii popôrodnej depresie podieľa množstvo faktorov, faktor ako je spôsob vedenia pôrodu ostáva otázny. V našom prieskume sme zistili, že spôsob vedenia pôrodu neovplyvňuje vznik rizika popôrodnej depresie, keďže percentuálne rozdiely boli minimálne. Naše tvrdenie potvrdzuje štúdia, ktorá bola realizovaná u žien z Veľkej Británie. Autori štúdie zistili, že neexistuje dôvod domnievať sa, že sú ženy, ktoré rodili spontánnym spôsobom vystavené zvýšenému riziku popôrodnej depresie (16). Avšak vo švédskej štúdii sa preukázal fakt, že ženy, ktoré rodili operačným spôsobom mali vyššie riziko vzniku popôrodnej depresie (3).

4 ZÁVER

Popôrodná depresia nie je dostatočne rozpoznávaná a liečená a môže mať za následok neschopnosť starať sa o novorodenca alebo môže viesť až k ohrozeniu života ženy a dieťaťa. Rozpoznanie popôrodnej depresie je dôležité tiež pre možnosť ženu podporiť a začať liečbu čo najskôr, aby sa predišlo negatívnemu vplyvu na jej vzťah s dieťaťom a rozvoju chronicity problémov. Okrem aktívneho zisťovania prítomnosti typických príznakov je veľmi dôležitá edukácia ženy o príznakoch depresie a úzkosti, čo ju vedie k porozumeniu vlastným príznakom a zníženiu obáv. V rámci účinnej prevencie a detekcie rizikových žien, považujeme za dôležité aj použitie Edinburgskej škály depresie už v prvom týždni po pôrode.

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MANAŽMENT STAROSTLIVOSTI O PACIENTA S FOURNIEROVOU GANGRÉNOU

MANAGEMENT OF THE PATIENT WITH FOURNIER'S GANGRENE

Silvia Cibríková, Terézia Fertaľová, Tatiana Šantová

Abstrakt

Fournierova gangréna je veľmi zriedkavá, život ohrozujúca infekcia, často s veľmi zlou prognózou. Ide o nekrotizujúcu fasciitídu a gangrénu vonkajších genitálií, perinea a perianálnej oblasti. Ochorenie postihuje 10-krát častejšie mužov ako ženy, najmä vo vekovej kategórii od 50-79 rokov. Predispozíciu na dané ochorenie majú pacienti s oslabenou imunitou, zlou životosprávou a asociálnym spôsobom života. Medzi rizikové faktory pre vznik Fournierovej gangrény patria: kardiovaskulárne poruchy, arteriálna hypertenzia, vek nad 50 rokov, fajčenie, obezita, liečba chemoterapiou, užívanie steroidov, zlyhanie obličiek, prítomnosť vírusu HIV a cirhóza. Ochorenie sa vyskytuje aj u pacientov so systémovým lupus erythemathosus alebo Crohnovou chorobou. Vysokú incidenciu predstavujú pacienti s ochorením diabetes mellitus z dôvodu zvýšeného sklonu k ischémií tkaniva.

Kľúčové slová: *kazuistika, Fournierova gangréna, Fournierov index, Charlsonov index, sepsa, nekrotizujúca fasciitída*

Abstract

Fournier's gangrene is a very rare, life-threatening infection, often with a very poor prognosis. It is a necrotizing fasciitis and gangrene of the external genitalia, perineum and perianal area. The disease affects men 10 times more often than women, especially in the age group of 50-79 years. Patients with weakened immunity, poor lifestyle and an antisocial way of life have a predisposition to the given disease. Risk factors for the development of Fournier's gangrene include: cardiovascular disorders, arterial hypertension, age over 50 years, smoking, obesity, chemotherapy treatment, use of steroids, kidney failure, presence of the HIV virus and cirrhosis. The disease also occurs in patients with systemic lupus erythematosus or Crohn's disease. A high incidence is represented by patients with diabetes mellitus due to the increased tendency to tissue ischemia.

Key words: *case report, Fournier's gangrene, Fournier's index, Charlson's index, sepsis, necrotizing fasciitis*

1 FOURNIEROVA GANGRÉNA

Fournierova gangréna (ďalej len „FG“) je infekcia vyskytujúca sa prevažne u mužov, najčastejšie polymikrobiálna z anaeróbnych a aeróbnych baktérií, ktorá postihuje gastrointestinálny a urogenitálny trakt. Približne 20-70% pacientov s FG sa lieči na diabetes mellitus (ďalej len „DM“). Približne 25-50% sú pacienti s chronickým alkoholizmom (Thwaini et al. 2014). Vzniká osídlením aerobných alebo anaerobných baktérií, (stafylokoky, streptokoky, koliformné baktérie, pseudomonády, bakteroidy, fuzobaktérie, pseudomonády) z oblasti kože, močovej rúry, pošvy alebo rekta. Infekcia sa môže rozšíriť tak, že zasiahne mužské skrótum, penis a môže sa rozšíriť do prednej brušnej steny až po claviculu. Semenníky nie sú zvyčajne postihnuté, pretože ich zásobovanie pochádza z brušnej dutiny.

Postihnutie semenníkov naznačuje retroperitoneálny pôvod alebo šírenie infekcie (Thwaini et al. 2006). Ak baktérie vstúpia do hypodermie a svalovej fascie, poškodzujú vetvy práve tejto tepny. Baktérie sa šíria ďalej do svalov, perinea, skróta, penisu a poškodzujú aj tie. Ak sú poškodené aj vetvy artérie, baktérie sa šíria do celej oblasti veľmi rýchlo. Následný zápal, erytém a edém poskytujú ideálne prostredie k tvorbe plynu (prítomné sú krepitácie a podkožný emfyzém), typické pre anaeróbnu infekciu (Mitchell 2014). Ochorenie FG sa vyznačuje rozsiahlou heterogenitou klinického obrazu. Ten môže začínať zákerne, veľmi nenápadne, s pomalou progresiou alebo práve naopak, akútnou, prudkou zápalovou reakciou s následnými gangrenóznymi zmenami (charakteristickými čiernou farbou) a veľmi rýchlym a ťažkým priebehom. Akútny a prudký priebeh je najčastejší (Thwaini et al. 2006). Symptómy FG často začínajú bolesťou brucha alebo prudkým svrbením, pretože baktérie infikujú prednú brušnú stenu a potom sa šíria do sedacích svalov, chrbta, perinea a nakoniec do miešku a penisu. Pacienti pociťujú bolesť, nauzeu a vomitus, hnilobný zápach, letargiu so systémovými príznakmi vrátane horúčky, tachykardiu a hypotenziu. V klinickom obraze dominuje celková schvátenosť a príznaky sepsy. Na prítomnú infekciu reaguje organizmus pacienta generalizovanou odpoveďou septického charakteru. U pacienta môže dôjsť k diseminovanej intravaskulárnej koagulopatii, multiorgánovému zlyhaniu a následnej smrti. Závažnosť ochorenia a úmrtnosť závisí od celkového stavu pacienta a od rýchlosti šírenia infekcie. Úmrtnosť v súčasnej dobe dosahuje približne 20-40 %. V 95% prípadov je možné ohorenie diagnostikovať pomocou fyzikálneho vyšetrenia (Milanese et al. 2015).

Pre potreby diagnostiky ochorenia je potrebné uskutočniť ***anamnestické a fyzikálne vyšetrenie*** (predchádzajúca inštrumentácia v oblasti dolných močových ciest, stenóza močovej rúry spojená s pohlavne prenosnými chorobami, ochorenia anorekta, postihnutie kože pri balanopostitíde alebo pri supuratívnej hidrozadenitíde), zhodnotiť ***klinický obraz*** (bolesť, krepitus, horúčky, známky generalizovanej toxémie), využiť v diagnostike zobrazovacie metódy ***(rtg vyšetrenie:*** plyn vzniknutý z anaeróbnej infekcie z mäkkých tkanív sa zobrazuje v oblasti skróta alebo perinea; subkutánny emfyzém môže postupovať do inguinálnych častí, stehien a brušnej steny, ***ultrasonografia:*** stena skróta je zosilnená, edematózna; peritestikulárna tekutina***,*** semenníky a nadsemenníky sú bez zmien; prítomné echogénne plynové ložiská v skróte, ***počítačová tomografia:*** zhrubnutie fascie, perianálny absces, fistula***), endoskopické metódy, odobrať*** *biopsiu z podozrivých miest, zrealizovať mikrobiologickú diagnostiku a* ***kultivačné vyšetrenie*** (moč, stery z postihnutých oblastí, hemokultúra) a *monitorovať laboratórne parametre* (Marenčák 2015). Už pri existujúcom podozrení na prítomnosť infekcie FG je nevyhnutná okamžitá hospitalizácia postihnutého jedinca.

Dôležitým momentom z hľadiska prognózy ochorenia je včasná diagnostika, pretože práve čas medzi diagnostikou a liečbou zohráva kľúčovú úlohu. Okamžitá (život zachraňujúca) „agresívna“ chirurgická liečba (< 24 hodín) Fournierovej gangrény spravidla podlieha akútnej excízii a débridementu rany a reoperácii. Súbežne s chirurgickou liečbou sa pacientovi neodkladne, parenterálne aplikuje aj antibiotická liečba. Aj napriek včasnej a cielenej chirurgickej a antibiotickej terapii v súčinnosti s komplexnou intenzívnou starostlivosťou je možné očakávať prežitie len u viac ako 70 % pacientov s Fornierovou gangrénou. Po zvládnutí akútnej fázy je potrebné u pacienta naplánovať a uskutočniť rekonštrukciu vzniknutých ranových defektov (napríklad aj s využitím kožných štepov). Závažnosť ochorenia a úmrtnosť závisí od celkového stavu pacienta a od rýchlosti šírenia infekcie. Na posúdenie závažnosti FG bol vyvinutý Fournier´s Gangrene Severity Index (ďalej len „FGSI“), na priradenie číselného skóre pre prognostický význam. V FGSI je deväť parametrov, v ktorých sa posudzujú odchýlky od normálu, odstupňované od 0 do 4. Jednotlivé hodnoty sa sčítajú, aby sa dosiahlo skóre. Hodnotia sa parametre: telesná teplota, srdcová

frekvencia, dychová frekvencia, sérový sodík, draslík, kreatinín, hydrogenuhličitan, hematokrit a počet leukocytov (Shukla et al. 2016).
Na určenie prognózy je možné použiť aj APGAR skóre, ktoré sa používa na výpočet pooperačných komplikácií. Sleduje sa najnižší priemerný arteriálny tlak a najnižšia srdcová frekvencia. Čím nižšie je skóre APGAR, tým je u pacienta vyššie riziko komplikácií. Ako ďalší bodovací systém môžeme u pacienta využiť Charlsonov index komorbidity (ďalej len „CCI“), ktorého cieľom je odhadnúť riziko mortality u pacientov s komorbiditami. Poukazuje na dlhodobú prognózu ochorenia (Kuswardhani et al. 2020). Je to systém, v ktorom sa hodnotí 19 ochorení. Každej odpovedi je priradené číselné skóre. Čím vyššie skóre u pacienta vznikne, tým je vyššie riziko úmrtnosti (Leslie 2022). V CCI hodnotíme: vek, prekonaný infarkt myokardu, srdcové zlyhávanie, vaskulárne ochorenie, cievnu mozgovú príhodu, chronická obštrukčná choroba pľúc, ochorenie spojivového tkaniva, vredové ochorenie, ochorenie pečene, diabetes mellitus, hemiplégiu, ochorenie obličiek, nádorové ochorenie, leukémiu, lymfón. Pri liečbe je potrebné vzájomne kombinovať širokú škálu opatrení. Liečbu pacientov s FG rozdelil Marenčák (2015) nasledovne na: intravenózne podávanie širokospektrálnych antibiotík (v kombinácií); prevenciu hemodynamických zmien; monitorovanie pacienta na jednotke intenzívnej starostlivosti, na infúznu terapiu, prípravu pacienta na chirurgický výkon; ***okamžitú chirurgickú terapiu***; primeranú drenáž dolných močových ciest (epicystostómiu); pri postihnutí anorektálnej oblasti-kolostómiu; aplikáciu antigangrenózneho a protitetanového séra; sekundárne uzavretie a následnú plastickú rekonštrukciu po bezpečnom zvládnutí septického stavu a stabilizácií pacienta; hyperbarickú oxygenoterapiu a liečbu imunoglobulínmi.

1.1 Kazuistika pacienta s Fournierovou gangrénou

Predmetom príspevku je prípadová štúdia, ako ucelená a podrobná štúdia jedného špecifického a individuálneho prípadu. Je to súhrnný opis prípadu pacienta s Fournierovou gangrénou, s údajmi od začiatku, s podrobným opisom vývoja a priebehu ochorenia a okolností, ktoré mohli vývoj alebo súčasný stav ovplyvniť.

1.2 Anamnéza

Polymorbídny 58 ročný pacient bol v pohotovostnej službe urgentne prijatý na kliniku urológie s abscesom lokalizovaným v perianálnej oblasti, s dg. nekrotizujúca fasciitída na viacerých miestach; kožný absces, furunkul a karbunkul trupu, sepsa, bližšie neurčená; Fournierova gangréna u muža s vedľajšími dg. arteriálna hypertenzia a diabetes mellitus II.typu-obidva kompenzované. V pracovnej anamnéze (vodič kamióna) pacient udáva nevhodné hygienické podmienky, čomu pripisuje aj vzniknutú infekciu. Pociťoval prítomnosť tvrdého, bolestivého útvaru v perineálnej oblasti, mysliac si, že sa jedná o hnisavú vyrážku, mal dokonca snahu si to sám odstrániť.

1.3 Katamnéza

Pri príjme boli zrealizované laboratórne vyšetrenia, ktoré poukázali na zvýšenú zápalovú aktivitu v organizme (CRP: 344.23 mg/l; PLT: 482,00 Gpt/l; WBC: 29,91 Gpt/l; NEU: 94,50%; PT- INR: 1,45; FBG: 9,00 g/l; HCT: 37,80; S- GLU: 12,15 mmol/l; MONO: 1,050 Gpt/l; S-KREA: 41,0 umol/l; LYM: 4,50%), zrealizované bolo CT vyšetrenie abdomenu a odbery na kultiváciu a citlivosť. Pacientovi bola diagnostikovaná Fourniérova gangréna a začatá parenterálna antibiotická terapia. Boli zrealizované dve incízie brušnej steny s odoslaním biologického materiálu na kultiváciu. Skrótum bolo intaktné a bez zápalových zmien. Pacient udával bolesti brucha a pravej strany hrudníka. CT vyšetrenie signifikantne poukázalo na známky fasciitídy prednej brušnej steny. Pacientovi bola ihneď aplikovaná antibiotická terapia: Gentamicin B. Braun 3 mg/ml, Metronidazol B. Braun 5mg/ml. Po

chirurgickom a urologickom konzíliu bol pacient preložený na chirurgickú jednotku intenzívnej starostlivosti. V spolupráci s lekárom boli denne realizované preväzy a denne sa sledovali laboratórne parametre. Po 10 dňoch bola pacientovi aplikovaná VAC terapia- podtlakové uzatváranie rán (vacuum assisted closure) po dobu 4 dní. Vzhľadom na postupujúcu flegmónu bolo u pacienta v 15. deň hospitalizácie (4. deň po aplikácii VAC terapie) potrebné vykonať kontraincíziu, chirurgický débridement, laváž a drenáž. V antibiotickej liečbe boli zmenené antibiotiká aktuálne podľa nálezu kultivácie a citlivosti: Bitammon 1g/0,5g. Vzhľadom na viditeľné zníženie zápalových markerov, bolo na 18. deň hospitalizácie rozhodnuté o resutúre rán a aplikácii preplachovej drenáže. O 3 dni bol viditeľný vzostup zápalovej aktivity CRP-248,76 mg/l, následkom čoho bola indikovaná revízia operačných rán, ktoré boli naširoko otvorené s retenciou purulentného obsahu, drenáž bola zrušená, rana ponechaná na vlhké hojenie a zavedené longety. Naordinovaný Taximed 2g. Pred chirurgickým zákrokom boli podané 3 transfúzie, 2x celá krv a 1x erytrocyty resusp. deleukotizované pre znížené laboratórne parametre. Na 28. deň hospitalizácie bola u pacienta realizovaná fasciotómia. O šesť dní (34. deň hospitalizácie) bolo znovu nevyhnutné vykonanie debridementu rany.

1.4 Hospitalizácia pacienta na oddelení dlhodobo chorých

Pri príjme na oddelenie dlhodobo chorých pacient udával bolesti v oblasti rán na dutine brušnej, šliach na vnútornej strane stehien, slabosť v nohách a zhoršené spanie. Pacient sa dokázal pohybovať sám na posteli a sadnúť si. Mal brušný pás a zrealizované EKG. Pacient mal diétu č.9. Terapia ordinovaná pri príjme: Nolpaza 20mg 1-0-0, Metfogamma 850mg 1-0-0, Neurol 0,25 pred spaním p.p, Atorvastatin 20mg 0-0-1, Bisoprolol 5mg ½-0-0, Probiofix 0-1-0, Novalgin 500mg 1-0-1 /p.p, Fraxiparin 0,4ml s.c. Albunorm 20% 100ml i.v., Fresubin 125g.

U pacienta bol pravidelne vyšetrovaný glykemický profil R, O, V. Počas hospitalizácie boli hodnoty glykémie u pacienta nestabilné. Aplikácia inzulínu Humulin R bola ordinovaná po každom hlásení glykémie. V ľavej ingvine prítomná rana vo veľkosti 4x2cm, ošetrovaná Ringerovým roztokom, Dermacynom a aplikované sterilné krytie. Incízie na bruchu boli každé ráno sprchované čistou vodou, lavagované Ringerovým roztokom, Dermacynom a aplikované sterilné krytie, ktoré bolo nasiaknuté dermacynovým roztokom.

43. deň hospitalizácie – prvý deň hospitalizácie na oddelení dlhodobo chorých: Pre pacienta už bola hospitalizácia pridlhá. Sťažoval sa na slabosť, bol depresívny a trpel nespavosťou. Trvalo udával bolesti semenníkov. Pacientovi bolo naordinované hypnotikum Zopiclon 7,5-SL o 21:00 a antidepresívum Coaxil 12,5mg 1-1-1. V krvnom obraze zmenné hodnoty: Urea-*2,55; KREA-*31,0; ALB-*25,23; Cl-*96,8; AST-*0,13; CRP-*159,77. Nález hematologického vyšetrenia krvi: NEU%-*82,20; EO%-*0,90; HGB-*97,00; PLT-*529,00; PDW-*15,30; LYM % -*7,60; HCT- *29,90; MPV - *7,30; LYM - *0,61; RBC - *3,36; RDW - *15,70. Pri fyzikálnom vyšetrení viditeľná orchitída a začervenanie vnútornej strany stehien. Zrealizovaný bol výter z rany na K + C, kde sa vo výsledku potvrdila prítomnosť patogénu Corynebacterium sp., ojedinele Escherichia Coli, Staphylococcus sp. Testes boli ošetrené Betadine roztokom a Jekorisovou pastou. Pacient udával pretrvávajúce bolesti, preto bol per os podaný Novalgin 500mg. Na druhý deň bolo u pacienta uskutočnené chirurgické konzílium, s výsledkom: *„Rany kľudné, spodiny ružové, bez retencie tekutiny, adaptačné stehy in situ, na perineu a inguinách incízie kľudné v progresii sekundárneho hojenia scelené, bez flegmómy, fluktuácie, perianálne bez rezistencií – zápalový proces nepredpokladám. Liečba preplachom-lavage, sterilné krytie, rehabilitácia a kontrola o dva dni.“* Pacientovi bol doordinovaný Dithiaden 2mg pri svrbení a Oxazepam 10mg na zmiernenie úzkosti. Pacient rehabilitoval s fyzioterapeutom (cievna gymnastika, dychové cvičenia, a vertikalizácia – chôdza s dvoma nemeckými barlami po izbe a chodbe oddelenia).

45. deň hospitalizácie: Zrealizované **c**hirurgické konzílium, s výsledkom odporúčania lekára pokračovať v aktuálnej terapii. Pacient bol nespokojný, odmietal terapiu ako aj prítomnosť permanentného venózneho katétra. U pacienta boli opakovane zrealizované laboratórne vyšetrenia, s nálezom trvalo zvýšených zápalových parametrov. Z dôvodu pretrvávajúcej bolesti bolo pacientovi doordinované analgetikum Paracut 500mg podľa potreby.
Pacient na *50. deň* udával bolesť na pravej strane semenníkov, s prítomným opuchom a stvrdnutým ložiskom. Pri ošetrení bolo ložisko otvorené incíziou, prekrvené, bez sekrécie, ošetrené Ringerovým roztokom, Dermacynom a sterilne kryté. Na základe lokálneho nálezu bolo znovu zrealizované chirurgické konzílium so záverom: viditeľná flegmóna v pravej slabine s induráciou do podkožia, začervenaním okolia a bolestivosťou na dotyk. V pravej ingvine po opichu 1% Mesocainom incidovaná koža peánom, dilatované podkožie, prítomná dutina veľkosti cca 3x2cm bez hnisu, secernácie, zrealizovaný odber z rany na kultiváciu a citlivosť, lavage rany Microdacynom, Lomatuel a sterilné krytie.
51. deň hospitalizácie: Bolo u pacienta zrealizované urologické konzílium vzhľadom na orchitídu. V pravej ingvine bola prítomná incízia s miernou hnisavou sekréciou. Na ultrazvukovom vyšetrení bola viditeľná cysta vpravo na epididymis. Záver*: Bez postihnutia skróta, odber moču, ošetrovanie incízie 2x denne, preplachy Betadine, Inadine, sterilné krytie.*
51.deň hospitalizácie: Rana na bruchu bola kľudná, v štádiu hojenia, preplachovaná, bez retencie, v pravej ingvine po incízii prítomne začervenanie, mierna sekrécia vytekajúceho obsahu. Pacient udával bolesti, k doterajšej terapii mu bol doordinovaný Tramcet 37,5mg 1-1-1. Pacientovi bol odobratý moč chemicky s výsledkom: glukóza, krv, bielkovina, baktérie boli negatívne. Hustota moču - 1023, pH – 6. Pacientovi bol naordinovaný Aminoven 5%. Z terapie bolo zrušené antidepresívum Oxazepam 10mg, ktoré bolo podávané 9 dní. V terapii naďalej ponechané antidepresívum Coaxil 12,5mg.
53.deň hospitalizácie: Flegmóna bola v regresii, s miernou secernáciou z rany skaleného obsahu – preplachovaná Microdacynom, do rany vložený Atrauman Ag. Rana na bruchu bola v štádiu hojenia.
54.deň hospitalizácie: Rana skontrolovaná chirurgom, s odporúčaním menenia Cerdaku pri zmene farby. Pacient odmietal rehabilitáciu.
55.deň hospitalizácie: Rana v štádiu sekundárneho hojenia – spodina rany granulujúca, okraje čisté. V oblasti brušnej dutiny vykonaná dezinfekcia rán, lavage Microdacynom, do rán 2x vložený Atrauman Ag. V pravej ingvine po incízií dezinfekcia, preplach Mikrodacynom a do rany vložený Atrauman Ag.
57.deň hospitalizácie: Opakovane realizované chirurgické konzílium s konštatovaním-rany bez zmeny, pokračovanie v ordinovanej terapii. U pacienta boli zrealizované kultivácie z rany. V kultivačnom náleze bola prítomná masívne Proteus mirabilis a ojedinelé E. coli. Pacientovi bol ordinovaný Cefotaxim 2g/8 hod. a z dôvodu imunitnej nedostatočnosti Polyoxidonium 6mg).
58.deň hospitalizácie: U pacienta bolo zistené tvrdnutie pravej gluteálnej oblasti s prítomnou výraznou bolestivosťou. Zvýšené CRP o 100mg/l oproti včerajšiemu odberu-219,90mg/l. Vyšetrenie chirurgom s nálezom: *„Oblasť skróta a perinea až gluteálnej oblasti edematózne s 3 incíznymi ranami dĺžky do 3 cm v sekundárnom hojení, z ktorých vyteká malé množstvo kyslo zapáchajúcej čírej tekutiny s bublinkami. V oblasti pravého glutea podkožne hmatná fluktuácia s krepitom v teréne edému a začervenania kože.* Odporúčané: *lavage vulneris 0,9% NaCL, Microdacyne, a H_2O_2, výter na kultiváciu a citlivosť, Atrauman AG".* Pacientovi bola podaná transfúzia – erytrocyty resusp. deleukotizované, pre znížené hodnoty hemoglobínu – 83,00 g/l.
60.deň hospitalizácie: Rany v oblasti brucha-okraje a spodina živé, nesecernujúce, bez retencie. Oblasť skróta, perinea až gluteálnej oblasti naďalej edematózne. Z incízií vytekalo minimálne množstvo sekrécie. Naďalej pokračovanie v terapii: dezinfekcia, Atrauman Ag,

longeta z incízie odstránená v ingvine, preplach Mikrodacynom a vložený nový Atrauman Ag a longeta.
61.deň hospitalizácie: Pacient už neudával bolesti. Pokračoval v rehabilitácií. Do rany vložená nová Lomatuel longeta, sterilné krytie. Na glutálnu oblasť po preväze aplikovaný Višnovského balzam so sterilným krytím. Z incízie vyteká minimálne množstvo sekrécie, okolie mierne edematózne a erytematózne.
62.deň hospitalizácie: Laboratórne po poslednom odbere CRP – znížené na 97,32 mg/l. Okraje rany a spodina živé, bez retencie. Edém ustupoval, z rán vytekalo minimálne množstvo sekrécie.
65.deň hospitalizácie: Zrealizované odbery z rany na kultiváciu a citlivosť. Realizované konzílium plastickým chirurgom. Počas konzília boli odobraté stery z rán na bruchu a v sacre. Indikované pokračovanie v ošetrovateľskej starostlivosti ako doposiaľ.
67.deň hospitalizácie: Rany v oblasti brucha – okraje a spodina boli živé, nesecernujúce, bez retencie. Oblasť scróta bola s prítomnosťou plienkovej dermatitídy, scrótum, perineum až gluteálna oblasť edematózna, s troma incíznymi ranami dĺžky do 3cm v sekundárnom hojení, z ktorých vyteká minimálne množstvo sekrécie. V oblasti pravého glutea incízia veľkosti cca 4cm, v ktorej chirurg špecifikoval fibrínové vlákna. V rane prítomná dutina veľkosti 6cm do všetkých smerov, okolie erytematózne a mierne edematózne. Dezinfekcia okolia Dermacynom v oblasti pravého glutea, vložená nová longeta, sterilné krytie. Dezinfekcia oboch častí skróta Dermacynom, so sekréciou čírej tekutiny, aplikované sterilné krytie.
68.deň hospitalizácie: Pacient odporúčaný na plastické doriešenie, odporúčané interné a pred anestéziologické vyšetrenie. Antibiotiká podľa citlivosti na E. colli zo steru.
69.deň hospitalizácie: Bol pacientovi aplikovaný VAC systém na plastickej chirurgii so zmenšením okrajov-125mmHg. Liečba Coaxilom 12,5mg ukončená po 27 dňoch. Pacientovi bolo naordinované antidepresívum Tianeptin Mylan 12,5mg.
71.deň hospitalizácie: Ranové incízie kľudné, bez známok zápalu, minimálne povlečené, okraje živé. Lavage rán Dermacynom. Zrealizované anestéziologické konzílium pred zákrokom na plastickej chirurgii, s odporúčaním na chirurgický zákrok. Pre znížený hemoglobín 94g/l bola ordinovaná transfúzia – erytrocyty resusp. deleukotizované.
73.deň hospitalizácie: Pacient podstúpil nekrektómiu v celkovej anestézii, krytie rán kožnými štepmi. Pacientovi bol odobratý z pravého stehna kožný štep 1x, meshovaný 1:5. Následne bola vykonaná nekrektómia plôch na pravej strane abdomenu cca 3%TBSA, okraje boli suturované a fixované svorkami.
75.-78.deň hospitalizácie: Pacient bol bez laboratórnych známok zápalovej aktivity. Kožný štep bol v štádiu hojenia, ošetrovaný tylom, Betadine, sterilným krytím, na odberovú plochu aplikovaný Framykoin zásyp a sterilné krytie. Pacient už dokázal chodiť sám po izbe.
81.deň hospitalizácie: Kožný štep bol posunutý smerom mediálnym, z laterálnej strany boli uvoľnené stehy, štep prihojený, v strednej a mediálnej časti defektu z laterálnej plochy defektu báza granulovala, svorky in situ, odberová plocha bola vlhká. Na štep bol aplikovaný tyl + $AgNo_3$ 0,5%, krytie. Na odberovú plochu aplikovaný Framykoin zásyp a sterilné krytie.
82.deň hospitalizácie: Rana pararektálne vpravo na bruchu veľkosti 5x3 cm v sekundárnom hojení, nepovlečená, nesecernujúca. Indikovaná bola adaptačná sutúra. Rany v inguinálnej a gluteálnej oblasti rozmerov 2x2cm s minimálnym množstvom sekrécie.
83.deň hospitalizácie: Odberová plocha bola ponechaná bez krytia, voľne na vzduchu. Na kožný štep aplikované len suché krytie.
91. deň hospitalizácie: V oblasti skróta prítomné dva stehy, produkovaný serózny obsah, aplikovaný lokálne Lomatuel.
92.deň hospitalizácie: Kožný štep bol kľudný a zhojený, prítomné granulácie, báza čistá, odberová plocha bola zhojená.

97.deň hospitalizácie: V analgetickej pooperačnej terapii (plastický výkon) ordinovaný Paracut 500mg po 48 dňoch terapia zrušená a rovnako aj Tramcet 37,5mg. V analgetickej terapii ponechaný iba Novalgin 500mg.
98.- 99.deň hospitalizácie: Pokračovanie v podávaní antidepresíva Tianeptin Mylan 12,5mg po 29 dňoch bola aj táto terapia zrušená. Naďalej bol v terapii ponechaný Zopiclon 7,5mg, doordinované antidepresívum Lyxit 12,5mg.
101.deň hospitalizácie: Pacient bol edukovaný lekárom plastickej chirurgie v oblasti starostlivosti o ranu. Ranu umývať mydlovou vodou, dezinfikovať, Betadine. Incízie boli kľudné, bez supurácie, spodiny granulovali.
102.deň hospitalizácie: Pacient bol prepustený s odporúčanou terapiou: Torvacard Novum 20mg 0-0-1, Tianeptin Mylan 12,5mg 1-1-1, Novalgin 500mg 1-0-1 – postupne vysadiť. Nolpaza 20mg 1-0-0, Zopiclon 7,5mg podľa potreby pred spánkom, Dithiaden 1tbl pri svrbení, Polyxidonium 1amp jeden-krát za týždeň, Bisoprolol – ratiopharm 5mg 0,5-0-0. Pacient bol preložený do mobilného hospicu v mieste bydliska, odkiaľ bol v ten istý deň vrátený na oddelenie chirurgie, z dôvodu nesplnenia podmienok pre hospitalizáciu. Na oddelení chirurgie bol hospitalizovaný 4 dni, ale kvôli stabilizovanému zdravotnému stavu bol prepustený do domácej starostlivosti ošetrovaný denne agentúrou domácej ošetrovateľskej starostlivosti.
3 mesiace po prepustený do domácej liečby naplánovaná kontrola na plastickej chirurgii. Lekár odporučil Framykoin masť, na okraje veľkosti 4cm v mieste hojenia rany. Kontrola rany 1x za týždeň agentúrou domácej ošetrovateľskej starostlivosti. Pacient v CCI skóre získal 4 body. Jeden bod získal pri vekovej kategórii vyššej ako 50 rokov, druhý bod pri ochorení diabetes mellitus a zvyšné dva body pri ochorení obličiek, súvisiac so zvýšenou hladinou kreatinínu. U pacienta je týmto výsledkom odhadované 10 ročné prežitie.

1.5 Diskusia

Fourniérova gangréna je vzácne, veľmi nebezpečné polymikrobiálne ochorenie prevažne mužského genitálu, infekčného charakteru, ale môže sa vzácne objaviť aj v ženskej populácií, dokonca boli popísané aj prípady výskytu u detí. Za zdroj infekcie sa najčastejšie považuje traumatický inzult alebo šírenie uroinfekcie, alebo infekcie z perianálnej oblasti. Fournierova gangréna je považovaná za jednu z najzávažnejších urologických infekcií, ktorá vedie k fasciitíde a následnej gangréne mäkkých tkanív. Fournierova gangréna sa aj v súčasnosti vyznačuje vysokou letalitou a v prípade prežitia pacienta zanecháva doživotné následky. Podľa štúdie Payton (2012) najčastejšou baktériou, ktorá sa vyskytla v rane u pacientov, bola E. colli, ktorá ale podľa štúdie nemala súvislosť s úmrtnosťou pacientov. Dôležitú úlohu v liečbe nehojacich sa rán jednoznačne zohráva chirurgický débridement, agresívna antibiotická terapia a podtlaková VAC terapia, ktorá urýchľuje tvorbu granulačného tkaniva.
Ochorenie sa netýka iba samotného pacienta, ale aj jeho rodiny a zdravotníckeho personálu. Okamžitá, cielená a komplexná zdravotná starostlivosť a psychická podpora pacienta personálom a rodinou pozitívne vplýva na samotné prežívanie a zvládanie ochorení. Hospitalizácie pacientov s Fournierovou gangrénou sú častokrát zdĺhavé, trvajúce aj niekoľko mesiacov, s pridruženými komplikáciami a výskytom depresívnych stavov. Komplexný manažment starostlivosti musí byť preto zameraný aj na profylaxiu komplikácií.

1.6. Záver

Fournierova gangréna patrí medzi mimoriadne závažné a život ohrozujúce ochorenia. Vzhľadom na jej závažnosť, je potrebné vedieť včas diferencovať prvé príznaky ochorenia, zahájiť včasnú terapiu v kombinácií s chirurgickým zákrokom. Ochorenie postihuje hlavne genitálie a kolorektálnu oblasť. V prezentovanej kazuistike sme analyzovali prípad, ktorý by bez vyhľadania lekárskej pomoci, rýchlej diagnostiky, aplikácií širokospektrálnej antibiotickej

liečby, včasnej chirurgickej intervencii s intenzívnou ošetrovateľskou starostlivosťou, by s veľkou pravdepodobnosťou skončil tragicky. Pacient musel absolvovať množstvo zákrokov a zdĺhavú liečbu, na ktorej sa podieľali tímy zdravotníckych pracovníkov. U sledovaného pacienta sme uskutočnili skóre FGSI a CCI, v ktorých mal podľa FGSI 78% šancu na uzdravenie a podľa CCI odhadované 10 ročné prežitie. Liečba pacienta s Fournierovou gangrénou musí byť agresívna v kombinácií s aplikáciou silných antibiotík. Neodmysliteľnou súčasťou efektívnej liečby sú opakované chirurgické zákroky-chirurgický débridement a udržiavanie základných životných funkcií. V súčasnosti sa v terapii Fournierovej gangrény okrem iného preferuje aj VAC terapia, ktorá výrazným spôsobom urýchľuje proces hojenia, napomáha mechanickému débridementu a tvorbe granulácií. Okrem iného skracuje aj dobu hospitalizácie a náklady na liečbu pacienta.

Príspevok je výstupom projektu KEGA č. 003PU-4/2021 s názvom: Simulačné centrum starostlivosti o chronické rany.

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VPLYV HUMÍNOVÝCH LÁTOK NA VYBRANÉ PRODUKČNÉ A KRVNÉ BIOCHEMICKÉ PARAMETRE U MORIEK POČAS VÝKRMU

EFFECT OF HUMIC SUBSTANCES ON SELECTED PRODUCTION AND BLOOD BIOCHEMICAL PARAMETERS IN TURKEYS DURING FATTENING

Alena Hreško Šamudovská, Lukáš Bujňák, Andrej Marcin, Tomáš Mihok, Michaela Harčárová, Pavel Naď

Abstrakt

V 35-dňovom experimente bol sledovaný vplyv humínových látok na produkciu a vybrané biochemické parametre krvi u moriek. Celkovo 20 6-týždňových moriek (hybrid Big 6) bolo rozdelených do dvoch skupín. Prvá skupina moriek, označená ako kontrolná skupina, bola kŕmená kŕmnou zmesou bez akéhokoľvek prídavku humínových látok. Druhá skupina bola kŕmená tou istou kŕmnou zmesou s prídavkom 5 g humínových látok na kg krmiva. Prídavok humínových látok nemal žiaden vplyv na živú hmotnosť moriek, prírastky hmotnosti, konverziu krmiva a na intenzitu rastu. Rovnako sledované krvné biochemické parametre, okrem hladiny P, Mg a Na, neboli prídavkom humínových látok významne ovplyvnené. Prídavok humínových látok viedol k signifikantnému zníženiu koncentrácie P ($p < 0,05$), Mg ($p < 0,05$) a Na ($p < 0,01$) v krvnom sére moriek.

Kľúčové slová: *hydina, prírodné kŕmne aditíva, rast, krvné metabolity*

Abstract

In a 35-day experiment was studied the effect of humic substances on performance and selected blood biochemical parameters in turkeys. A total of 20 6-week-old turkeys (hybrid Big 6) were divided into two groups. The first group of turkeys was fed the basal diet without any supplementation of humic substances as a control group. The second group was fed the basal diet supplemented with 5 g humic substances/kg diet. The addition of humic substances had no effect on live body weight, body weight gain, feed conversion ratio and growth rate of turkeys. Similarly, the monitored blood biochemical parameters, except for the level of P, Mg and Na, were not significantly affected by the addition of humic substances. The addition of humic substances led to a significant decrease in the concentration of P ($p < 0.05$), Mg ($p < 0.05$) and Na ($p < 0.01$) in the blood serum of turkeys.

Key words: *poultry, natural feed additives, growth, blood metabolites*

1 ÚVOD

V súvislosti so zákazom používania antibiotických stimulátorov rastu smerujú inovácie v kŕmení zvierat k používaniu rôznych skupín doplnkových látok prírodného pôvodu. Látok, ktoré vedú k zlepšeniu konverzie krmiva, udržiavajú zdravie zvierat a následne znižujú náklady a prinášajú ekonomické výhody bez negatívneho účinku na zdravie zvierat ako aj ľudí. Jednými z mnohých alternatív za antibiotické stimulátory rastu môžu byť humínové látky. Humínové látky sú organické zlúčeniny vznikajúce rozkladom rastlinných a živočíšnych zvyškov. Prirodzene sa vyskytujú v sedimentoch hornín, rašeline, hnedom uhlí, lignite a v niektorých ďalších materiáloch. Obsahujú humínové, fulvové a ulmové kyseliny, humíny a stopové minerálne látky, nevyhnutné pre rast rastlín (Stevenson 1994).

Existuje celý rad vedeckých publikácii o výhodách použitia humínových látok ako kŕmnych aditív. Po ich aplikácii do krmiva alebo do vody, bol zaznamenaný pozitívny vplyv na rast zvierat, konverziu krmiva (Taklimi a kol. 2012, Abdel-Mageed 2012, Mirnawati a Marlida 2013, Arif a kol. 2016, Hammod a kol. 2021) a zvýšenie jatočnej výťažnosti (Abdel-Mageed 2012, Marcinčáková a kol. 2015). Pozitívne účinky boli preukázané aj na imunitu zvierat (Mudronová a kol. 2020, Mudroňová a kol. 2021), hladinu cholesterolu v krvi (Ozturk a kol. 2012, Jaduttová a kol. 2019), ako aj na kvalitu mäsa hydiny (Semjon a kol. 2020, Gálik a kol. 2023). Humínové látky môžu stabilizovať črevnú mikroflóru, zvyšovať populáciu prospešných baktérií a viesť k zníženiu počtu patogénov v tráviacom trakte (Mudroňová a kol. 2020, Agboola a kol. 2021, Omidiwura a kol. 2022).
Cieľom tejto štúdie bolo v experimentálnych podmienkach zistiť vplyv humínových látok na produkčné a krvné parametre moriek od 6. do 11. týždňa veku.

2 MATERIÁL A METODIKA

Do pokusu bolo zaradených 20 kusov 6-týždňových moriek hybridu Big 6, ktoré boli po odvážení a označení identifikačným krúžkom rozdelené do dvoch skupín (kontrolnej a pokusnej; n = 10). Priemerná hmotnosť moriek na začiatku pokusu bola 1737 ± 59,29 g. Ustajnené boli na hlbokej podstielke pri dodržaní štandardných podmienok prostredia (s kontrolovanou teplotou a vlhkosťou). Hustota osadenia v koterci bola podľa platných noriem pre chov moriek.
V priebehu pokusu boli morky oboch skupín kŕmené kompletnou kŕmnou zmesou na báze kukurice, sójového extrahovaného šrotu, hrachu, pšenice, repkového extrahovaného šrotu a jačmeňa (kŕmna zmes na výkrm moriek od 5. do 12. týždňa veku – Morka Midi forte; DeHeus s.r.o. Kendice, Slovenská republika). V pokusnej skupine boli k uvedenej kŕmnej zmesi pridané humínové látky v množstve 5 $g.kg^{-1}$ (HUMAC MycotoxiSorb; Humac s.r.o, Košice, Slovensko): veľkosť častíc do 200 µm, pH 5,8; vlhkosť max. 21 %, humínové kyseliny min. 65 % a fulvové kyseliny 5 % v sušine. Príjem krmiva a napájanie bolo počas celého pokusu zabezpečené *ad libitum*. Chemická analýza kŕmnych zmesí bola vykonaná analytickými metódami podľa Nariadenia komisie (ES) č. 152/2009. Analyzovaný obsah živín v kŕmnych zmesiach je uvedený v Tabuľke 1. Počas celého sledovaného obdobia (35 dní) bola pravidelne zaznamenávaná hmotnosť moriek a spotreba krmiva. Intenzita rastu bola vypočítaná podľa vzorca: ((finálna hmotnosť – počiatočná hmotnosť) / 0,5 x (počiatočná hmotnosť + finálna hmotnosť)) x 100. Konverzia krmiva bola vyjadrená ako spotreba krmiva na kilogram prírastku.
Vzorky krvi pre biochemické vyšetrenie séra boli odobraté na 35. deň pokusu, vo veku moriek 11 týždňov, od 8 moriek z každej skupiny z *vena ulnaris*. Biochemické parametre v sére (celkové bielkoviny, albumín, kyselina močová, glukóza, triacylglyceroly, cholesterol, aspartátaminotransferáza (AST), alaninaminotransferáza (ALT), gamaglutamyltranferáza (GGT), alkalická fosfatáza (ALP), vápnik, fosfor, horčík, sodík, draslík, chloridy, železo, meď, zinok) boli merané pomocou automatického analyzátora ADVIA® 1800 (Siemens). Koncentrácia globulínu bola vypočítaná odčítaním hodnôt albumínu od hodnôt celkových bielkovín. Pomer albumínu ku globulínu bol vypočítaný pomocou vzorca: A/G pomer = Albumín / (Celkové bielkoviny – Albumín). Koncentrácia malóndialdehydu (MDA) v krvnom sére, ako ukazovateľa miery peroxidácie lipidov a oxidačného stresu, bola stanovená spektrofotometrickou metódou stanovenia obsahu látok reagujúcich s kyselinou tiobarbiturovou (TBARs - thiobarbituric acid reactive substances) podľa Costa a kol. (2006). Výsledky sú vyjadrené ako nmol MDA/ml séra. Pokles oxidačného stresu je charakterizovaný znížením hladín MDA (TBARs).

Získané výsledky boli vyhodnotené štatisticky nepárovým t-testom s použitím štatistického softvéru GraphPad Prism 8.0. Výsledky sú vyjadrené ako priemer ± štandardná chyba priemeru (SEM).

Tabuľka 1. Analyzovaný obsah živín v kŕmnych zmesiach

		Kontrolná skupina	Pokusná skupina
Sušina	(%)	88,24	87,89
Dusíkaté látky	(%)	21,07	20,66
Hrubý tuk	(%)	3,48	3,48
Hrubá vláknina	(%)	4,48	4,46
Škrob	(%)	41,66	41,31
Popol	(%)	6,93	7,23
Vápnik	(%)	1,00	1,05
Sodík	(%)	0,16	0,16
Fosfor	(%)	0,61	0,60
Meď	(mg/kg)	20,40	20,43
Zinok	(mg/kg)	125,87	128,43
Metabolizovateľná energia	(MJ/kg)	12,06	11,94

3 VÝSLEDKY

Priemerná živá hmotnosť moriek, prírastky hmotnosti, konverzia krmiva ako aj intenzita rastu neboli vplyvom prídavku humínových látok do kŕmnej zmesi v množstve 5 g/kg v období od 6. do 11. týždňa veku štatisticky významne ovplyvnené (Tabuľka 2). V pokusnej skupine bola však zaznamenaná číselne vyššia priemerná živá hmotnosť moriek a vyššie prírastky hmotnosti za celé sledované obdobie v porovnaní s kontrolnou skupinou. Rozdiel v priemernej živej hmotnosti moriek prestavuje 4,64 % (275,72 g) a rozdiel v prírastkoch hmotnosti 4,02 % (171,43 g).

Tabuľka 2. Vplyv suplementácie kŕmnych zmesí humínovými látkami na vybrané produkčné parametre u výkrmových moriek vo veku 6 – 11 týždňov

		Kontrolná skupina	Pokusná skupina	*p*-hodnota
Živá hmotnosť (11. týždeň)	(g/ks)	5945,71 ± 144,90	6221,43 ± 223,33	0,321
Prírastky hmotnosti	(g/ks)	4260,86 ± 109,08	4432,29 ± 187,81	0,445
Konverzia krmiva	(kg/kg)	2,13 ± 0,05	2,10 ± 0,09	0,758
Intenzita rastu		111,74 ± 1,50	110,80 ± 3,43	0,806

Hodnoty sledovaných biochemických parametrov v krvi sú uvedené v Tabuľke 3. Prídavok humínových látok neovplyvnil významne hladinu sledovaných ukazovateľov bielkovinového (celkové bielkoviny, albumín, globulín, kyselina močová) a energetického metabolizmu (glukóza, triacylglyceroly, cholesterol), ukazovateľa peroxidácie lipidov (TBARs), ako ani aktivitu pečeňových enzýmov (AST, ALT, GGT, ALP) v krvi moriek. Viedol však k signifikantnému zníženiu hladiny fosforu ($p < 0,05$), horčíka ($p < 0,05$) a sodíka ($p < 0,01$). Koncentrácie vápnika, draslíka, chloridov, železa, medi a zinku v krvi moriek neboli prídavkom sledovaného prípravku do krmiva štatisticky významne ovplyvnené.
Avšak v pokusnej skupine bol zaznamenaný trend zníženia koncentrácie triacylglycerolov ($p < 0,10$) a draslíka ($p < 0,10$) v porovnaní s kontrolnou skupinou.

Tabuľka 3. Vplyv suplementácie kŕmnych zmesí humínovými látkami na vybrané krvné biochemické parametre u výkrmových moriek vo veku 11 týždňov (35. deň podávania humínových látok)

		Kontrolná skupina	Pokusná skupina	*p*-hodnota
Ukazovatele bielkovinového metabolizmu:				
Celkové bielkoviny	(g/l)	39,13 ± 0,77	38,97 ± 1,49	0,929
Albumín	(g/l)	19,35 ± 0,44	19,41 ± 0,59	0,931
Globulín	(g/l)	19,78 ± 0,37	19,56 ± 0,99	0,841
A/G pomer		0,98 ± 0,01	1,00 ± 0,03	0,497
Kyselina močová	(µmol/l)	389,97 ± 22,81	332,76 ± 27,20	0,129
Ukazovatele energetického metabolizmus:				
Glukóza	(mmol/l)	15,90 ± 0,23	16,02 ± 0,19	0,693
Triacylglyceroly	(mmol/l)	1,35 ± 0,12	0,99 ± 0,14	0,071
Cholesterol	(mmol/l)	3,85 ± 0,20	3,65 ± 0,13	0,412
Aktivita pečeňových enzýmov:				
AST	(µkat/l)	5,15 ± 0,13	5,09 ± 0,17	0,770
ALT	(µkat/l)	0,03 ± 0,00	0,03 ± 0,00	0,693
GGT	(µkat/l)	0,06 ± 0,01	0,05 ± 0,00	0,414
ALP	(µkat/l)	29,62 ± 2,17	28,80 ± 1,11	0,741
Ukazovatele minerálneho metabolizmus:				
Vápnik	(mmol/l)	3,03 ± 0,06	2,99 ± 0,07	0,676
Fosfor	(mmol/l)	2,70 ± 0,07[a]	2,47 ± 0,04[b]	0,019
Horčík	(mmol/l)	0,98 ± 0,03[a]	0,88 ± 0,02[b]	0,018
Sodík	(mmol/l)	157,00 ± 0,63[a]	154,63 ± 0,38[c]	0,006
Draslík	(mmol/l)	3,63 ± 0,21	3,20 ± 0,11	0,096
Chloridy	(mmol/l)	116,00 ± 0,46	114,63 ± 0,68	0,117
Železo	(µmol/l)	33,80 ± 1,66	33,19 ± 2,11	0,823
Meď	(µmol/l)	1,54 ± 0,11	1,84 ± 0,23	0,248
Zinok	(µmol/l)	43,48 ± 2,37	42,07 ± 0,89	0,586
Ukazovateľ peroxidácie lipidov a oxidačného stresu				
TBARs	(nmol MDA/ml)	0,67 ± 0,03	0,69 ± 0,03	0,626

A/G pomer – Albumín/Globulín pomer, AST – Aspartátaminotransferáza, ALT – Alaninaminotransferáza, GGT – Gamaglutamyltranferáza, ALP – Alkalická fosfatáza, TBARs – látky reagujúce s kyselinou tiobarbiturovou

Hodnoty označené rozdielnym horným indexom v rovnakom riadku sú štatisticky významne odlišné ($^{ab}P < 0,05$; $^{ac}P < 0,01$).

4 DISKUSIA

V rôznych štúdiách bolo zistené, že prídavok humínových látok do krmiva alebo do pitnej vody môže viesť k zlepšeniu produkčných parametrov u hydiny. Napríklad Taklimi a kol. (2012), ktorí sledovali účinok prídavku humínových kyselín v rôznej koncentrácii do kŕmnych zmesí (0,2 a 0,3 %) u brojlerových kurčiat, zaznamenali významné zvýšenie prírastkov hmotnosti ako aj významné zlepšenie konverzie krmiva. Tieto výsledky sú v zhode s výsledkami, ktoré zaznamenali Arif a kol. (2016), ELnaggar a El-Kelawy (2018) a Hammod a kol. (2021) u kurčiat kŕmených kŕmnou zmesou s prídavkom humínových kyselín ako aj Mirnawati a Marlida (2013) u kurčiat, ktorým boli humínové kyseliny pridávané do vody.

Signifikantné zlepšenie konverzie krmiva u brojlerových kurčiat vplyvom prídavku prírodných humínových látok do krmiva (v množstve 5 g/kg v prvej a 7 g/kg v druhej a tretej fáze výkrmu) sme zaznamenali aj my v našej skoršej štúdii (Šamudovská a Demeterová 2010).
Podobné výsledky zaznamenal aj Abdel-Mageed (2012) u japonských prepelíc. Prepelice, ktoré prijímali krmivo s prídavkom humínových látok (10, 20 alebo 30 ml humínových látok/kg krmiva), dosahovali signifikantne vyššiu finálnu hmotnosť, boli u nich zaznamenané signifikantne vyššie prírastky hmotnosti, signifikantne lepšia konverzia krmiva ako aj signifikantne vyššia intenzita rastu za celé sledované obdobie v porovnaní s kontrolnou skupinou.
V našom pokuse však sledované produkčné parametre u moriek (živá hmotnosť, prírastky hmotnosti, konverzia krmiva, intenzita rastu) neboli prídavkom humínových látok do krmiva ovplyvnené. Podobné výsledky vo svojej štúdii zaznamenali aj Kaya a Tuncer (2009), Jaďuttová a kol. (2019), Domínguez-Negrete a kol. (2019) a Hudák a kol. (2021) u brojlerových kurčiat.
V krvnom sére moriek pokusnej skupiny bola v porovnaní s kontrolnou skupinou zaznamenaná signifikantne nižšia hladina fosforu ($p < 0,05$), horčíka ($p < 0,05$) a sodíka ($p < 0,01$) ako aj trend zníženia koncentrácie draslíka ($p < 0,10$). Signifikantne zníženie koncentrácie fosforu v krvi hydiny vplyvom prídavku humínových látok do krmiva zaznamenali aj Celik a kol. (2008) a Abdel-Mageed (2012). Abdel-Mageed (2012) okrem významného zníženia fosforu, zaznamenal aj významné zníženie vápnika. Signifikantné zníženie sodíka, podobne ako v našej štúdii, zaznamenali Kovacik a kol. (2020) u bažantov, ktorým podávali krmivo s prídavkom humínových kyselín v 1 % koncentrácii. Zníženie koncentrácie niektorých minerálnych látok v krvi zvierat prijímajúcich humínové látky môže byť spôsobené ich chelatačnými účinkami v dôsledku veľkého počtu bočných reťazcov karboxylových kyselín (Ozturk a kol. 2014).
Tieto výsledky sú v rozpore s výsledkami, ktoré zaznamenali Lala a kol. (2016). V krvi brojlerových kurčiat, ktoré prijímali humínové kyseliny prostredníctvom pitnej vody (1 a 2 ml/l) boli zistené signifikantne vyššie koncentrácie fosforu a vápnika v porovnaní s kontrolnou skupinou. Signifikantné zvýšenie koncentrácie vápnika vplyvom humínových kyselín (600 mg/kg krmiva) bolo zaznamenané aj u japonských prepelíc (Avci a kol. 2007). Ostatné sledované parametre minerálneho profilu (P, K, Fe, Cu, Zn) ako aj parametre bielkovinového (celkové bielkoviny) a energetického (glukóza, triacylglyceroly, cholesterol) profilu v krvnom sére prepelíc neboli významne ovplyvnené.
Rovnako v našej štúdii, krvné biochemické parametre, ako sú celkové bielkoviny, glukóza, triacylglyceroly, cholesterol, ale aj albumín, globulín, A/G pomer a kyselina močová, neboli prídavkom humínových látok do krmiva moriek štatisticky významne ovplyvnené. Avšak v krvi moriek pokusnej skupiny bol v porovnaní s kontrolnou skupinou zaznamenaný trend zníženia koncentrácie triacylglycerolov ($p < 0,10$).
Zníženie koncentrácie triacylglycerolov v krvnom sére vplyvom prídavku humínových látok do krmiva bolo zistené aj u kurčiat (ELnaggar a El-Kelawy 2018). Okrem toho, bolo zaznamenané aj signifikantné zníženie cholesterolu, celkových lipidov, albumínu a A/G pomeru a signifikantné zvýšenie glukózy, celkových bielkovín a globulínu.
Ovplyvnenie koncentrácie cholesterolu v krvi kurčiat suplemetáciou humínových látok do krmiva spozorovali vo svojej štúdii aj Ozturk a kol. (2012). U kurčiat, ktoré boli kŕmené suplementovaným krmivom (prídavok humínových látok v množstve 1 a 1,5 g/kg), boli namerané signifikantne nižšie hladiny cholesterolu ako v kontrolnej skupine. Koncentrácia glukózy, bielkovín a triacylglyceridov v krvi kurčiat nebola významne ovplyvnená.
Niektoré štúdie naznačujú, že humínové látky môžu mať antioxidačné vlastnosti a môžu chrániť pred ochoreniami súvisiacimi s oxidačným stresom. Tieto významné antioxidačné

vlastnosti humínových látok potvrdil vo svojej štúdii Mao (2019). V krvnom sére brojlerových kurčiat kŕmených kŕmnymi zmesami s prídavkom fulvových kyselín (v množstve 0,2, 0,6 a 1 g/kg) bola zistená signifikantne vyššia aktivita enzýmov zapojených do antioxidačného obranného systému (superoxiddismutázy a glutatiónperoxidázy) a nižšia hladina MDA v porovnaní s kontrolnou skupinou. Podobne, zníženie hladín MDA v krvnom sére zaznamenali aj Kovacik a kol. (2020) u bažantov, ktorým podávali krmivo s prídavkom humínových kyselín v 0,5, 0,75 a 1,0 % koncentrácii. Hodnoty MDA výrazne klesali so zvyšujúcou sa hladinou humínových kyselín v krmive.
V našej štúdii boli však pozorované iba mierne a nevýznamné zmeny v hladine MDA (TBARs) v krvnom sére moriek vplyvom prídavku humínových látok do krmiva. Podobné výsledky zaznamenali aj Zhang a kol. (2020) u nosníc. Dokonca, Ipek a kol. (2008), ktorí sledovali účinok humínových kyselín u japonských prepelíc, zistili, že vysoký obsah humínových kyselín v krmive (600 mg/kg) môže viesť k zvýšeniu oxidačného stresu. Zatiaľ čo vysoké koncentrácie humínových kyselín viedli k zníženiu celkovej antioxidačnej kapacity, ich nižšie koncentrácie (360 alebo 480 mg/kg) nemali žiaden vplyv.
Analýzou aktivity pečeňových enzýmov v krvnom sére moriek sa preukázalo, že prídavok humínových látok do krmiva v množstve 5 g/kg nemá žiaden škodlivý účinok na funkciu pečene. Hodnoty AST, ALT, GGT a ALP boli v pokusnej skupine porovnateľné s hodnotami kontrolnej skupiny. Počas trvania experimentu nebol v kontrolnej ani pokusnej skupine zvierat zaznamenaný úhyn a neboli zaznamenané príznaky narušenia zdravotného stavu.
Z výsledkov rôznych štúdií vyplýva, že vplyv humínových látok na produkciu hydiny ako aj na biochemické parametre v krvi môže byť rozdielny. Túto nekonzistentnosť výsledkov získaných v rôznych štúdiách možno pripísať zloženiu a množstvu podávaných humínových látok, spôsobu ich aplikácie (do krmiva alebo do vody) alebo druhu použitých zvierat.

5 ZÁVER

Prídavok humínových látok do krmiva v množstve 5 g/kg nemal významný vplyv na sledované produkčné parametre, ako sú živá hmotnosť moriek, prírastky hmotnosti, konverzia krmiva a intenzita rastu. Viedol však k signifikantnému zníženiu fosforu, horčíka a sodíka v krvnom sére moriek. Vzhľadom na dosiahnuté výsledky, pre stanovenie vhodnej koncentrácie a dĺžky podávania sledovaného prípravku a pre zhodnotenie jeho možného využitia ako neantibiotického stimulátoru rastu vo výžive moriek, budú potrebné ďalšie štúdie.

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SELFMANAŽMENT PRI OCHORENÍ DIABETES MELLITUS 1.TYPU

SELF-MANAGEMENT IN TYPE 1 DIABETES MELLITUS

Tatiana Šantová, Andrea Šuličová, Zuzana Šimová, Jana Cinová, Zuzana Novotná

Abstrakt

Ochorenie diabetes mellitus 1. typu je chronické celoživotné ochorenie, na základe autoimunitného podkladu, ktoré vzniká rozpadom Beta buniek, ktoré sa nachádzajú v Langerhansových ostrovčekoch v pankrease. Liečba ochorenia diabetes mellitus 1.typu spočíva v triáde inzulín, pohyb a úprava stravovacieho režimu. Rešpektovanie tejto triády vedie ku kompenzácií ochorenia a k zlepšeniu kvality života pacienta. Počet ľudí s týmto ochorením na Slovensku stúpa, v roku 2021 bolo v dispenzarizovaných 355 819 diabetikov , väčší počet bol v rámci ženskej populácie a to konkrétne o 5,2%. Na celom svete trpí ochorením DM viac ako 10,5% ľudí na svete. V súčasnosti sa odhaduje počet diabetikov na 537 miliónov dospelých na svete, kedy s postupom času sa odhaduje nárast diabetikov až na 700 miliónov dospelých do roku 2045, čo je katastrofické číslo. Najväčší počet diabetikov sa nachádza v štátoch ako je Čína, India a Amerika.

Kľúčové slová: *diabetes mellitus, selfmanažment, pacient, prieskum*

Abstract

Type 1 diabetes mellitus is a chronic, lifelong disease based on an autoimmune basis, which is caused by the breakdown of Beta cells located in the islets of Langerhans in the pancreas. The treatment of diabetes mellitus consists in the triad of insulin, movement and modification of the diet. Respecting this triad leads to compensation of the disease and to improvement of the patient's quality of life. The number of people with this disease in Slovakia is increasing, in 2021 there were 355,819 diabetics in dispensaries, the larger number was within the female population, specifically by 5.2%. More than 10.5% of people in the world suffer from DM. Currently, the number of diabetics is estimated at 537 million adults in the world, when with the progress of time, the increase of diabetics is estimated up to 700 million adults by 2045, which is a catastrophic number. The largest number of diabetics is found in countries such as China, India and America.

Key words: *diabetes mellitus, self-management, patient, survey*

1 SELFMANAŽMENT A SELFMONITORING AKO NEVYHNUTNÁ SÚČASŤ KOMPENZÁCIE OCHORENIA DM 1.TYPU

Pod pojmom selfmonitoring rozumieme pravidelnú kontrolu zdravotného stavu. Diabetes mellitus patrí medzi chronické ochorenia, ktoré si vyžadujú spoluprácu pacienta a lekára. Selfmonitoring môžeme definovať zo širšieho a užšieho hľadiska. Zo širšieho hľadiska tu zaraďujeme pravidelnú aplikáciu inzulínu, dôkladnú a šetrnú starostlivosť o nohy, pravidelné monitorovanie krvného tlaku, správnu fyzickú aktivitu, dostatočný pohyb, správny príjem sacharidových jednotiek a dodržiavanie diétnych opatrení. Z užšieho hľadiska tu zaraďujeme kontrolu (ketonúrie), čiže ketolátok v krvi, (glykémiu) kontrolu hladiny cukru v krvi a (glykozúriu) kontrolu prítomnosti cukru v moči(1). Selfmonitoring definujeme ako meranie určitých parametrov, ktoré sú súčasťou kompenzácií diabetika. Medzi moderný prístup patrí selfmanažment, ktorý zahŕňa komplexnú liečbu. Selfmonitoring môžeme rozdeliť na selfmonitoring kapilárnej krvi a selfmonitoring moču pomocou indikátorových papierikov.

Slovo selfmonitoring pochádza z anglického slova, čo nám definuje self ako sama sebe, sám sebe a patrí medzi predponu monitoringu, monitoring definujeme ako sledovanie. Spojením týchto slov chápeme selfmonitoring ako sledovanie seba-sebakontrola. Selfmanažment patrí medzi súčasť úspešnej liečby ochorenia diabetes mellitus 1. typu. Pravidelným kontrolovaním glykémií sa vyhýbame život ohrozujúcim situáciám spojených s ochorením. Pri samokontrole diabetik zisťuje aktuálnu hladinu glukózy v krvi a to pri pohybovej aktivite, spánku, stresových situáciách alebo počas choroby(2).

1.1 Selfmonitoring kapilárnej krvi pri ochorení diabetes mellitus 1. typu

Selfmonitoring glykémie nám hovorí o sebakontrole hladiny glukózy v krvi. Glukóza v krvi sa odporúča merať ráno nalačno, po jedle a tiež je dôležité merať aká je hladina glukózy, ak sa cítime zle. Glykémia nalačno nám definuje hladinu glukózy približne 8 hodín bez príjmu potravy, vhodné sú hodnoty pod 6mmol/l, medzi dobre zaraďujeme 6-7mmol/l a pri zhoršení kompenzácii sú hodnoty nad 8 mmol/l. Po jedle by mala byť glykémia do 9 mmol/l. Počas celého dňa by mali glykémie kolísať medzi 4-9mmol/l. Medzi faktory, ktoré ovplyvňujú frekvenciu merania patrí: príjem sacharidov, fyzická námaha, ochorenie, zmena liečby, kolísanie glykémii, typ diabetu(3).Glykemický profil nám hovorí o hodnote glykémií nameraných niekoľkokrát počas dňa. Veľký glykemický profil nám hovorí o viacerých meraniach počas dňa. Obsahuje až 8 hodnôt a to je meranie glykémii ráno nalačno, dve hodiny po najedení, pred obedom, dve hodiny po obede, pred večerou, dve hodiny po večeri, pred spaním a ráno o 03:00 hod. Glykovaný hemoglobín sa vyšetruje z venóznej krvi a analyzuje sa v laboratóriu. Hovorí nám o kompenzácii diabetu v posledných 3 mesiacoch(2).

1.2 Selfmonitoring pri použití kontinuálneho senzora pri ochorení diabetes mellitus 1. typu

Glukózový senzor patrí medzi systém kontinuálneho merania glukózy. Senzor sa zavádza do podkožia a informuje o glukóze z medzibunkovej tekutiny pod kožou. Senzor musí byť vzájomne prepojený s vysielačom. U pacientov s diabetes mellitus 1. typu glukóza počas dňa veľmi kolíše a merania počas dňa nemusia vždy byť tým správnym ukazovateľom. Pri používaní senzora diabetik získava informácie o svojej glykémii nepretržite a predpovedá o akútnych komplikáciách. Kontinuálne meranie glukózy (CGM) obsahuje tieto časti: senzor, vysielač a prijímač. Výhody používania kontinuálneho merania potvrdzujú viaceré zahraničné výskumy ako napríklad aj dvojročná štúdia COMISAIR, ktorú viedol MUDr. Ján Šoupla z III. Kliniky Všeobecnej fakultnej nemocnice v Prahe, vďaka ktorej sa potvrdili výhody používania kontinuálneho merania glukózy a potvrdzujú pozitívny vplyv používania senzorov. Senzor zaraďujeme medzi veľký prínos liečby pre pacientov s ochorením diabetes mellitus 1. typu. Výhody používania senzoru sú: pokles glykovaného hemoglobínu, neustála kontrola glykémie a prevencia pred akútnymi komplikáciami. Glukózový senzor dokáže kontinuálne merať hladinu glukózy počas 24 hodín. Každých 5 minút sa meria hladina glukózy. Glukózový senzor je možné mať zavedený maximálne 7 dní. Patrí medzi modernú a efektívnu kompenzáciu a manažment diabetikov. Senzor dokáže pomocou hlasového signálu diabetika upozorniť na hypoglykémiu, alebo hyperglykémiu. Pacienti, ktorí používajú súčasne so senzorom aj inzulínovú pumpu, si podľa glykémie aplikujú bolusovú dávku. Pri hypoglykémii pumpa dokáže včas zareagovať a zastaví prísun inzulínu. Ak dochádza k hyperglykémii pumpa automaticky podľa hodnôt upravuje glykémiu a podáva inzulín automaticky. Inzulínové pumpy obsahujú pamäť a automaticky ukladajú namerané hodnoty do archívu(4).

1.3 Selfmonitoring moču pri ochorení diabetes mellitus 1. typu

Selfmonitoring moču patrí medzi samokontrolu moču. Vykonáva sa pomocou identifikačných testovacích prúžkov. Pomocou hodnôt získaných močom vieme zlepšiť kompenzáciu diabetu. Cukor v moči sa nevyskytuje a nie je fyziologický. Ak dôjde k prítomnosti cukru v moči (glykozúria), informuje nás o prítomnosti zvýšenej hladiny cukru v krvi a to nad 10mmol/l. Identifikačné prúžky nás informujú o prítomností ketonúrie pri hyperglykémii(5).Diabetik vykonáva selfmonitoring moču 2-3x denne. Diabetik ponorí identifikačný prúžok do skúmavky s močom alebo priamo sa na prúžok vymočí, úlohou prúžku je zafarbenie určitých políčok. Následne pomocou stupnice, ktorá sa nachádza na krabičke, analyzujeme výsledok. Medzi pozitívne patrí druhé políčko na ľavej strane a hodnotíme podľa počtu krížikov. Medzi prúžky na meranie glykozúrie patrí: DiaPhan, GlukoPhan, ComboStik, Axiom atď. Denník diabetika sa odporúča každému diabetikovi. Slúži nielen diabetikovi, ale aj ošetrujúcemu lekárovi diabetológovi, ktorý sledovaním hodnôt môže upraviť liečbu diabetu. Výhody vedenia diabetického denníka sú: dosiahnuť zodpovednosť, úprava liečby, možnosť dosiahnuť vyššiu kvalitu života, dostatok informácií o glykémii počas dňa. Formu denníka si zvolí sám diabetik. Niektorí diabetici preferujú notes a pero, niektorí využívajú predtlačené formy, iní diabetici preferujú modernú technológiu, kde dané informácie zapisujú do mobilnej aplikácie. Spoločnosť CareLink umožňuje elektronický záznam diabetika(1).

2 KVALITA ŽIVOTA A SELFMANAŽMENT PRI OCHORENÍ DM 1.TYPU

Chronické ochorenie diabetes mellitus 1. typu prináša do života a rodiny mnoho životných zmien. Stres, strach, úzkosť, neistota a beznádej sprevádza začiatok ochorenia. U pacientov postupne dochádza k zmiereniu. Pociťujú podporu, solidaritu od priateľov a rodiny, hľadajú zmysel, porozumenie a prijatie chronického ochorenia. Dochádza k zmenám kvality života, menia sa ciele života, hodnoty a perspektívy(6).Prvým prejavom je šok, kedy často dochádza k neprimeranému správaniu jedinca. Nasleduje obdobie popierania, kedy nechcú veriť skutočnosti, obdobie sa strieda so smútkom a úzkosťou a postupne nasleduje obdobie rovnováhy a vyrovnávania sa s daným chronickým ochorením, pacient začína spolupracovať. Na prijatie chronického ochorenia nie je nikto pripravený, ani samotný pacient, ani jeho najbližší členovia rodiny. Pomáhať zvládnuť danú situáciu poskytuje skúsený tím odborníkov, ktorých úlohou je poskytnúť nové informácie a rady. Najdôležitejšou súčasťou v tomto období je podpora rodiny. Niekedy nám vedia pomôcť rodiny, ktoré daným problémom už čelili a vedia poskytnúť potrebné informácie(2).

2.1 Ciele prieskumu

Hlavným cieľom prieskumu bolo zistiť ako selfmanažment pri ochorení DM 1.typu zlepšuje kvalitu života pacientov. Parciálne ciele sme zamerali na to, v ktorých oblastiach kvality života predstavuje ochorenie diabetes mellitus 1.typu pre pacienta najväčšiu záťaž. Zamerali sme sa na zhodnotenie úrovne vedomostí o selfmanažmente, selfmonitoringu a na posúdenie kvality života v sociálno - ekonomickej oblasti.

2.2 Metodika

Prieskum sme realizovali metódou neštandardizovaného dotazníka. Dotazník pozostáva z 23 otázok, prvé dve otázky sú zamerané na identifikačné údaje,19 otázok sa nachádza v uzavretej forme, a dve otázky sú v otvorenej forme, pri ktorej sme zisťovali vlastný názor respondentov. Jednotlivé odpovede z dotazníka sme vyhodnotili kvantitatívne, matematicko – štatistickou analýzou a získané výsledky, sme prezentovali prostredníctvom použitia grafov a tabuliek a kvalitatívnou analýzou.

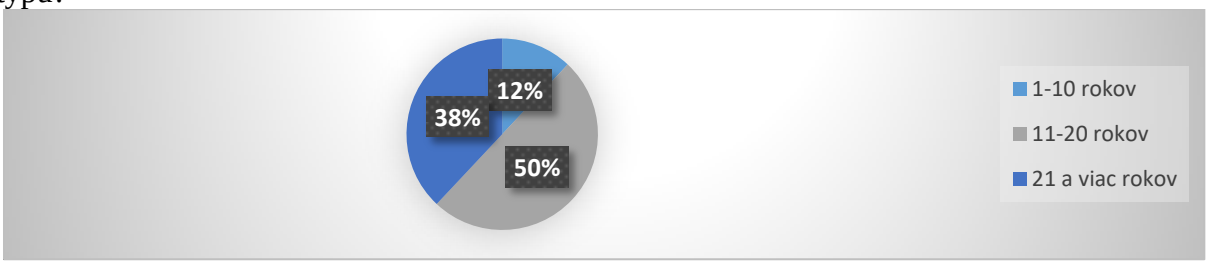
2.3 Súbor

Prieskumu sa zúčastnilo 50 respondentov s ochorením diabetes mellitus 1. typu vo veku od 20 do 60 rokov. Dotazník sme distribuovali do diabetologickej ambulancie pre dospelých v Košiciach. Prieskumu sa zúčastnili muži aj ženy s ochorením diabetes mellitus 1.typu. Prieskum sme realizovali v mesiacoch január a február 2023.

2.4 Výsledky prieskumu

Získané informácie sme následne matematicko-štatisticky vyhodnotili a spracovali do tabuliek alebo grafov. Každý graf alebo tabuľka je doplnená slovným vyjadrením. Prieskumu sa zúčastnilo 25 žien (50%) a 25 respondentov bolo mužského pohlavia (50%).Vekovú hranicu od 20 do 40 rokov uviedlo 35 respondentov (70%). Odpoveď 50-60 rokov uviedlo 15 respondentov (30%).

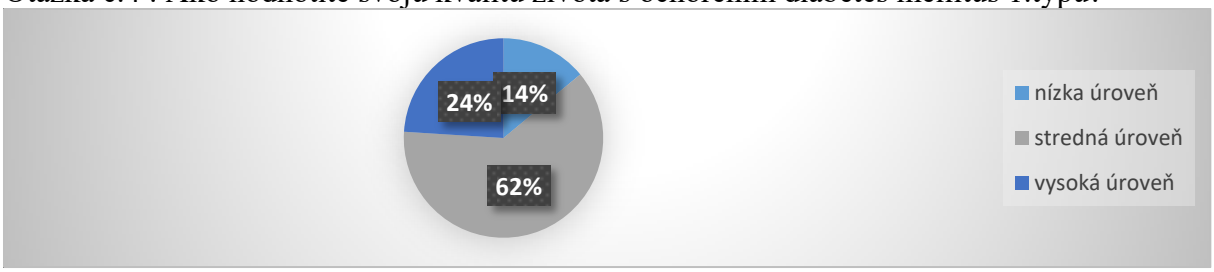
Otázka č.3 : V ktorom roku života, Vám bolo diagnostikované ochorenie diabetes mellitus 1. typu?



Graf č.1 Diagnostikované ochorenie

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď 1-10 rokov uviedlo 6 respondentov (12%). Odpoveď 11-20 rokov uviedlo 25 respondentov (50%). Odpoveď 21- a viac rokov uviedlo 19 respondentov (38%).

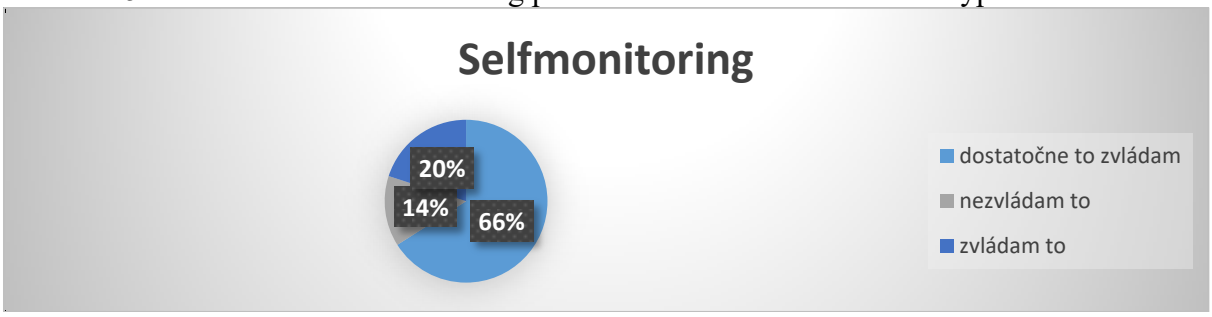
Otázka č.4 : Ako hodnotíte svoju kvalitu života s ochorením diabetes mellitus 1.typu?



Graf č.2 Kvalita života

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď nízka úroveň kvality života uviedlo 7 respondentov (14%). Odpoveď stredná úroveň kvality života uviedlo 31 respondentov (62%). Odpoveď vysoká úroveň kvality uviedlo 12 respondentov (24%).

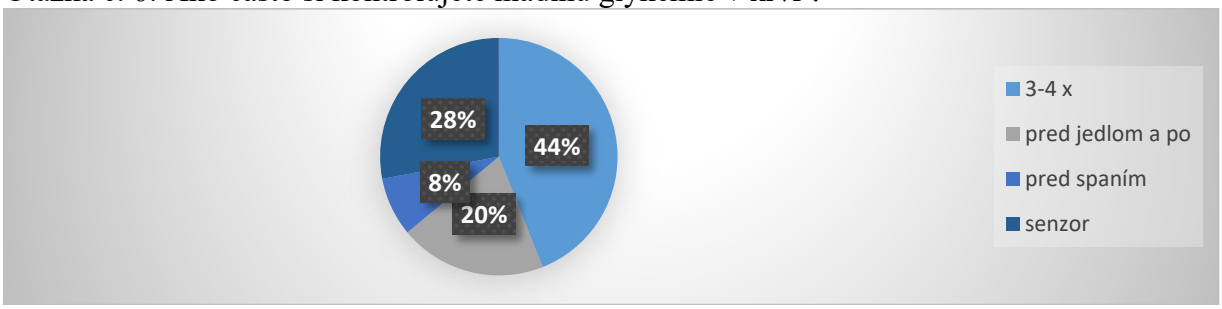
Otázka č.5: Ako zvládate selfmonitoring pri ochorení diabetes mellitus 1. typu?



Graf č.3 Selfmonitoring

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď dostatočne to zvládam uviedli 33 respondenti (66%). Odpoveď nezvládam to uviedli 7 respondenti (14%). Odpoveď zvládam to uviedlo 10 respondentov (20%).

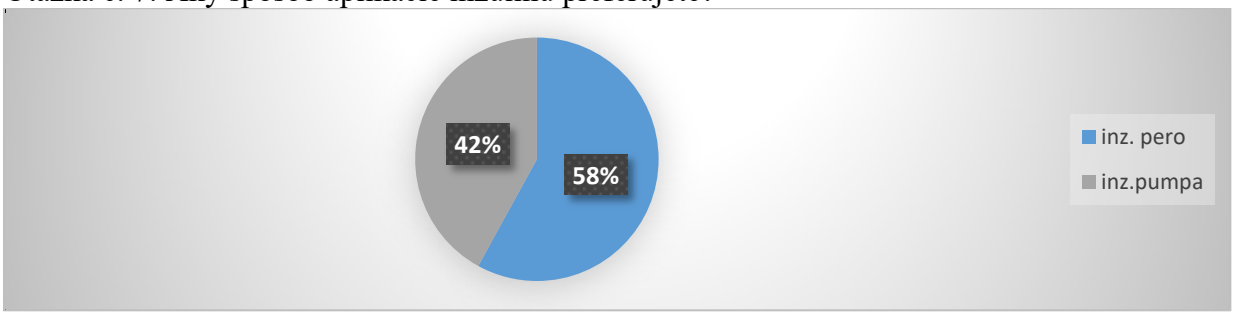
Otázka č. 6: Ako často si kontrolujete hladinu glykémie v krvi ?



Graf č.4 Kontrola glykémie

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď 3-4 krát denne uviedlo 22 respondentov (44%). Odpoveď pred jedlom a po jedle uviedli 10 respondenti (20%). Odpoveď pred spaním uviedli 4 respondenti (8%). Odpoveď používam kontinuálne meranie glukózy pomocou senzoru uviedlo 14 respondentov (28%).

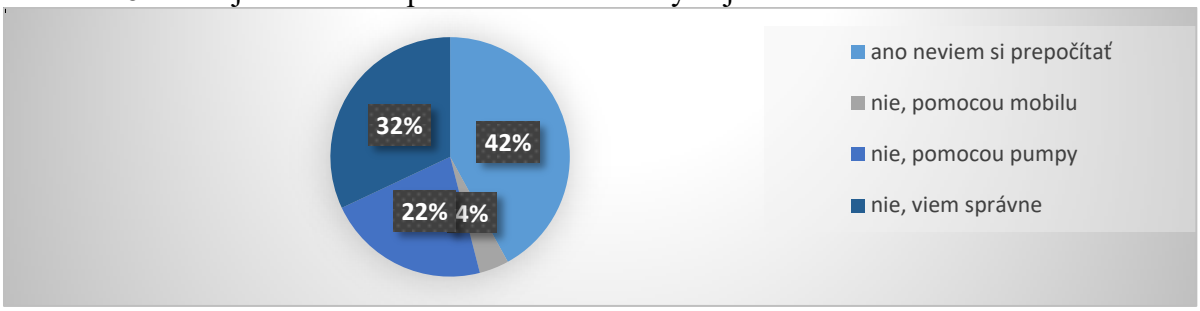
Otázka č. 7: Aký spôsob aplikácie inzulínu preferujete?



Graf č.5 Aplikácia inzulínu

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď inzulínové pero uviedlo 29 respondentov (58%). Odpoveď inzulínová pumpa uviedlo 21 respondentov (42%). Odpoveď pomocou inzulínky uviedlo 0 respondentov (0%).

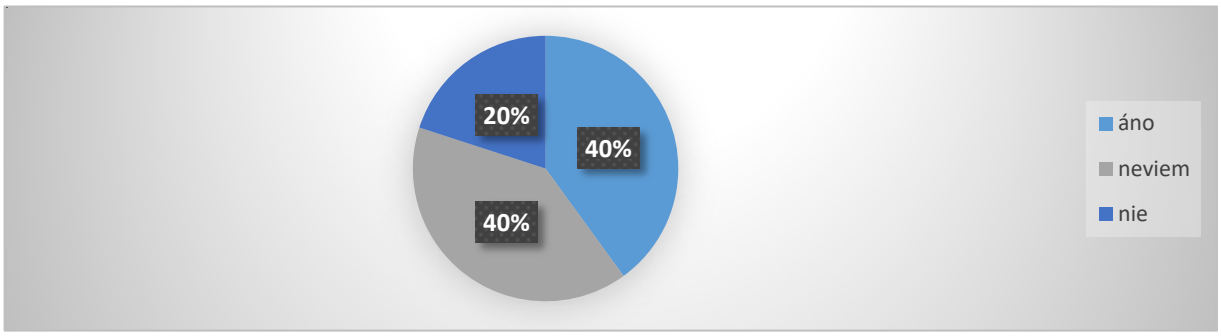
Otázka č.8: Sťažuje Vám život počítanie sacharidových jednotiek?



Graf č.6 Sacharidové jednotky

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno, neviem si prepočítať sacharidové jednotky uviedlo 21 respondentov (42%). Odpoveď pomocou mobilnej aplikácii si prepočítavam uviedli 2 respondenti (4%). Odpoveď sacharidové jednotky mi prepočítava inzulínová pumpa uviedlo 11 respondentov (22%). Odpoveď viem správne prepočítavať sacharidové jednotky uviedli 16 respondenti (32%).

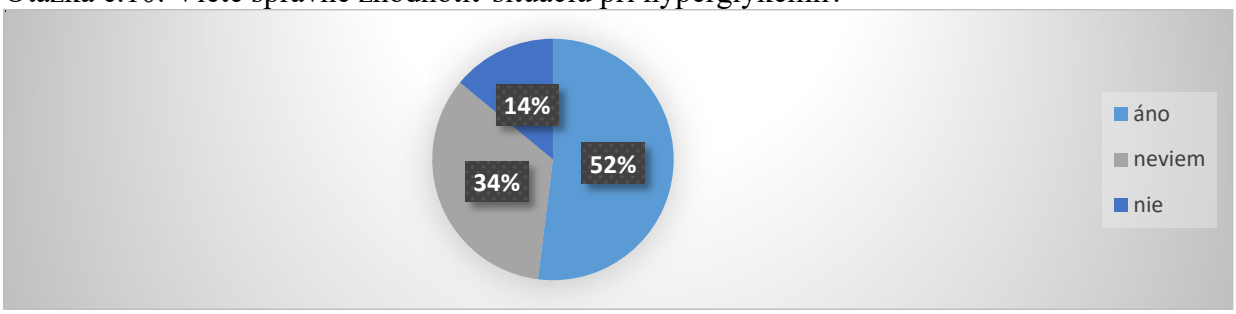
Otázka č.9: Viete správne zhodnotiť situáciu pri hypoglykémii?



Graf č.7 Zhodnotenie situácie pri hypoglykémii

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno uviedli 20 respondenti (40%). Odpoveď neviem uviedli 20 respondenti (40%). Odpoveď nie uviedli 10 respondenti (20%).

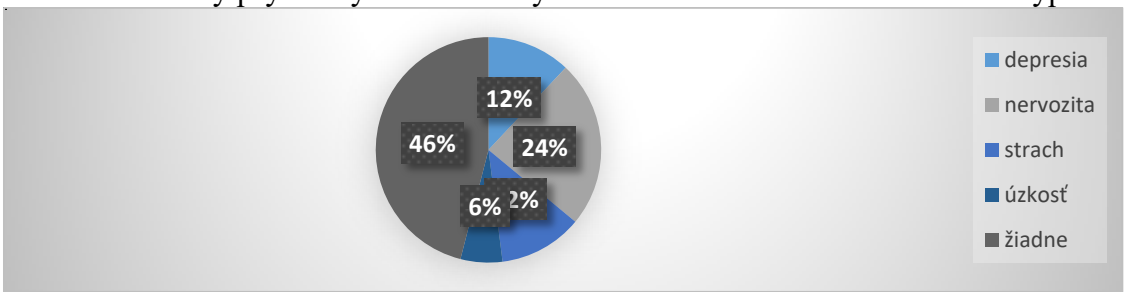
Otázka č.10: Viete správne zhodnotiť situáciu pri hyperglykémii?



Graf č.8 Zhodnotenie situácie pri hyperglykémii

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno uviedli 26 respondenti (52%). Odpoveď neviem uviedli 17 respondenti (34%). Odpoveď nie uviedlo 7 respondentov (14%).

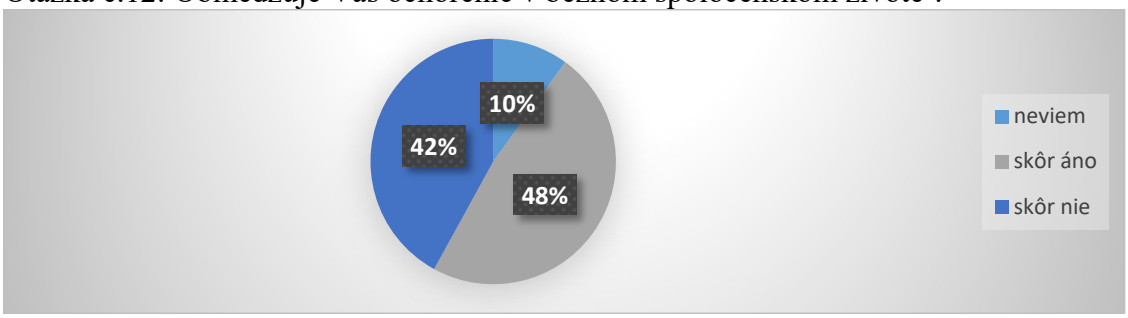
Otázka č.11: Aký psychický stav u Vás vyvoláva ochorenie diabetes mellitus 1.typu?



Graf č.9 Psychický stav pri ochorení

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď depresia uviedlo 6 respondentov (12%). Odpoveď nervozita uviedlo 12 respondentov (24%). Odpoveď strach uviedlo 6 respondentov (12%). Odpoveď úzkosť uviedli 3 respondenti (6%). Odpoveď žiadne psychické ochorenie nepociťujem uviedli 23 respondenti (46%).

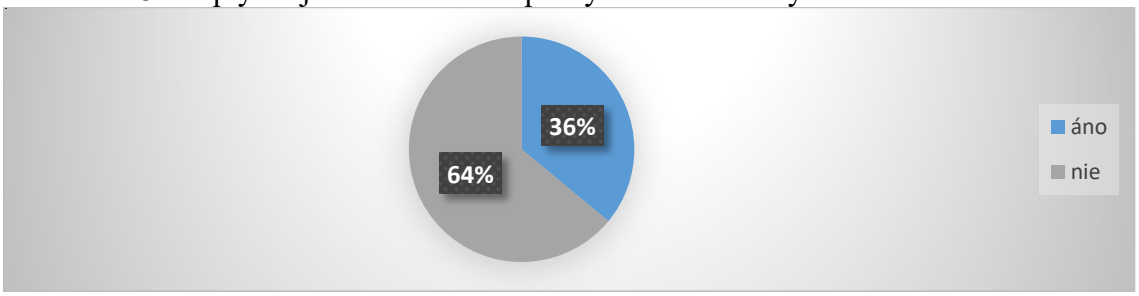
Otázka č.12: Obmedzuje Vás ochorenie v bežnom spoločenskom živote ?



Graf č.10 Obmedzenie v spoločenskom živote

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď neviem uviedli 5 respondenti (10%). Odpoveď skôr áno uviedli 24 respondenti (48%). Odpoveď skôr nie uviedlo 21 respondentov (42%).

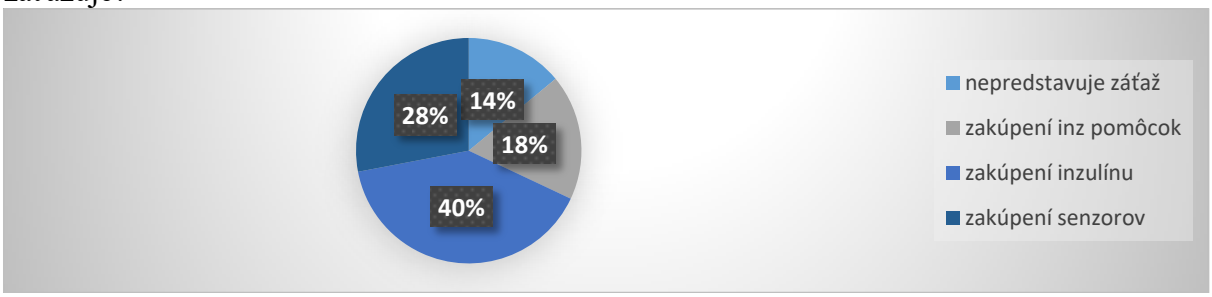
Otázka č.13: Ovplyvňuje Vás ochorenie pri vykonávaní denných aktivít?



Graf č.11 Ovplyvnenie pri vykonávaní denných aktivít

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno uviedlo 18 respondentov (36%). Odpoveď nie uviedlo 32 respondentov (64%).

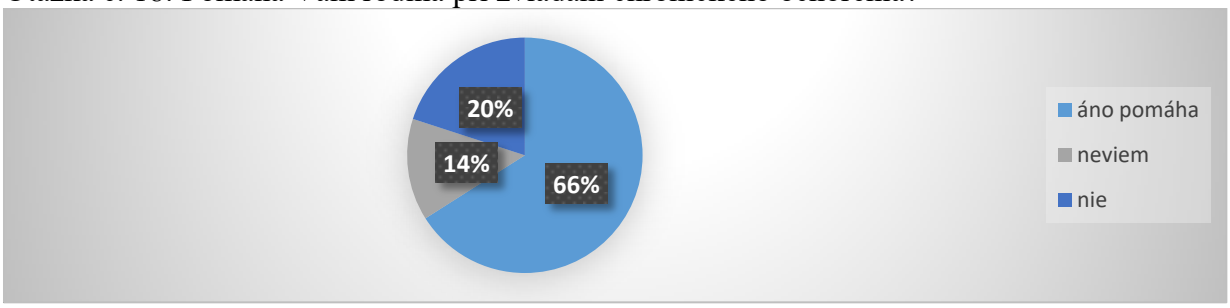
Otázka č.17: V ktorých oblastiach Vás ochorenie diabetes mellitus1.typu najviac finančne zaťažuje?



Graf č.12 Finančná záťaž

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď nepredstavuje záťaž uviedlo 7 respondentov (14%). Odpoveď pri zakúpení inzulínových pomôcok uviedlo 9 respondentov (18%). Odpoveď pri zakúpení inzulínu uviedlo 20 respondentov (40%). Odpoveď pri zakúpení kontinuálneho merania glukózy uviedlo 14 respondentov (28%).

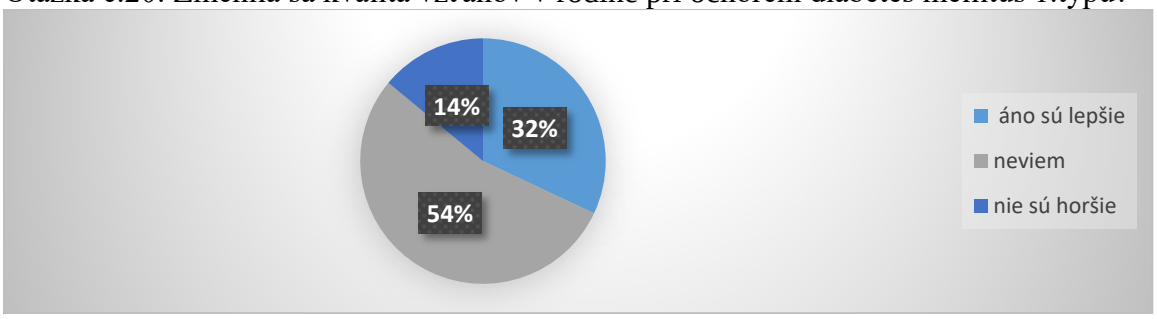
Otázka č. 18: Pomáha Vám rodina pri zvládaní chronického ochorenia?



Graf č.13 Pomoc rodiny pri ochorení

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno pomáha uviedlo 33 respondentov (66%). Odpoveď neviem uviedli 7 respondenti (14%). Odpoveď nie nepomáha uviedlo 10 respondentov (20%).

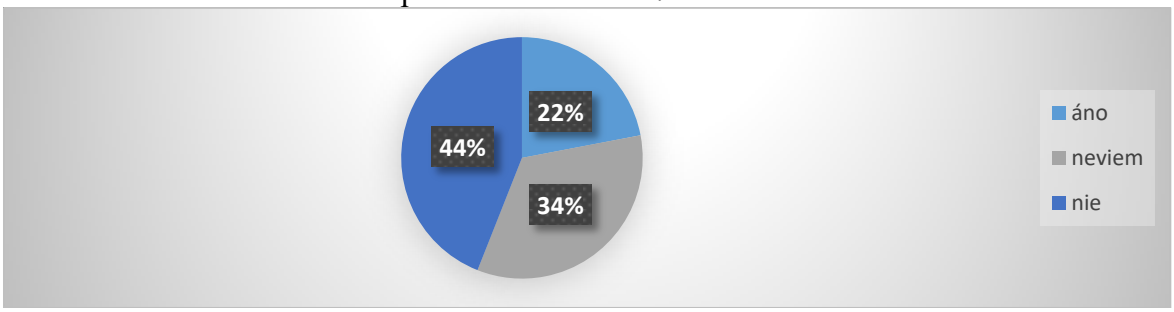
Otázka č.20: Zmenila sa kvalita vzťahov v rodine pri ochorení diabetes mellitus 1.typu?



Graf č. 14 Zmena vzťahov v rodine

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno sú lepšie uviedlo 16 respondentov (32%). Odpoveď neviem uviedlo 27 respondentov (54%). Odpoveď nie sú horšie uviedli 7 respondenti (14%).

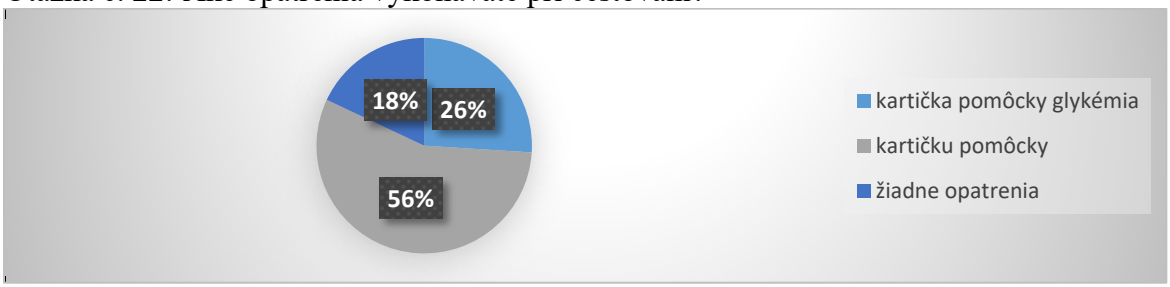
Otázka č.21: Sú k Vám ohľaduplní vaši nadriadení?



Graf č.15 Ohľaduplnosť nadriadených

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno uviedli 11 respondenti (22%). Odpoveď neviem uviedlo 17 respondentov (34%). Odpoveď nie uviedlo 22 respondentov (44%).

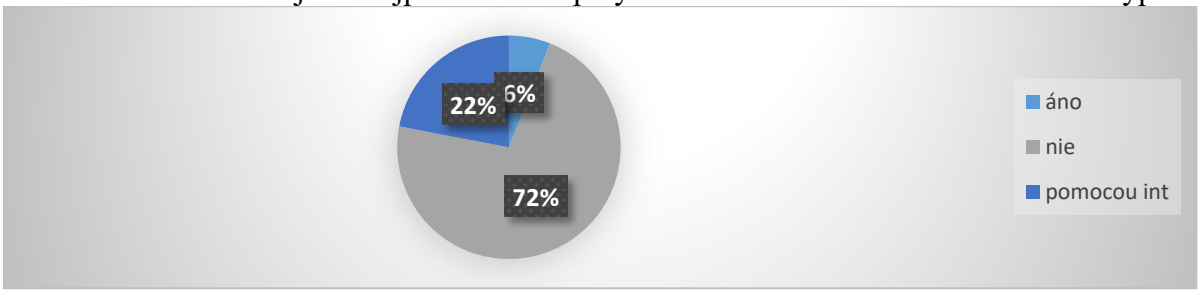
Otázka č. 22: Aké opatrenia vykonávate pri cestovaní?



Graf č. 16 Opatrenia pri cestovaní

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď kartičku, pomôcky na zvládnutie akútnych komplikácii a meranie glykémie uviedli 13 respondenti (26%). Odpoveď kartičku a pomôcky na zvládnutie akútnych komplikácii uviedlo 28 respondentov (56%). Odpoveď žiadne opatrenia uviedlo 9 respondentov (18%).

Otázka č.23: Navštevujete svojpomocné skupiny ľudí s ochorením diabetes mellitus 1.typu?



Graf č. 17 Návšteva svojpomocných skupín

Na uvedenú otázku odpovedalo 50 respondentov (100%). Odpoveď áno uviedli 3 respondenti (6%). Odpoveď nie uviedlo 36 respondentov (72%). Odpoveď pomocou internetu uviedli 11 respondenti (22%).

3 DISKUSIA

Hlavným cieľom prieskumu bolo zistiť, ako správne nastavenie a riadenie selfmanažmentu prispieva k zlepšeniu kvality života pri ochorení diabetes mellitus 1.typu. Zistili sme , že (14%) respondentov uviedlo kvalitu života na nízkej úrovni. Strednú úroveň kvality života uviedlo 31 respondentov (62%). Vysokú úroveň kvality života uviedlo 12 respondentov

(24%). Selfmanažment, sebakontrolu a sebariadenie zvláda dostatočne 33 respondentov (66%). Odpoveď nezvládam to, uviedli 7 respondenti (14%). Odpoveď zvládam to, uviedlo 10 respondentov (20%). Pri zhodnotení ako často si kontrolujú glykémiu sme zistili, že 3-4 krát denne, uviedlo (44%) respondentov. Odpoveď pred jedlom a po jedle uviedli 10 respondenti (20%). Odpoveď pred spaním uviedli 4 respondenti (8%). Odpoveď používam kontinuálne meranie glukózy pomocou senzoru uviedlo 14 respondentov (28%). Po matematicko-štatistickom zhodnotení uvádzame, že kvalitu života pri ochorení diabetes mellitus 1.typu hodnotíme na strednej úrovni. Parciálnym cieľom sme zisťovali, v ktorých oblastiach predstavuje ochorenie diabetes mellitus 1.typu záťaž a obmedzenia. Ovplyvňuje ochorenie DM spoločenský život. Odpoveď neviem uviedli 5 respondenti (10%). Odpoveď skôr áno, uviedli 24 respondenti (48%). Odpoveď skôr nie, uviedlo 21 respondentov (42%). Pri ovplyvňovaní denných aktivít sme zistili, že odpoveď áno uviedlo 18 respondentov (36%). Odpoveď nie, uviedlo 32 respondentov (64%). Na základe výsledkov uvádzame, že ochorenie diabetes mellitus 1.typu obmedzuje respondentov v bežnom, ale aj v spoločenskom živote. Na základe našich zistení konštatujeme, že pacienti s ochorením DM vedia zvládať stavy hypoglykémie a hyperglykémie, snažia sa získavať stále nové informácie o ochorení, hlavne prostredníctvom internetových stránok. Navštevujete svojpomocné skupiny. Odpoveď áno uviedli 3 respondenti (6%). Odpoveď nie uviedlo 36 respondentov (72%). Odpoveď pomocou internetu uviedli 11 respondenti (22%). Po matematicko-štatistickom zhodnotení uvádzame, že pacienti najviac informácii získavajú prostredníctvom internetu. Pacienti s ochorením diabetes mellitus 1.typu nenavštevujú svojpomocné skupiny. Zistili sme že, respondenti pri svojom ochorení výrazne pociťujú podporu od svojej rodiny a príbuzných. Respondenti nevedia posúdiť zmenu vzťahov v rodine pri ochorení diabetes mellitus 1.typu. Dôležitým zistením bolo, že v práci nemajú prispôsobené pracovné podmienky a nadriadení nie sú k nim veľmi ústretoví a ohľaduplní. V Českej republike Štěpánka Krejčová realizovala prieskum zameraný na „Kvalitu života pacientü s onemocněním diabetes mellitus 1.typu z roku 2018“. Prieskum realizovali pomocou štandardizovaného dotazníka, oslovili 124 respondentov, prieskumnú vzorku tvorili adolescenti a dospelá populácia do 70 rokov. Pri komparácií sme zistili, že respondenti popisujú spokojnú strednú úroveň ,čo sa nám zhoduje. Pri porovnávaní, či respondenti majú záujem získavať nové informácie o ochorení, vyjadrili súhlasné stanovisko, že majú záujem získavať nové informácie, čo sa nám tiež zhoduje. Pri vykonávaní denných aktivít respondenti nepociťujú obmedzenia, výsledky sa zhodujú. Pri cvičení pociťujú často komplikáciu ako je hypoglykémia, čo sa zhoduje s našimi výsledkami. Pomoc a podporu rodiny, ktorá je veľmi dôležitá pociťujú respondenti rovnako. Pri porovnávaní psychických porúch sa vyskytuje niekedy úzkosť, strach, depresia, čo sa nezhoduje s našimi výsledkami, pretože viac ako polovica našich respondentov nepociťuje psychické problémy. Pri porovnávaní oslovených respondentov v Českej a Slovenskej republike sme dospeli k záverom, že väčšina výsledkov v jednotlivých oblastiach kvality života sa zhoduje.

4 ZÁVER

Diabetes mellitus je chronické ochorenie, ktoré ovplyvňuje život každého človeka s týmto ochorením . Ochorenie diabetes mellitus neovplyvňuje len pacienta samotného, ale aj jeho okolie a zasahuje do činností a aktivít každodenného života. Je nesmierne dôležité neustále objasňovať a motivovať pacientov s diabetes mellitus 1. typu a viesť ich k správnej a pravidelnej životospráve, pohybovej aktivite, selmonitoringu, ktoré sú nevyhnutné pri liečbe ochorenia DM. Vývoj nových technológií ako sú inzulínové pumpy a kontinuálne monitory na meranie hladiny glykémie, neustále napreduje. Súčasnosť ponúka možnosti, kedy vieme správnym selmananžmentom, selfmonitoringom v kombinácií s využívaním nových

technológií ochorenie správne kompenzovať, dodržiavaním fyziologických hodnôt glykovaného hemoglobínu, a tak žiť kvalitný a plnohodnotný život.

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INKONTINENCE MOČI U ŽEN JAKO ZDRAVOTNÍ A SOCIÁLNÍ PROBLÉM

URINARY INCONTINENCE IN WOMEN AS A HEALTH AND SOCIAL PROBLEM

Mária Novysedláková, Viera Schloserová, Katarína Zrubáková

Abstrakt

Príspevok sa zaoberá problematikou dopadu inkontinencie moču na život ženy z aspektu zdravotno-sociálneho. Cieľom výskumu bolo posúdiť vplyv inkontinencie moču na zdravotnú a sociálnu oblasť života žien. Hlavnou metódou bol neštandardizovaný dotazník. Na posúdenie miery vplyvu inkontinencie moču na zdravotno-sociálnu oblasť života respondentov sme zvolili štatistické výpočty: deskriptívnu štatistiku, Kolmogorov-Smirnov test normality, Spearmanov korelačný test. Výskumom sme zistili, že existuje pozitívny štatisticky významný vzťah medzi stupňom úniku moču a intenzitou problémov v zdravotnej a sociálnej sfére. Potvrdil sa pozitívny štatisticky významný vzťah medzi vekom respondentov a intenzitou problémov v zdravotnej a sociálnej sfére. Čím vyšší vek mali respondenti, tým viac vnímali problémy s inkontinenciou moču.

Kľúčová slova: *inkontinencia moču žien, vek, zdravotný problém, sociálny problém, výskum*

Abstract

The article deals the issue of the impact of urinary incontinence on a woman's life from the health and social aspect. The aim of the research was to assess the impact of urinary incontinence on the health and social sphere of women's lives. The main method was a non-standardized questionnaire. To assess the degree of impact of urinary incontinence on the health-social area of the respondents' lives, we chose statistical calculations: descriptive statistics, Kolmogorov-Smirn normality test, Spearman correlation test. The research found that there is a positive statistically significant relationship between the degree of urinary leakage and the intensity of problems in the health and social spheres. Positive statistically significant relationship between the age of the respondents and the intensity of problems in the health and social sphere was confirmed. The older the respondents, the more they perceived the problem with urinary incontinence.

Key words: *urinary incontinence in women, health problém, social problém, research*

1 CHARAKTERISTIKA INKONTINENCIE MOČU

Definícia Medzinárodnej spoločnosti pre kontinenciu (The International Continence Society –ICS), uvádza inkontinenciu moču ako nedobrovoľný únik moču, ktorý možno objektívne dokázať a spôsobuje sociálny alebo hygienický problém (Abrams, 2017). V kontraste s touto definíciou, epidemiologické štúdie vyžadovali presnú definíciu, časového ohraničenia a frekvencie úniku moču. V dôsledku rôznych opisov úniku moču vznikali odlišné epidemiologické výsledky (Burkhard, Bosch, Cruz, et al. 2018). Logická a spoľahlivá definícia inkontinencie moču je významná na porovnávanie epidemiologických, diagnostických a terapeutických postupov.

Aktuálne sa definuje inkontinencia moču ako nedobrovoľný únik moču. Takéto ponímanie zaraďuje inkontinenciu moču do skupiny dysfunkcií dolných močových ciest. Dysfunkcie spôsobujú široké spektrum symptómov dolných močových ciest a preto ICS uvádza klasifikáciu inkontinencie moču podľa subjektívnych prejavov, objektívnych príznakov a diagnostických stavov (Abrams et al. 2017).
Podľa medzinárodného konsenzu sa v súčasnosti priemerná prevalencia inkontinencie moču vyskytuje v rozsahu 20 – 30 %. Odhadovaná prevalencia inkontinencie moču u žien dosahuje hodnotu 5 % u pätnásťročných žien a zvyšuje sa na 72 % u šesťdesiatročných žien. Podľa epidemiologických odhadov na Slovensku žije 160 000 žien so stredným a závažným stupňom inkontinencie moču. Celková prevalencia močovej inkontinencie v Slovenskej republike bola 25 %, čo svedčí o tom, že odhadovaný počet je asi 530 tisíc žien. Každá druhá žena vrátane mladých žien má v priebehu života ťažkosti s udržaním moču (Švihra, 2012; Hagovská, Švihra, Buková, et al. 2017).
V súčasnosti príčiny vzniku močovej inkontinencie sú multifaktoriálne. Existuje veľké množstvo rizikových faktorov. Znalosť o rizikových faktoroch je primárnou požiadavkou, ktorá umožní realizáciu účelných preventívnych, liečebných a ošetrovateľských intervencií.
Lucas (2015) rozdeľuje rizikové faktory u žien na predispozičné (rasa, rodinné predispozície, anatomické a neurologické abnormality), gynekologicko-pôrodnícke (gravidita, pôrod, operácie malej panvy, prolaps) a environmentálne (vek, choroby, obezita, vnútrobrušný tlak, infekcie, lieky).

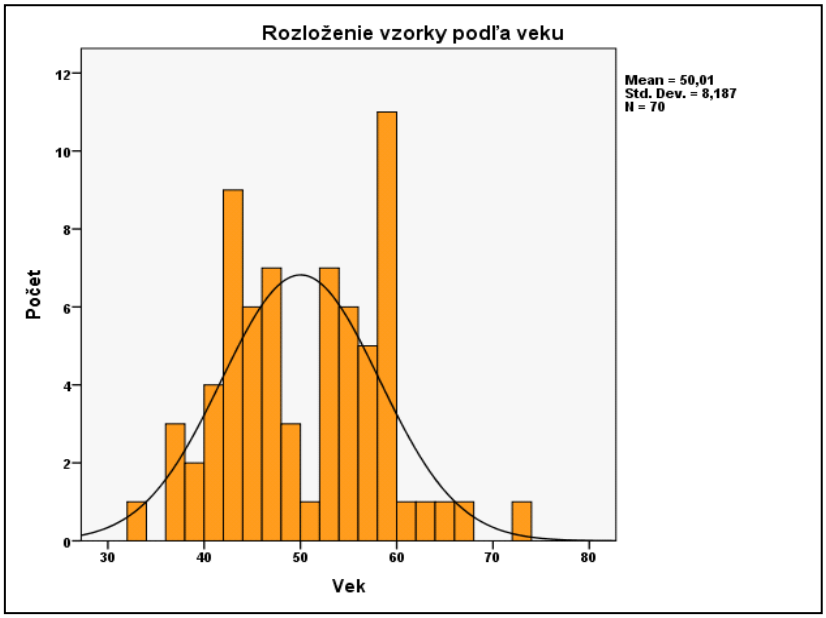
1.1 Močová inkontinencia ako zdravotno-sociálny problém

Močová inkontinencia má významné zdravotné a sociálne dôsledky. Podľa prospektívnej štúdie v populácii 6 000 starších žien žijúcich v komunite, s priemerným vekom 78,5 r., majú pacientky s močovou inkontinenciou o 26 % vyššie riziko pádov a o 34 % vyššie riziko fraktúr. Problémom inkontinentných pacientiek sú i infekcie močových ciest a kože. Včasná diagnostika močovej inkontinencie redukuje medicínske zásahy pre uroinfekty o 40 % a pre infekciu kože o 60 %. Pokračujúca liečba močovej inkontinencie znížila náklady a využívanie zdravotnej starostlivosti pre infekciu močových ciest 2,8x, infekcie kože 2x. Močová inkontinencia má pre pacientov významný dopad i na kvalitu života, často prináša prerušenie obvyklých pracovných a fyzických aktivít, v spoločenských vzťahoch izoláciu a odmietanie pozvánok na spoločenské udalosti (Gajdošík, 2022).
Noktúria prináša častý pokles pracovnej výkonnosti a dennej aktivity. V dánskej štúdii 19 % z 511 žien s močovou inkontinenciou uviedlo úplné vynechanie sociálnych aktivít v dôsledku močovej inkontinencie (Gajdošík, 2022). Frekventné je vyhýbanie rekreačným činnostiam – cestovanie, návšteva kina, divadla, sprievodnou známkou je i zhoršená kvalita spánku v dôsledku pomočovania a narušené sexuálne funkcie. Zmeny správania sa prejavujú u pacientov pri návšteve spoločenských aktivít, známe je neustále sledovanie miest a hľadanie toaliet, sedenie na okraji radu v kine a divadle, špeciálny rozvrh času – plánovanie prestávok na močenie, nosenie tmavých a neforemných šiat (Hudáková, Novysedláková, 2011).
V rámci prevencie hyperaktívneho močového mechúra sa odporúča liečba a eliminovanie úzkostných a stresových faktorov, pretože je dokázané že existuje vzťah medzi symptómami depresie, úzkosťou a hyperaktívnym močovým mechúrom (Tzeng a kol. 2019). Depresia sa vyskytla v 60 % vo vzorke 115 pacientov s urgentnou močovou inkontinenciou, depresia a urgentná močová inkontinencia majú zrejme spoločnú etiológiu spočívajúcu v redukcii serotoninergných funkcií (Tzeng a kol. 2019).

1.2 Metodika výskumu

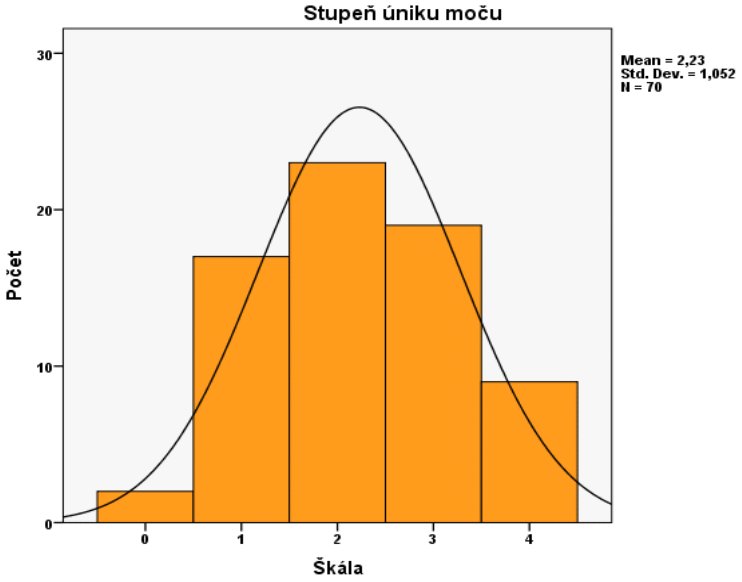
Cieľ : Posúdiť vplyv inkontinencie moču na zdravotnú a sociálnu sféru života žien.
Čiastkový cieľ: Zistiť aký je vzťah medzi hodnotením intenzity inkontinencie moču a zdravotno-sociálnou sférou života ženy.
Čiastkový cieľ: Zistiť aký je vztah medzi vekom a následkami inkontinencie moču v zdravotno-sociálnej sfére života žien.
Výskumný súbor
Výskumu sa zúčastnilo 70 respondentiek od 18 rokov, ktoré mali problém s inkontinenciou moču a navštívili urologickú ambulanciu. U žien boli sledované demografické údaje ako vek, vzdelanie, zamestnanie, rodinný život. Priemerný vek respondentiek bol 50,01 rokov. Najstaršia respondentka mala 72 a najmladšia 33 rokov. Z hľadiska vzdelania najpočetnejšie boli stredoškolsky vzdelané respondentky, ktoré tvorili 62,9% prieskumnej vzorky.
Metóda výskumu
Na posúdenie problémov žien s inkontinenciou moču v zdravotno-sociálnej oblasti sme použili neštandardizovaný dotazník vlastnej konštrukcie. Položky dotazníka vychádzali z cieľov výskumu. Vyplnenie dotazníka bolo anonymné a dobrovoľné. Cieľom dotazníkovej metódy výskumu bolo získať plnohodnotné informácie, ktoré by potvrdili alebo vyvrátili ciele a hypotézy výskumu. Do štatistickej analýzy bolo zaradených 70 dotazníkov - 70 %. Na posúdenie miery vplyvu inkontinencie moču na zdravotno-sociálnu oblasť života respondentov sme zvolili štatistické výpočty: deskriptívnu štatistiku, Kolmogorov-Smirnov test normality, Spearmanov korelačný test.

1.3 Výsledky výskumu



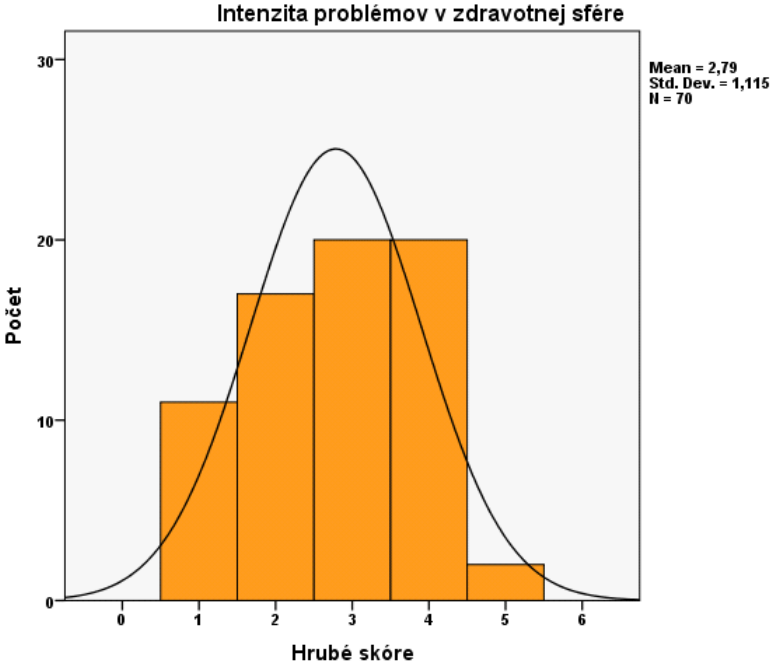
Graf 1 Rozloženie výskumnej vzorky podľa veku respondentiek.

H1: Predpokladali sme, že existuje štatistický významný vzťah medzi stupňom úniku moču a problémami v oblasti zdravotnej sféry



Graf 2 Stupeň úniku moču

Priemerný stupeň úniku moču na škále od 0 po 4 bol na úrovni 2,23.



Graf 3 Intenzita problémov respondentiek v zdravotnej sfére

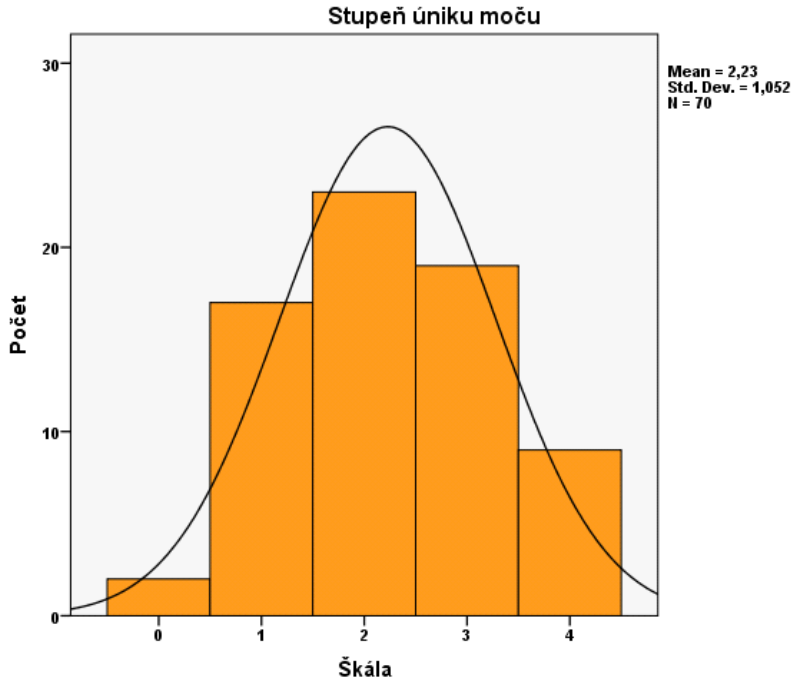
Intenzita problémov v zdravotnej sfére, ktorá sa merala v bodovom rozsahu od 0 po 6, bola na úrovni 2,79 bodu.

Tab.1 Spearmanov korelačný test

Spearmanov korelačný test		
Stupeň úniku moču * Intenzita problémov v zdravotnej sfére		
Spearman's rho	Correlation Coefficient	,396**
	Sig. (2-tailed)	0,001
	N	70

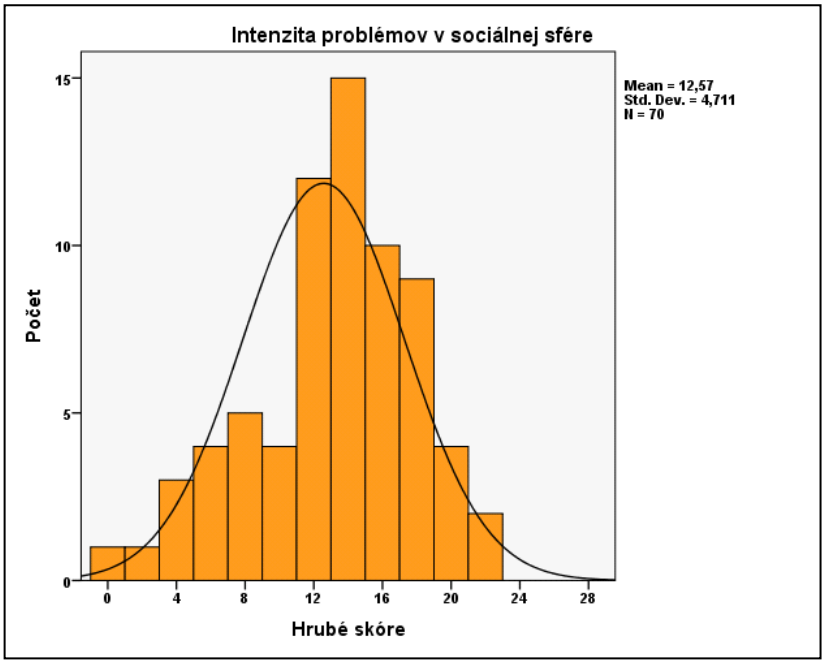
Na základe výsledkov uvedených v tabuľke môžeme konštatovať, že existuje slabý pozitivny štatisticky významný vzťah medzi stupňom úniku moču a intenzitou problémov v zdravotnej sfére.

Hypotéza 2: Predpokladali sme, že existuje štatistický významný vzťah medzi stupňom úniku moču a problémami v oblasti sociálnej sféry



Graf 4 Stupeň úniku moču u respondentiek

Priemerný stupeň úniku moču na škále od 0 po 4 bol na úrovni 2,23



Graf 5 Intenzita problémov u respondentiek s inkontinenciou moču v sociálnej sfére

Intenzita problémov v sociálnej sfére, ktorá sa merala v bodovom rozsahu od 0 po 28, bola na úrovni 12,57 bodu.

Tab. 2 Stupeň úniku moču a intenzita problémov v sociálnej sfére

Spearmanov korelačný test			
Stupeň úniku moču * Intenzita problémov v sociálnej sfére			
Spearman's rho		Correlation Coefficient	,510**
		Sig. (2-tailed)	0
		N	70

Na základe výsledkov uvedených v tabuľke môžeme konštatovať, že existuje stredne silný pozitívny štatisticky významný vzťah medzi stupňom úniku moču a intenzitou problémov v sociálnej sfére. Hypotéza H2 sa nám potvrdila.

H3: Predpokladali sme, že existuje štatistický významný vzťah medzi vekom respondentov a problémami v oblasti zdravotnej a sociálnej sféry

Tab. 3 Vek a intenzita problémov v zdravotnej sfére

Spearmanov korelačný test		
Vek * Intenzita problémov v zdravotnej sfére		
Spearman's rho	Correlation Coefficient	,251*
	Sig. (2-tailed)	0,036
	N	70

Na základe výsledkov uvedených v tabuľke môžeme konštatovať, že existuje slabý pozitívny štatisticky významný vzťah medzi vekom respondentov a intenzitou problémov v zdravotnej sfére. Priemerný vek vzorky bol 50,01 rokov. Najstarší respondent mal 72 rokov a najmladší 33 rokov. Zistili sme, že čím vyšší vek majú respondenti, tým viac vnímajú aj problémy v zdravotnej sfére. Hypotéza sa potvrdila.

Tab. 4 Vek a intenzita problémov v sociálnej sfére

Spearmanov korelačný test		
Vek * Intenzita problémov v sociálnej sfére		
Spearman's rho	**Correlation Coefficient**	**,471****
	Sig. (2-tailed)	**,000**
	N	**70**

Zistili sme, že čím vyšší vek mali respondenti, tým viac vnímali aj problémy v sociálnej sfére. Na základe výsledkov uvedených v tabuľke môžeme konštatovať, že existuje stredne silný pozitívny štatisticky významný vzťah medzi vekom respondentov a intenzitou problémov v sociálnej sfére. Hypotéza sa potvrdila.

2 DISKUSIA

Hlavným cieľom výskumu bolo zistiť najčastejšie problémy u žien s inkontinenciou moču v zdravotnej a sociálnej sfére.

Hypotéza 1 sa potvrdila. Intenzita problémov v zdravotnej sfére, ktorá sa merala v bodovom rozsahu od 0 po 6, bola na úrovni 2,79 bodu a priemerný stupeň úniku moču na škále od 0 po 4 bol na úrovni 2,23. Inkontinencia moču je zdravotným problémom pre ženy trpiacimi touto

diagnózou, zistili sme, že moč najčastejšie uniká občas u 35,7 %, často 21,4%, vždy 14,3% respondentiek, k úniku moču dochádza pri činnostiach, ako sú : kašeľ 35,7 %, dvíhanie ťažkých bremien 35,7 %. Únik moču spôsobuje respondentkám problémy s udržaním intímnej hygieny 35,7 %. Hygienické pomôcky používa vždy 71,4 % respondentiek, najčastejšie sú to 78,6 % inkontinenčné vložky.

Hypotéza 3 sa potvrdila. Zistili sme, že existuje slabý pozitívny štatisticky významný vzťah medzi vekom respondentov a intenzitou problémov v zdravotnej sfére. Najväčšie zdravotné problémy súvisiace s inkontinenciou moču pociťovali ženy vo veku nad 51 rokov. Podľa Marenčáka (2011) inkontinencia moču ovplyvňuje kvalitu života prakticky vo všetkých sférach, či už vo fyzickej, sociálnej, sexuálnej, psychologickej.

Slavevová (2017) vo svojej práci zisťovala vplyv inkontinencie moču na kvalitu života. Zistila, že veľký vplyv na spokojnosť pacientov so svojím celkovým životom a zdravím má aj miera vplyvu inkontinencie moču na život pacientov, ktorá v súbore dosiahla skóre 3,17, čo znamená viac ako mierny vplyv inkontinencie moču na život pacientov a tiež citlivosť pacientov na problém s inkontinenciou moču, kde skóre dosiahlo hodnotu 2,77, čo znamená, že problémy s UI obťažujú respondentov stredne silno.

Výskumný demografický ústav Infostatu predpokladá, že do roku 2040 bude na Slovensku žiť 540 tisíc mužov a 680 tisíc žien nad 70 rokov. Inkontinencia alebo samovoľný únik moču je zdravotný problém, ktorý postihuje predovšetkým práve ľudí v dôchodkovom veku. Analýza, ktorú predstavili na odbornej diskusii o dlhodobom financovaní zdravotnej a sociálnej starostlivosti o pacientov s inkontinenciou, na základe dostupných údajov o výskyte ochorenia odhalila, že v roku 2040 by mohlo na Slovensku trpieť inkontinenciou viac ako 900 tisíc osôb. Stúpajúci počet pacientov tak bude znamenať významný nárast nákladov na zdravotnú a sociálnu starostlivosť (Financial Report, 2018). Ekonomickou záťažou je i priemerná mesačná spotreba zdravotníckych pomôcok v SR v sledovanom období 1. 1.–30. 9. 2013 uhrádzaných z prostriedkov verejného zdravotného poistenia zo skupiny zdravotnícke pomôcky pre inkontinenciu, retenciu moču bolo 7,7 mil. balení a 3,9 milióna € (30,7 %). Štúdia hodnotiaca používanie zberných pomôcok v SR uviedla, že v SR trpí 653 000 pacientiek močovou inkontinenciou, 184 tis. žien má závažnú močovú inkontinenciu. Pomôcky pre inkontinentných nepoužíva 173 tisíc (26,5 %), vložky používa 380 tis. (58,1 %), plienky: 27 tis. (4,2 %). Počet denne používaných vložiek uviedlo 16,2 % (105 000) frekvenciu používania 1–4 denne, >4 denne 27 tis (4,2 %) (Gajdošík, 2022). Významná je i edukácia o správnej, vhodnej a bezpečnej intímnej hygiene (Kelčíková et al., 2016).

V hypotéze 2 sme predpokladali, že existuje štatistický významný vzťah medzi stupňom úniku moču a problémami v oblasti sociálnej sféry. Zistili sme, čím vyšší stupeň úniku moču respondentky udávajú, tým viac vnímajú aj problémy v sociálnej sfére. Intenzita problémov v sociálnej oblasti sa merala v bodovom rozsahu od 0 po 28, bola na úrovni 12,57 bodu. 51,7 % všetkých respondentiek odpovedalo, že v sociálnej sfére ich únik moču rozhodne áno obťažuje. Problémy uvádzali aj pri stretnutiach s priateľmi 57,1 %. Respondentky sú si vedomé svojich problémov, vedia sa pripraviť na rôzne situácie v spoločenskom živote, ich partneri o ich „probléme“ vedia a spoločne sa snažia minimalizovať dôsledky na ich spoločenský život. Respondentky 68,6 % uvádzali aj problémy pri cestovaní a vo vzťahu k finančnej náročnosti na riešenie problémov s únikom moču. Hypotézou 4 sme potvrdili, že existuje stredne silný pozitívny štatisticky významný vzťah medzi vekom respondentov a intenzitou problémov v sociálnej sfére. Čím vyšší vek majú respondenti, tým viac vnímajú aj problémy v sociálnej sfére. Inkontinencia moču bola sociálnym problémom rozhodne áno“ vo veku menej ako 40 rokov u 50 %, vo veku nad 40 rokov u 62 % respondentiek.

Slavevová (2017) uvádza, že 84,5 % respondentov z prieskumného súboru má v sociálnej oblasti rôzne obmedzenia. Priemerná hodnota skóre miery vplyvu inkontinencie moču bola na

úrovni 2,52. Najvyššie skóre v tejto oblasti zaznamenala v položkách zisťujúcich vplyv inkontinencie moču na schopnosť pacientov cestovať (2,93) a na ich fyzické aktivity (2,81).
Podľa Segedi, Segedi, Ilić (2011) môžu príznaky močovej inkontinencie negatívne ovplyvniť nielen výkony spojené s chodom domácnosti, ale i sociálnu oblasť. Postihnutí obmedzujú fyzické aktivity, ako sú šport, chôdza, spoločenské aktivity a kontakt s rodinnými príslušníkmi či priateľmi. Hudáková, Novysedláková (2011) uvádzajú, že je zjavné, že kvalita života žien s močovou inkontinenciou je zmenená a tieto ženy trpia vo všetkých oblastiach. Najmä ženy vo vyššom veku majú problém túto situáciu riešiť. Mnohé prežívajú pocit straty spoločenskej úlohy, strácajú sociálne kontakty a obmedzujú svoju telesnú aj duševnú aktivitu.
Spojené príznaky urgentnej a stresovej inkontinencie, môžu viesť k ďalším obmedzeniam v každodennom živote v porovnaní s izolovanými príznakmi, čo môže vysvetľovať, že ženy so zmiešanou inkontinenciou majú najhoršie skóre v hodnotení kvality života. U žien so symptómami stresovej inkontinencie má moč tendenciu unikať v predvídateľných situáciách, ktorým sa najčastejšie možno vyhnúť, a to môže súvisieť s najlepším skóre v hodnotení kvality života (Faria, Moraes, Monnerat, Verediano, Hawerroth, Fonseca, 2015).
Odborníci sa zhodujú, že v prvom rade je nevyhnutné posilniť prevenciu a zabrániť vzniku inkontinencie. K rizikovým faktorom patrí napríklad obezita, fajčenie ale aj nedostatočné posilňovanie svalov panvového dna. Rehabilitácia pod dohľadom odborníka je dôležitým faktorom pre zabránenie vzniku a zhoršovania inkontinencie u rizikových pacientov. Pre šetrenie finančných prostriedkov je tiež nevyhnutné efektívne nastavenie systému predpisovania a výdaja zdravotníckych pomôcok, vrátane odstránenia duplicít a nezrovnalostí, ktoré vznikajú kvôli nedostatočnému prepojeniu zdravotnej a sociálnej starostlivosti (Financial Report, 2018).

3 ZÁVER

Inkontinencia moču je mimoriadne citlivý, odborne a ekonomicky náročný problém. Vyliečenie, prípadne zlepšenie inkontinencie moču znamená pre pacientov okrem iného aj podstatné zlepšenie kvality ich života a väčšinou aj ich návrat do spoločnosti. Úlohou zdravotníckeho tímu a tým aj sestry je pomôcť ženám trpiacim nechceným únikom moču zvládnuť tento problém. Ochota zapojiť sa do liečebného procesu prispieva fyzickému stavu, ale tiež psychickému a emocionálnemu prežívaniu. Pacientka zorientovaná v problematike inkontinencie moču tak lepšie rozumie danému problému a vie zhodnotiť svoje možnosti. Otvorená komunikácia medzi sestrou a pacientkou o všetkých aspektoch inkontinencie moču je dôležitou podmienkou dobrej spolupráce.

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STUDY OF THE EFFECT OF SECRETOME FROM MESENCHYMAL STEM CELLS ON THE DIFFERENTIATION OF HUMAN NEURAL PROGENITORS

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Abstract

Mesenchymal stem cells (MSCs) secrete a large number of bioactive molecules and extracellular vesicles, referred to as the secretome (MSC-S), which has significant paracrine effects on neighboring cells and tissues. In this study we evaluated the functional impact of MSC-S on neural progenitor cell line (ReNcell® VM). ReNcells VM are grown in DMEM F12 medium containing EGF and bFGF. The presence of EGF and bFGF in the culture medium does not induce differentiation, in fact, the factors contribute to cell division and viability. Removing these factors initiates differentiation, which is characterized by elongation and an increase in the number of neurites. In the case of MSC-S, we did not notice a significant increase in the number or elongation of neurites, the cells proliferated, which indicates that MSC-S contains functional trophic factors capable of regulating the trophicity of ReNcells.

Key words: *MSCs, ReNcell, neurite outgrowth*

1 INTRODUCTION

Mesenchymal stromal cells (MSCs) are multipotent cells present in a variety of tissues, including bone marrow, peripheral blood, adipose tissue, skeletal muscle, perinatal tissues, and dental pulp. MSCs can self-renew and differentiate into many lineages, and they have been widely used in cell therapy due to their anti-fibrotic and immunoregulatory capabilities, which have been proposed to be at the root of their regenerative potential. MSCs mediate their effects by releasing a variety of biologically active substances such as growth factors, chemokines, and cytokines, either as soluble proteins or as extracellular vesicles (EVs). Analyzes of MSC-derived secretomes are gaining scientific attention due to their capacity to mimic all of the therapeutic effects exhibited by MSCs (Sandonà et al. 2021). The secretome of MSCs plays an important role in cell-to-cell communication and is an active modulator of immune modulation and regeneration both *in vitro* and *in vivo*. Furthermore, secretome treatments have significant advantages over cell-based therapies, such as decreased immunogenicity and simpler production, handling, and storage. Overall, these benefits have positioned MSCs secretome at the center of a significant number of investigations in various therapeutic conditions, allowing for rapid scientific advancement in this field (González-González et al. 2020). Research with the use of cell lines is an essential procedure for modeling diseases, stem cell and cancer investigation, and the establishment of therapies (Richter et al. 2021). ReNcell VM is an immortalized human neural progenitor cell line that can differentiate into neurons as well as glial cells. ReNcell VM is derived from the ventral mesencephalon region of the human fetal brain and may be of several research applications including neurotoxicity, neurogenesis, electrophysiology, neurotransmitter and receptor studies (Nierode et al. 2016). This cell line represents a reproducible and simple cell culture system for researching brain progenitor differentiation (Song et al. 2019). In our study, we investigated the influence of bioactive molecules in the MSC-S on the differentiation and outgrowth of the ReNcell (neural progenitor) cell line and compared it with standard differentiation protocol.

2 MATERIALS AND METHODS

2.1 Preparation of MSC-S

Isolation of canine adipose tissue-derived MSCs as well as cultivation and characterization of MSCs was already published in our previous work (Humenik et al. 2022). We prepared the secretome by culturing the MSCs in the fourth passage after one wash in sterile PBS and cultivating them for 24 hours in DMEM High Glucose (DMEM HG, Sigma, USA) without Fetal Bovine Serum (FBS), supplemented with a 2% antibiotic-antimycotic solution of penicillin, streptomycin and amphotericin B (ATB-ATM). Produced MSC-S were collected, centrifuged, filtred (0.2 μm) and stored in -80 °C freezer for later use.

2.2 Cultivation of ReNcells

ReNcells were purchased from Millipore (USA). The cells with passages of 5–10 were cultured in DMEM/F12 (Sigma, USA) supplemented with 2% B27 (Sigma, USA), 20 ng/mL EGF (Epidermal Growth Factor, Sigma, Canada), 10 ng/mL bFGF (Basic Fibroblast Growth Factor, Sigma, USA) and incubated in 5% CO_2 at 37 °C. Once 90% confluency was reached, the ReNcells VM cells were passaged with Accutase (Sigma, USA). The medium was changed for fresh every 2-3 days.

2.3 ReNcell differentiation

Cellular differentiation was induced as follows 1×10^4 cells/cm^2 in DMEM F12, supplemented with 2% B27, 20 ng/mL EGF and 10 ng/mL bFGF were grown on 4-well Nunc Lab Tek Chamber Slides (Thermofisher, USA) previously pre-coated with Corning ® Matrigel® (Corning Inc., USA) according to the manifacturer instructions (2 hours, 37 °C) and afterwards washed with culture media. After 24 hours, the media was replaced with DMEM F12 without supplements (DMEM F12 group) and MSC-S (MSC-S group) for another 7 days. After that cells were washed, rinsed twice in PBS (Gibco, USA), and fixed with fixation solution (4% paraformaldehyde), followed by several washings in PBS with 0.2% Triton X-100.

2.4 Immunocytochemistry

After blocking with 10% normal goat serum in PBS for 2 hours at room temperature (RT), cells were incubated with primary antibody (BIII tubulin, MS, Sigma, USA) at 4°C overnight. ReNcells were then washed with PBS and incubated with a secondary antibody conjugated to a fluorescent probe (Goat-antiMS, Alexa Fluor 488, Invitrogen, USA) in darkness for 2hours at RT. After repeated washing, the cells were stained with Fluoroshield mounting medium and cover slip was added. Cells were imaged using a Zeiss AxioVision fluorescence microscope.

2.5 Neurite outgrowth measurement

Images of cell cultures for the differentiated features of the cells were obtained by a fluorescent computer-assisted microscopy using a Zeiss AxioVision and a 10× objective. To assay neurite outgrowth, a total of at least 30 cells of 3 randomly chosen fields per experimental condition were analyzed under a fluorescent microscope and the average total neurite length and average neurite count was measured (n = 30). The corresponding neurite length and average number of analyzed neurites per cell in cultures were analyzed using Fiji ImageJ software with NeuronJ plugin.

2.6 Statistical analyzis

All the data are presented as mean ± standard deviation. Comparisons among multiple groups (DMEM F12 + factors, DMEM F12, MSC-S) were performed by One-way ANOVA for each

group using GraphPad Prism 8.0 (Graph-Pad Software, Inc, San Diego, CA). Significance was set as * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$.

3 RESULTS

3.1 Effect of MSC-S on neurite outgrowth of ReNcells

Neurite outgrowth is crucial for studying neural development and regeneration. To test whether MSC-S affected the neurite outgrowth, ReNcells (Figure 1) were exposed to MSC-S on Day *in vitro* (DIV) 2, and neurites were labeled by immunofluorescence staining of β-tubulin III. The neurite outgrowth was quantified by measuring the length of neurites as well as average number of neurites per neuron (Figure 2) after 7 days. We observed that MSC-S did not significantly enhance average length and the average number of neurites per cell, suggesting that MSC-S did not effectively promote neurite outgrowth of ReNcells. According to visual assessment, proliferative activity in MSC-S group was similar to control undifferentiated cells. Therefore, the results indicate that MSC-S contains factors that inhibit ReNcells differentiation, however, the lack of a change in ReNcells neurite outgrowth suggests that these factors do have a functional effect.

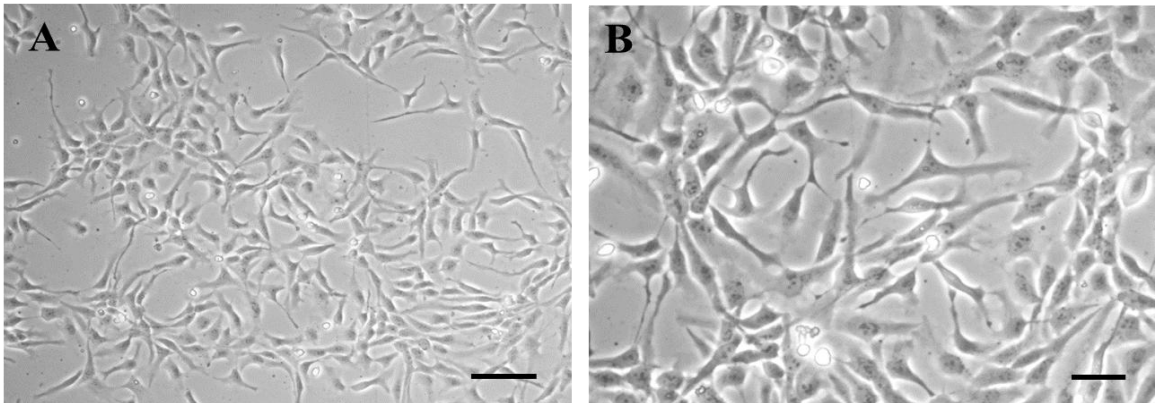

Figure 1. Growth of ReNcell VM cells in passage 5 (P5) Day *in vitro* 2 (DIV2).
Scalebar: A. 50 µm, B. 20 µm.

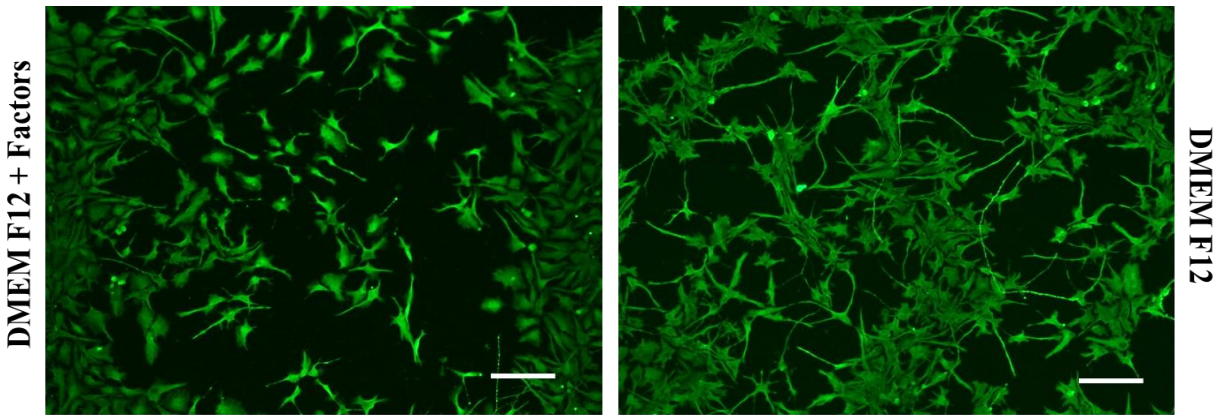

Figure 2. Representative immunofluorescence images of β-III tubulin positive ReNcells (green) in culture medium (DMEM F12 + Factors) and in differentiation media (DMEM F12). Magnification 10x. Scalebar: 50 µm.

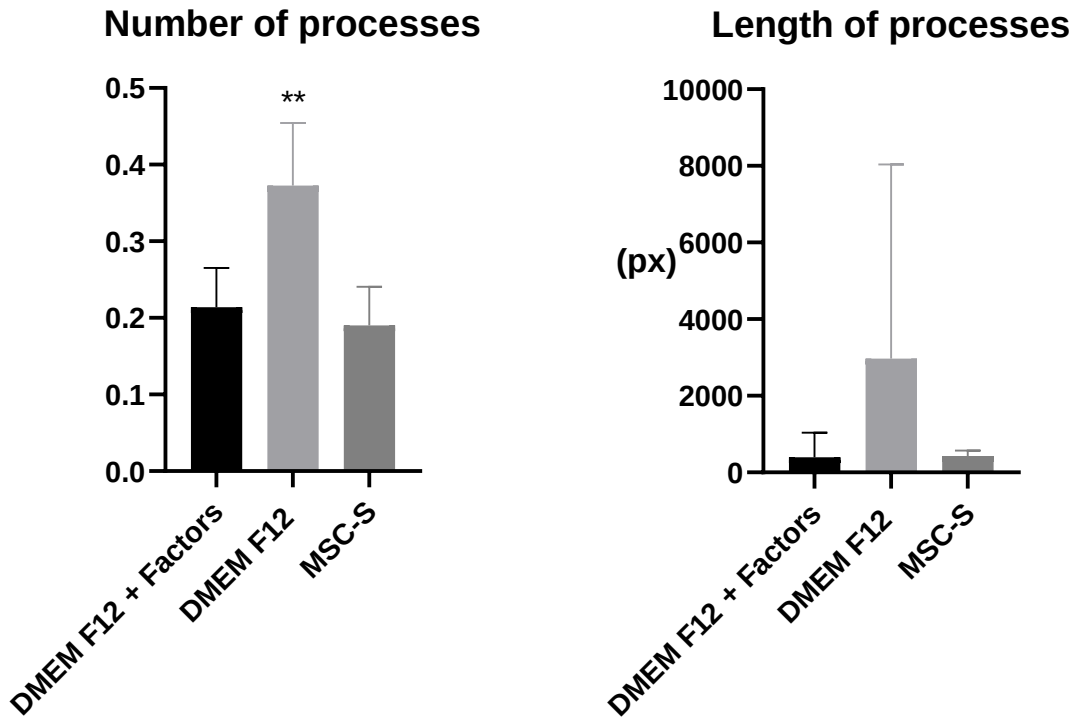

Figure 3. Quantitative analyzis of the average length of neurites and the average number of neurites per cell in different groups. Compared with the DMEM F12 + Factors (EGF, bFGF) group retraiting the factors in the DMEM F12 group increased the number of neurites per cell. There was no significant change in the number as well as length of neurites in a group of MSC-S. Data are presented as the mean ± standard error of the mean (SEM) (* indicates $p < 0.05$, meaning a statistically significant difference.

4 DISCUSSION

Mesenchymal stromal cells (MSCs), defined by the International Society for Stem Cell Research (ISSCR) as fibroblast-like non-hematopoietic cells, have been explored in recent years due to the clinical promise they hold for tissue repair in regenerative medicine (Squillaro et al. 2016). They present a capacity to differentiate into multiple lineages, which was on the basis of the high number of clinical trials using MSCs. By 2015, 493 MSC-based clinical trials were reported (Squillaro et al. 2016), a number that greatly increased in the next 2 years, reaching a total of 861 trials in 2018 according to the official database of the US National Institutes of Health (Ferreira et al. 2018). In an effort to address this fast-increasing knowledge base, several reviews have been published to provide a thorough analyzis of the evolution of MSC-based clinical trials (Kim a Cho 2013). Perhaps one of the best documented properties of these cells is their ability to promote regeneration in a variety of tissues and to be a major contributor to the positive results achieved in many published papers (Rohban a Pieber 2017; Ferreira et al. 2018).

Despite this great promise, however, their therapeutic benefits are not limited solely to their regenerative abilities. MSCs have also been referred to as trophic “factories” due to the large number of bioactive molecules they secrete in response to the local environment, which then exert paracrine effects upon neighboring cells and tissues (Caplan a Dennis 2006). Indeed, an increasing number of authors have come to consider these paracrine or trophic properties to be the primary means by which MSCs conduct many of their therapeutic effects (Ferreira et al. 2018; Vizoso et al. 2017). This conclusion has been furthered by the observation that, in

many cases, the number of differentiated cells is far too small to explain the observed response. Nevertheless, this paracrine action is known to be influenced by the microenvironment surrounding the cells (Ferreira et al. 2018). Therefore, there's a need to understand how *in vitro* culture conditions affect the regenerative and immunomodulatory potential of MSCs' secretome, with the ultimate goal of defining an optimal treatment strategy for a given therapeutic application (Song et al. 2019; Ferreira et al. 2018).

In this work, we evaluated the functional effect of MSC-S obtained from mesenchymal stem cells from adipose tissue on the differentiation of ReNcells, a line of human neural progenitors. According to published sources, ReNcells are differentiated in media free of EGF, bFGF, and B27 (Kim et al. 2015). We wanted to determine whether MSC-S could contain a sufficient amount of factors to have a functional effect on ReNcells. We focused on investigating the length of processes as well as the average number of processes (neurites) per cell. Our findings show that using MSC-S in the culture of ReNcells had no effect on the length or number of outgrowths when compared to ReNcells cultivated in media without EGF and bFGF factors. Our findings support many proteomic studies that have focused on the protein content of secretomes from MSCs from different sources. A recent study by Noverina et al. showed in a proteomic analyzis that MSC-S from human adipose tissue secrete bioactive molecules like Transforming Growth Factor (TGF)-β1, TGF-β2, Vascular Endothelial Growth Factor (VEGF)-2, Vascular Cell Adhesion Molecule (VCAM) 1, Epidermal Growth Factor (EGF), Fibroblast Growth Factor (FGF), and among them bFGF was found to bet he most predominant in the secretome (Noverina et al. 2019). When examining the canine secretome, Kresič et al. detected genes encoding both EGF and bFGF, among others (Krešić et al. 2017). What's more, when examining the proteome of the secretome from Umbilical Cord Blood-derived MSCs (UCB-MSCs) using Multiplex analyzis, Ivanova et al. found not only the presence of these trophic factors, but when examining the metabolome of this secretome using NMR analyzis, they came to the conclusion that metabolites in secretome interact with the environment surrounding the mesenchymal cellular populations (Ivanova et al. 2016). Therefore deciphering the composition of MSCs' secretome through proteomic and metabolic analyzes and implementation of the analytes on functional cell models could contribute to the understanding of the mechanisms underlying the therapeutic effects of MSC secretome.

5 CONCLUSIONS

In conclusion, we focused our investigation on the functional active biomolecules in the MSC- secretome and their impact on neurite outgrowth of ReNcells (neural progenitor cell line), specifically the length and average number of neurites per cell. Our data did not show a significant difference in the outgrowth of the neurites when using MSC-S when compared to the DMEM F12 medium. These results support many proteomic analyzes that have found the content of EGF and bFGF (and others) and our data also suggest that these factors are functional. With further detailed analyzes of secretomes, our investigations contribute to a better understanding of MSC-S content, which is extremely important for secretomes as potential tools in clinical practice in the treatment of many diseases.

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BIOLOGICKÉ ÚČINKY TINKTÚRY Z NEZRELÝCH PLODOV ORECHA KRÁĽOVSKÉHO JUGLANS REGIA L.

BIOLOGICAL EFFECTS OF TINCTURE FROM THE UNRIPE FRUITS OF THE WALNUT JUGLANS REGIA L.

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Abstrakt

Tinktúry pripravené zo zelených plodov orecha kráľovského (*Juglans regia* L.) maceráciou v 40 % etanole na svetle a v tme boli testované z pohľadu ich antioxidačných a cytotoxických vlastností. Tinktúry preukázali dobrú protiradikálovú kapacitu a tiež vysoké množstvo celkových fenolov a flavonoidov, obzvlášť v tinktúre macerovanej v tme. Cytotoxický účinok tinktúr bol sledovaný pomocou epiteliálnych buniek opičích obličiek (VERO – ATCC-CRL 1586), u ktorých bola hodnotená zmena v proliferácii analýzou buniek v reálnom čase (systém xCELLigence). Súbežne bola hodnotená aj viabilita buniek (MTS test). Nižšie koncentrácie neznížili bunkovú proliferáciu a dokonca bol zaznamenaný jej nárast v porovnaní s kontrolnými bunkami. Viabilita poklesla u všetkých sledovaných buniek. Naše zistenia potvrdzujú priaznivý účinok tinktúr. Pre bezpečnosť konzumentov je potrebné vhodné dávkovanie tinktúr.

Kľúčová slova: *macerát, antioxidačná aktivita, cytotoxicita, polyfenoly, flavonoidy, bunková línia, cytotoxicita, viabilita buniek*

Abstract

Tinctures prepared from green walnut fruits (Juglans regia L.) by maceration in 40% ethanol in the light and in the dark were tested for their antioxidant and cytotoxic properties. The tinctures showed good antiradical capacity and also high amounts of total phenolics and flavonoids, especially in the tincture macerated in the dark. The cytotoxic effect of the tinctures was monitored using monkey kidney epithelial cells (VERO – ATCC-CRL 1586), in which the change in proliferation was assessed by real-time cell analysis (xCELLigence system). Cell viability (MTS test) was also evaluated at the same time. Lower concentrations did not reduce cell proliferation and even an increase was noted compared to control cells. Viability decreased in all monitored cells. Our findings confirm the beneficial effect of tinctures. Appropriate dosing of tinctures is necessary for the safety of consumers.

Key words: *macerate, antioxidant activity, cytotoxicity, polyphenols, flavonoids, cell line, cytotoxicity, cell viability*

1 ÚVOD

Prípravky na rastlinnej báze sú široko používané v tradičnej medicíne. Kvôli bohatstvu bioaktívnych látok sú takéto produkty zaujímavé pre vedu. Jednou z foriem rastlinných prípravkov sú tinktúry, ktoré predstavujú extrakty pripravené maceráciou alebo perkoláciou len s použitím etanolu vo vhodnej koncentrácii na extrakciu rastlinnej drogy (Hudz et al. 2020). Zelené orechy sa používajú v ľudovom liečiteľstve a farmakológii aj v potravinárstve na výrobu džemov a likérov (Petrović et al. 2021, Tiurikova and Peresichnyi 2015). Priaznivé účinky nezrelých orechov *Juglans regia* na zdravie popísali mnohí autori (Soto-Maldonado et

al. 2019, Pycia et al. 2019). Vďaka tomu majú zelené orechy veľký potenciál pri výrobe funkčných potravín, najmä alkoholických nápojov, ktoré tvoria dôležitú súčasť celkovej výživy. Nápoje sa tradične pripravujú z tradičných surovín, ako je ovocie a zelenina, avšak zavedenie nových, nezvyčajných rastlinných materiálov, ako sú vlašské orechy v štádiu zrelosti mliečneho vosku, je atraktívne a tiež prospešné (Tiurikova and Peresichnyi 2015). Tinktúry z nezrelých vlašských orechov – plodov *Juglans regia* L. sú známe a používané po celom svete.

Zelené orechy a zelené šupky vlašských orechov vykazujú množstvo biologických účinkov vďaka ich mimoriadne bohatému fytochemickému zloženiu. Sú bohaté na zlúčeniny zo skupiny polyfenolov, naftochinónov, steroidov, ako aj vitamínov a minerálov (Cosmulescu et al. 2014, Vieira et al. 2020). Extrakty zo zelených orechov majú antioxidačné, antimikrobiálne a antiparazitické vlastnosti (Croitoru et al. 2019). Antiproliferatívna aktivita bola zistená aj proti bunkám leukémie HL-60 (Carvalho et al. 2010).

Cieľom tejto štúdie bolo sledovať antioxidačné a proliferatívne vlastnosti tinktúr nezrelého zeleného orecha pripravených podľa tradičných receptúr, pričom macerácia orechov prebehla v 40 % etanole na svetle, alebo bez prítomnosti svetla. Okrem toho bol hodnotený aj účinok tinktúr na bunky *in vitro*. Zatiaľ čo protinádorovú aktivitu opísali mnohí autori (Soto-Maldonado et al. 2019, Carvalho et al. 2010), náš výskum je zameraný na hodnotenie účinku na normálne epiteliálne obličkové bunky s cieľom posúdiť bezpečnosť používania zelených vlašských orechov na výrobu nápojov.

2 MATERIÁL A METODIKA

2.1 Príprava vzoriek

Nezrelé vlašské orechy *Juglans Regia* L. boli nazbierané v júni 2022 v lokalite Košice (Slovenská republika). Plody boli nakrájané na štvrtiny a zaliate 40 % etylalkoholom v pomere 1:1. Tinktúry sa nechali zrieť v sklenených nádobách 2 mesiace pri izbovej teplote s vystavením slnečnému žiareniu (vzorka č. 1) a v tme (vzorka č. 2). Po uplynutí tejto doby sa prefiltrovali pomocou filtračného papiera.

2.2 Stanovenie antioxidačnej aktivity

Celkový obsah fenolových zlúčenín

Celkový obsah fenolových zlúčenín bol stanovený metódou podľa Singleton a Rossi (1965) [24] upravenej tak, aby umožňovala meranie pomocou čítačky mikroplatní. Vzorky tinktúry v množstve 20 µl boli napipetované do jamiek 96-jamkovej platne (Greiner Bio One, Nemecko), potom sa do jamiek pridalo 100 µl 10x zriedeného Folin-Ciocalteuovho činidla a nakoniec sa pridalo 80 ul 7,5 % roztoku Na_2C0_3 (Sigma Aldrich, Nemecko). Platňa bola umiestnená na tmavé miesto po dobu 1 hodiny. Po tomto čase bola meraná absorbancia pomocou spektrofotometra (EPOCH2, Biotek, Winooski, VT, USA) pri vlnovej dĺžke 760 nm oproti slepej vzorke (vzorka nahradená rovnakým objemom destilovanej vody). Výsledky boli vyjadrené ako ekvivalenty kyseliny galovej (GAE) podľa pripravenej štandardnej krivky v rozsahu 0 – 150 $\mu g.ml^{-1}$.

Celkový obsah flavonoidov

Celkový obsah flavonoidov bol stanovený metódou Biju (2013) s modifikáciou umožňujúcou meranie pomocou spektrofotometrického readra. Do jamiek bolo napipetovaných 100 µ vzoriek tinktúr, potom 100 µl 2 % metanolového roztoku $AICI_3$. Platňa bola uložená na tmavé miesto na 10 minút. Po tomto čase bola meraná absorbancia (A = 415 nm) oproti slepej vzorke (vzorka nahradená rovnakým objemom destilovanej vody). Výsledky boli vyjadrené v mg ako ekvivalenty kvercetínu (QE) pomocou pripravenej štandardnej krivky (0 – 120 $\mu g.ml^{-1}$).

Antioxidačná kapacita – metóda DPPH

Antioxidačná aktivita bola meraná metódou DPPH podľa Bloisa (1958) s modifikáciou umožňujúcou meranie pomocou čítačky v 96-jamkových platničkách. Do jamiek bolo napipetovaných 20 µl tinktúry a potom 180 µl DPPH činidla (2,2-diphenyl-1-picrylhydrazyl) zriedeného metanolom. Platňa sa umiestnila na 30 minút na tmavé miesto. Absorbancia (A) bola meraná pri 517 nm proti slepej vzorke (čistý metanol) s použitím Biotek EPOCH2 čítačky mikrodoštičiek. Percento vychytávania DPPH radikálov (DPPH %) sa vypočítalo podľa vzorca:

DPPH % = [(A kontroly – A vzorky)/A kontroly] x 100

Získané výsledky boli prepočítané na ekvivalent Troloxu (TE) na základe pripravenej kalibračnej krivky v rozsahu 0 – 300 µmol/ml (r2 = 0,9970).

2.3 Stanovenie antiproliferatívnych účinkov

Bunkové kultúry a médiá

Na tento in vitro experiment sa použili opičie epiteliálne obličkové bunky VERO (ATCC-CRL 1586). Bunky boli kultivované v rastovom médiu (MEM – Minimum Essential Medium Eagle) obohatenom o 10 % fetálneho bovinného séra, 1 % glutamínu a 0,1 % gentamicínu (Sigma Aldrich, Nemecko). Kultivácia buniek prebiehala v inkubátore so zvlhčenou atmosférou 37 °C a 5 % CO_2. Bunky boli subkultivované každé 3 – 4 dni. Pravidelne bola kontrolovaná neprítomnosť kontaminácie mykoplazmami.

Analýza buniek v reálnom čase

Sledovanie odozvy buniek po expozícii testovaným látkam sa uskutočňovalo pomocou systému xCELLigence (Real-Time Cell Analyzer – RTCA, Acea Biosciences Inc., San Diego, CA, USA). Systém umožňuje sledovanie správania buniek (adhézia, proliferácia, rast a morfológia) bez značenia počas celej doby liečby. Základným princípom je meranie impedancie na zlatých elektródach na dne jamiek mikroplatničky. Čím väčší je počet adherovaných buniek, tým vyššia je impedancia. Hodnoty boli vyjadrené ako bezrozmerný bunkový index (CI) a zaznamenávané sú v krivkách každú hodinu počas experimentu. Princíp experimentu bol popísaný viacerými autormi (Milek et al. 2019, Sowa et al. 2020, Stefanowicz-Hajduk and Ochocka 2020). V tomto experimente boli bunky napipetované v množstve 5000 buniek na jamku do troch 16-jamkových E-platní (Acea Bioscience, San Diego, CA, USA) a následne inkubované počas 20 hodín. Testované vzorky tinktúr boli nariedené médiom krátko pred pridaním k bunkám tak, aby v jamke dosiahli finálne koncentrácie 125 – 1000 $\mu g.ml^{-1}$. Zásobné roztoky boli teda 10 x koncentrované (1,25 – 10 $mg.ml^{-1}$), keďže k bunkám sa pridávali v množstve 1:10. Bunky bez ošetrenia slúžili ako kontrola a ich proliferácia bola považovaná za 100 %. Percentuálna zmena v proliferačnej aktivite (PA) bola vypočítaná pomocou vzorca:

$$\% PA=(vzorka\ CI/kontrola\ CI)\times 100$$

Test metabolickej aktivity buniek (MTS test)

Na meranie životaschopnosti buniek alebo metabolickej aktivity po expozícii testovaným látkam sa uskutočnil test MTS (CellTiter 96® Aqueous One Solution Cell Proliferation Assay, Promega, Madison, WI, USA). Tento test bol vykonaný v rovnakom čase ako RTCA s použitím buniek z rovnakej pasáže. Bunky boli nasedené do 96-jamkovej platne (Greiner-Bio-One, Kremsmünster, Rakúsko) s hustotou 8,6 x 10^3 buniek/jamku v konečnom objeme 100 µl média. Po 20 hodinách boli pridané testované látky v pomere 1:10 s médiom, aby sa dosiahla testovaná koncentrácia 125 – 1000 µg ml^{-1}. Ošetrenie buniek tinktúrami trvalo 48 hodín. Nakoniec sa do každej jamky napipetovalo 20 µl roztoku MTS a po 4 hodinách inkubácie bola zmeraná absorbancia (A) pri 490 nm (reader Synergy HT; Biotek, Winooski, VT, USA). Bunky bez ošetrenia boli považované za kontrolu so 100 % metabolickou aktivitou (MA). Zmena v MA bola vyjadrená percentuálne pomocou vzorca:

$$\%MA=(vzorka\ CI)/(kontrola\ CI)\times 100$$

2.4 Štatistické hodnotenie

Výsledky sú prezentované ako priemer ± štandardná odchýlka (SD; n=3). Získané dáta boli štatisticky vyhodnotené softvérom Graph Pad Prism 8.3.1 (USA). Na vyhodnotenie celkového obsahu fenolov a antioxidačnej aktivity testovaných vzoriek sa použila jednosmerná analýza rozptylu (ANOVA) nasledovaná Tukeyho viacnásobným porovnávacím testom a na vyhodnotenie výsledkov získaných v testoch *in vitro* bol použitý Dunnettov porovnávací test. Hladina významnosti bola nastavená na $P < 0,05$. Všetky experimenty sa uskutočnili v troch opakovaniach.

3 VÝSLEDKY A DISKUSIA

Antioxidačná aktivita

Hodnotenie antioxidačnej aktivity bolo vykonávané pomocou troch metód. Výsledky sú zosumarizované v tabuľke č. 1. Pri meraní množstva celkových fenolov a flavonoidov sme zaznamenali vyššie množstvá vo vzorke tinktúry, ktorá bola macerovaná bez prístupu svetla v porovnaní s tinktúrou vystavenou svetlu ($P < 0,05$). Rovnako boli lepšie hodnoty zaznamenané u tinktúry pripravenej bez prístupu svetla aj pri hodnotení antioxidačnej kapacity pomocou DPPH radikálu ($P < 0,05$).

Získané výsledky sú porovnateľné s údajmi dostupnými v literatúre o tradičných likéroch zo zeleného orecha (Nocino), ktoré obsahovali od 1,18 do 3,52 mg ekvivalentov katechínu na ml. V komerčných tinktúrach bola variabilita väčšia, od 0,23 do 3,88 mg ekvivalentov katechínu na ml (Alamprese et al. 2005, Alamprese and Pompei 2005). Podľa týchto údajov tvoria väčšinu polyfenolov taníny. Antiradikálová aktivita stanovená metódou DPPH podľa literatúry bola od 0,019 do 2,38 µmol TE/ml pre komerčné vzorky a do 8,94 µmol TE mL-1 pre likéry pripravené infúznou metódou (Alamprese et al. 2005, Alamprese and Pompei 2005). Testovanie antioxidačného potenciálu tinktúr vyrobených z úrody v rôznych štádiách zrelosti (začiatkom a koncom júla), ako aj zo zelených šupiek a listov *J. regia* preukázalo, že najaktívnejšie boli tinktúry z vlašských orechov zozbieraných 25. júla a zelené šupky (Gawlik-Dziki et al. 2014).

Tabuľka č. 1, Hodnotenie antioxidačných vlastností tinktúr orecha

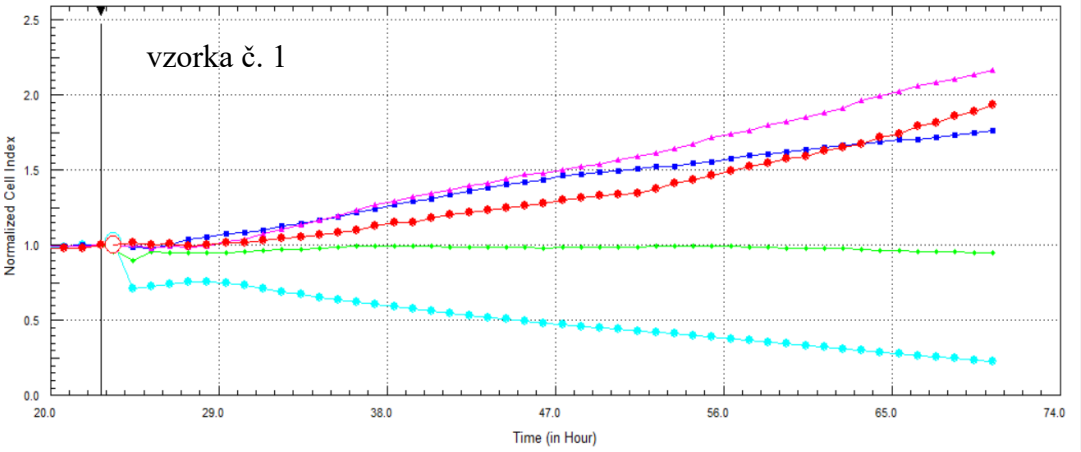
Tinktúra orecha	celkové fenoly (mg GAE.ml^{-1})	flavonoidy (mg QE.ml$^{-1)}$	DPPH (µmol TE.ml^{-1})
na svetle	2.42 ± 0.02^{a}	1.71 ± 0.06^{a}	12.52 ± 0.14^{a}
v tme	3.40 ± 0.04^{b}	$1,98 \pm 0.01^{b}$	14.06 ± 0.36^{b}

GAE – ekvivalent kyseliny galovej, QE – ekvivalent kverecetínu, TE – ekvivalent Troloxu
$^{a, b}$ - hodnoty v stĺpcoch s odlišným označením sú štatisticky odlišné ($P < 0,05$)

Vplyv tinktúr na proliferáciu buniek

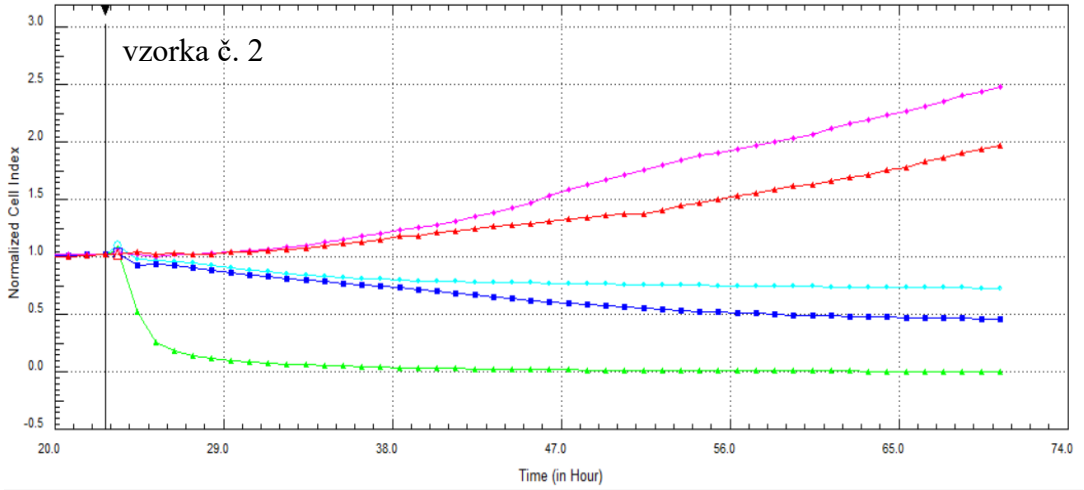
Proliferácia a adherencia buniek bola sledovaná v reálnom čase v priebehu celého experimentu pomocou xCELLigence systému (RTCA). Priebeh zmien bol zaznamenaný ako bunkový index (CI) do grafov pomocou softvéru xCELLigence. Výsledky monitorovania sú znázornené na grafoch č. 1 a 2.

Graf č. 1: Zmeny proliferácie buniek počas 48 h pôsobenia tinktúry (č. 1) macerovanej v tme



tyrkysová krivka – 125 µg.ml^{-1}, zelená– 250 µg.ml^{-1}, modrá – 500 µg.ml^{-1}, ružová – 1000 µg.ml^{-1}, červená – kontrola

Graf č. 2: Zmeny proliferácie buniek počas 48 h pôsobenia tinktúry (č. 2) macerovanej na svetle



tyrkysová krivka – 125 µg.ml^{-1}, zelená krivka – 250 µg.ml^{-1}, modrá – 500 µg.ml^{-1}, ružová – 1000 µg.ml^{-1}, červená – kontrola

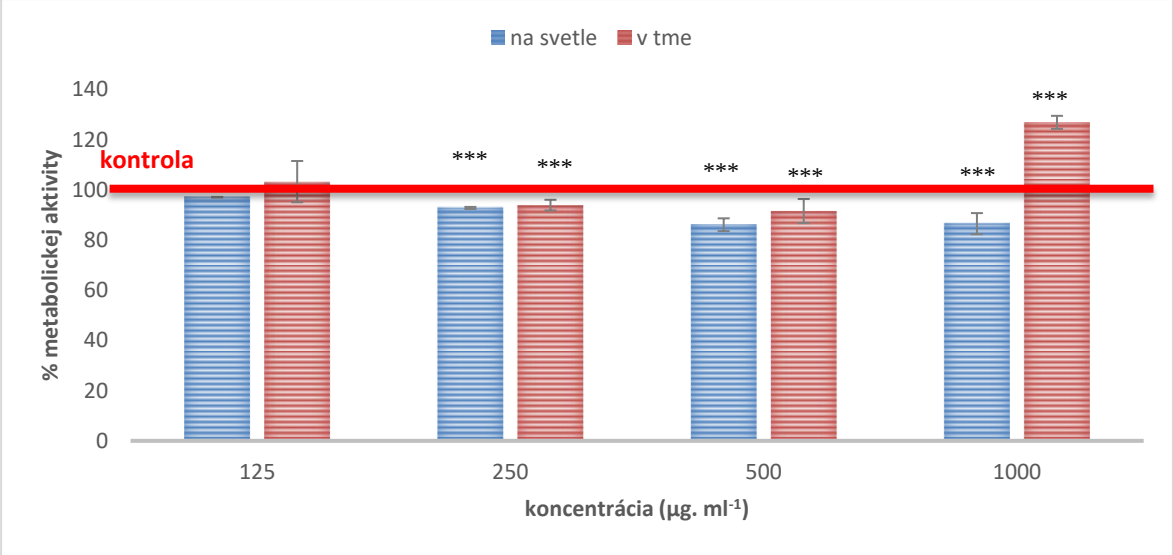
Vzhľadom na možnosť použitia pri príprave jedál a nápojov sme sa zamerali na hodnotenie účinku pripravených tinktúr z orecha zeleného na normálne opičie epitelové obličkové bunky (VERO), keďže obličky sú cieľový orgán vylučovania látok z tela. Bunky VERO sa používajú pri testovaní toxicity chemických zlúčenín, ako aj pri hodnotení biologickej bezpečnosti nových látok používaných v terapii a v potravinárskom priemysle (Postnikova et al. 2018, Tam et al. 2018). Účinok tinktúr na bunky VERO bol hodnotený v reálnom čase pomocou systému xCELLigence, ktorý umožňuje nepretržité sledovanie stavu buniek počas celej doby expozície buniek testovaným látkam. Špecifické výsledky monitorovania pomocou RTCA u buniek VERO vystavených testovaným tinktúram sú uvedené na grafoch 1 a 2.
Najvyššie koncentrácie testovaných tinktúr spôsobili pokles CI, čo naznačuje, že žiadne bunky nepriľnuli ku dnu jamky (CI = 0), alebo že nenastala inhibícia bunkovej proliferácie (CI sa nemení v čase); bunky sú stále živé, ale nemnožia sa. Fenolové zlúčeniny prítomné v orechoch vykazujú schopnosť znižovať výskyt nádorov, čo bolo publikované mnohými autormi (Atienzar et al. 2011, Erisen et al. 2020). Je zaujímavé, že nižšie koncentrácie (125 µg ml^{-1}) prítomné vo vzorke 2 neovplyvnili bunkovú proliferáciu, čo môže naznačovať, že

tinktúry nemajú cytotoxický účinok a naopak majú potenciál pre bezpečné použitie v nápojoch.

Výsledky hodnotenia zmien metabolickej aktivity MTS testom

Na vyhodnotenie zmien v životaschopnosti buniek meraním metabolickej aktivity bol použitý MTS test. Táto analýza sa uskutočnila po 48 hodinách ošetrenia buniek. Testované vzorky spôsobujú pokles metabolickej aktivity ($P < 0,05$). Pokles metabolickej aktivity vykazuje trend závislý od dávky. Zmeny v metabolickej a proliferačnej aktivite 48 hodín po ošetrení buniek sú znázornené v grafe č. 3.

Graf č. 3: Zmeny metabolickej aktivity buniek po ošetrení tinktúrami orecha (48h)



*** - hodnoty sú štatisticky odlišné v porovnaní s kontrolou $P < 0,001$

Extrakty z orecha sa už predtým ukázali ako cytotoxické pre rôzne typy buniek vrátane nádorových buniek. Triterpénové zlúčeniny boli identifikované ako zložky šupiek zelených vlašských orechov, ktoré sú zodpovedné za cytotoxické účinky. Ich štruktúra má dôležitý vplyv na protinádorovú aktivitu (Zhou et al. 2015). Polyfenoly vykazujú cytotoxickú alebo protinádorovú aktivitu prostredníctvom radu mechanizmov, napr. indukciou bunkovej apoptózy, zmenami v bunkovom cykle alebo prostredníctvom modifikácie signálnych dráh (Bhosale et al. 2020). Na druhej strane polyfenoly patria k fytochemikáliám, ktoré produkujú rastliny ako súčasť ich obrany pred environmentálnym stresom. Sú schopné chrániť bunky pred oxidačným stresom vyvolaným toxickými látkami (Thomford et al. 2018).
Cytotoxické účinky fytochemikálií môžu byť zdrojom vedľajších účinkov pri užívaní liekov prírodného pôvodu a funkčných potravinových produktov. Preto je dôležité testovať takéto produkty na výkon v rámci prijateľných koncentrácií a selektivity pôsobenia.

4 ZÁVER

Pozitívne účinky zeleného orecha na zdravie boli preukázané mnohými štúdiami. Je dôležité správne zvoliť formu pridávania týchto prospešných látok do výživy ľudí, či už v podobe extraktov, alebo macerátov. Výťažky nezrelých plodov orecha kráľovského preukázali vysokú antioxidačnú kapacitu a pri správne zvolenej koncentrácii predstavujú sľubný zdroj zložiek podporujúcich zdravie a prevenciu ochorení. Cytotoxické účinky týchto látok boli preukázané pri vyšších koncentráciách, čo môže byť prospešné pri aplikácii na nádorové bunky, ale musí sa zachovať rovnováha medzi terapeutickým účinkom a bezpečnosťou pre normálne bunky.

Poďakovanie
Táto práca vznikla vďaka podpore národného referenčného centra pre pesticídy Univerzity veterinárskeho lekárstva a farmácie v Košiciach.

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FARMACEUTI AKO SÚČASŤ PRÍSTUPU „ONE HEALTH“

PHARMACISTS AS PART OF THE „ONE HEALTH” APPROACH

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Abstrakt

„Spoločné zdravie“ resp. „One Health“ je koncepcia medzinárodnej multidisciplinárnej spolupráce, ktorá spája ľudí, zvieratá a životné prostredie s cieľom udržania a zlepšenia zdravia všetkých na planéte. Tento prístup zdôrazňuje vzájomnú závislosť ľudí, zvierat a životného prostredia a teda jeho hlavnou myšlienkou je, že zdravý svet je taký, v ktorom v zdravom životnom prostredí žijú zdraví ľudia a zdravé zvieratá. Do tejto koncepcie môže byť zapojený každý človek bez ohľadu na vek, vzdelanie či pôvod. Svoju úlohu v oblasti „Spoločného zdravia“ majú aj farmaceuti. Osveta a edukácia čo najširšej verejnosti je kľúčová pre napredovanie tohto prístupu a záchranu nášho spoločného zdravia a planéty.

Kľúčové slová: *Spoločné zdravie, životné prostredie, spolupráca, verejné zdravie*

Abstract

„One Health" is a concept of international multidisciplinary collaboration that brings together people, animals and the environment to maintain and improve the health of everyone on the planet. This approach emphasizes the interdependence of people, animals and the environment, so its main idea is that a healthy world is one in which healthy people and healthy animals live in a healthy environment. Every person should be involved in this concept, regardless of age, education or origin. Pharmacists also have their role in this approach. Awareness-raising activity and education of the general public is essential for advancing this approach and saving our common health and planet.

Key words: *One Health, environment, cooperation, public health*

1 ÚVOD

Podľa Svetovej zdravotníckej organizácie (WHO) je One Health (OH) integrovaný, zjednocujúci prístup, ktorého cieľom je trvalo udržiavať rovnováhu a optimalizovať zdravie ľudí, zvierat a ekosystémov. Tento prístup mobilizuje viaceré sektory, disciplíny a komunity na rôznych úrovniach spoločnosti, aby spolupracovali na podpore dobrého žitia a riešenia hrozby pre zdravie a ekosystémy (WHO n.d.). Medzi hlavné priority prístupu OH zaraďujeme problémy, ako sú vznikajúce a znovu sa objavujúce infekčné choroby a zoonózy, tropické ochorenia, antimikrobiálna rezistencia, znečistenie životného prostredia, zmena klímy, bezpečnosť potravín a iné zdravotné hrozby, ktoré zdieľajú ľudia, zvieratá a životné prostredie (Centers for Disease Control and Prevention n.d.). Do koncepcie OH patria aj oblasti chronických chorôb, duševného zdravia, chorôb z povolania a civilizačných ochorení. Jedným z rizikových faktorov, ktoré prispievajú k rozvoju, zvýšenému riziku hospitalizácie a úmrtí na kardiovaskulárne a respiračné ochorenia patrí znečistenie ovzdušia (McClymont a kol. 2022).

Životné prostredie do veľkej miery ďalej znečisťuje liekový odpad. Lieky sa do životného prostredia dostávajú rôznymi spôsobmi. Jedným zo spôsobov je vyhadzovanie liekov do toalety alebo do koša. Čističky odpadových vôd nie sú určené na odstraňovanie liečiv.

Liečivá a ich metabolity sú tak schopné prenikať do povrchových a následne aj do podzemných zdrojov vôd a iných zložiek životného prostredia a kontaminovať ich (Lyons 2014).

2 METODIKA PRÁCE

Informácie potrebné k vypracovaniu štúdie boli získané dotazníkovou metódou. Elektronický dotazník bol určený pre farmaceutov a iných študentov vysokých škôl. Respondentov sme rozdelili do troch skupín:

- farmaceuti (F)
- študenti zdravotníckeho odboru (ŠZO)
- študenti nezdravotníckeho odboru (ŠNO)

Dotazník bol vytvorený pomocou platformy Google Forms a bol distribuovaný online, na sociálnej sieti Facebook, kde sme ho uverejnili do viacerých študentských a farmaceutických skupín. Prieskum sa realizoval v období od 26.12.2022 do 31.1.2023.

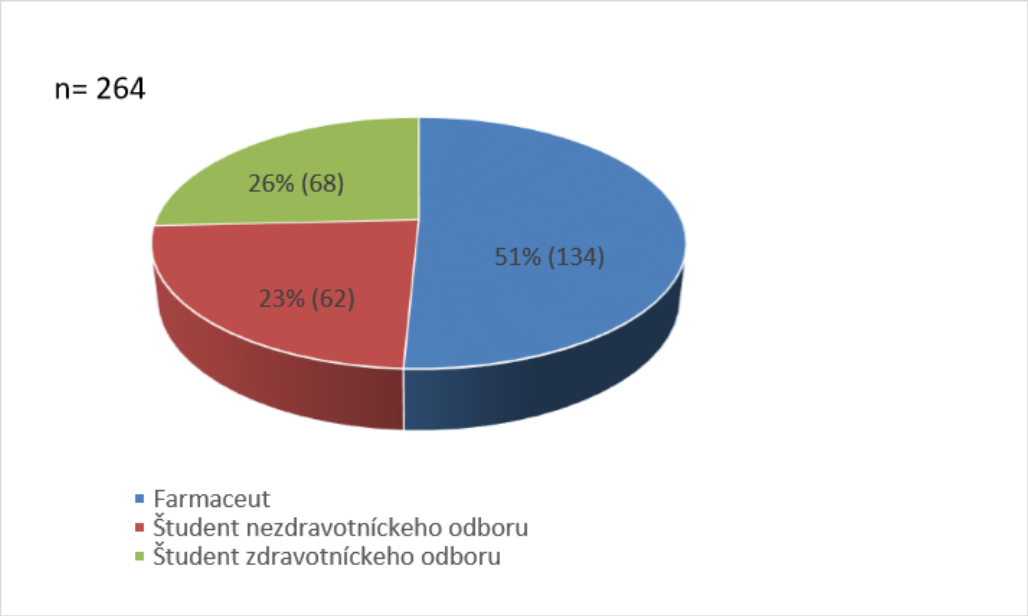
Prieskum pozostával z 31 otázok, ktoré boli rozdelené do skupín podľa oblasti zamerania. Prvá časť bola všeobecného charakteru. Otázky v prvej časti sa týkali pojmu OH a jeho priorít. Druhá časť pozostávala z otázok na tému zoonóz a vakcinácie. Témou tretej časti bol liekový odpad. V štvrtej časti sme sa zamerali na problematiku antimikrobiálnej rezistencie. Dotazník obsahoval otázky s možnosťou jednej alebo viacerých možných odpovedí, prípadne otvorených otázok, kde mohli respondenti vyjadriť svoj názor. Odpovede sme vyhodnotili a graficky spracovali pomocou program MS Word a MS Excel.

3 VÝSLEDKY

3.1 Štruktúra súboru respondentov

Dotazníkového prieskumu sa zúčastnilo 264 respondentov. Najväčšiu časť respondentov tvorili farmaceuti (51 %). Nasledovali študenti zdravotníckeho odboru (26 %) a posledné miesto obsadili študenti nezdravotníckeho odboru (23 %) (graf 1). Ženy tvorili 83 % (219), zvyšných 17 % (45) boli muži. Na východnom Slovensku pôsobilo 52,7 % (139), na západnom Slovensku 34,5 % (91), na strednom Slovensku 11 % (29) a v zahraničí 1,9 % (5) respondentov.

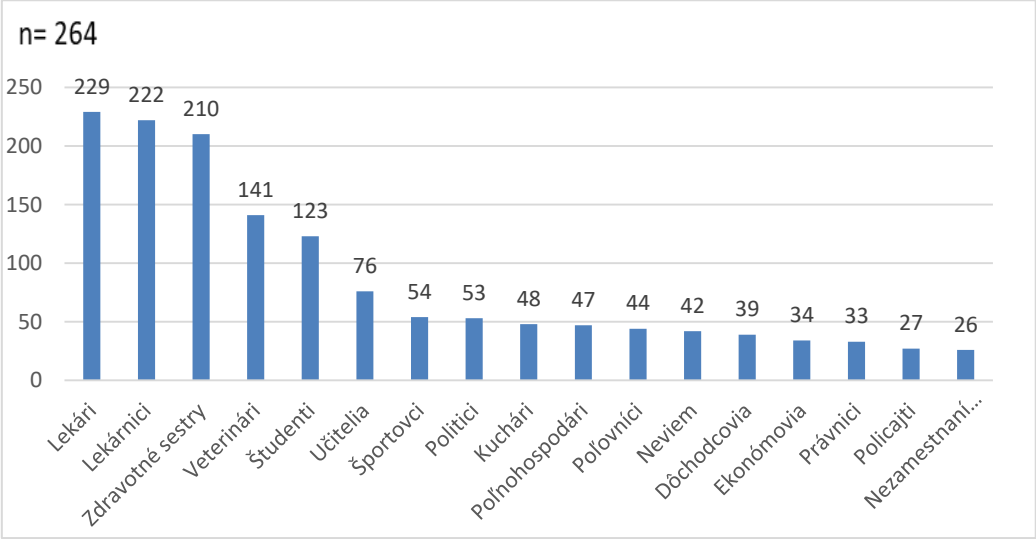
Graf 1, Odborné zameranie respondentov



3.2 Povedomie o zapojení do koncepcie OH

Z dotazníkového prieskumu sme zistili, že až 74,2 % (196) respondentov o koncepcii OH nepočulo. Pri otázke „Kto môže byť podľa Vás zapojený do koncepcie OH?“ (graf 2) mali respondenti možnosť výberu z viacerých povolaní/skupín ľudí. Najviac odpovedí sme zaznamenali pri zdravotníckych povolaniach ako lekári (86,7 %), lekárnici (84 %), zdravotné sestry (79,5 %), či veterináři (53,4 %). Takmer polovica (46,6 %) respondentov uviedla aj študentov.

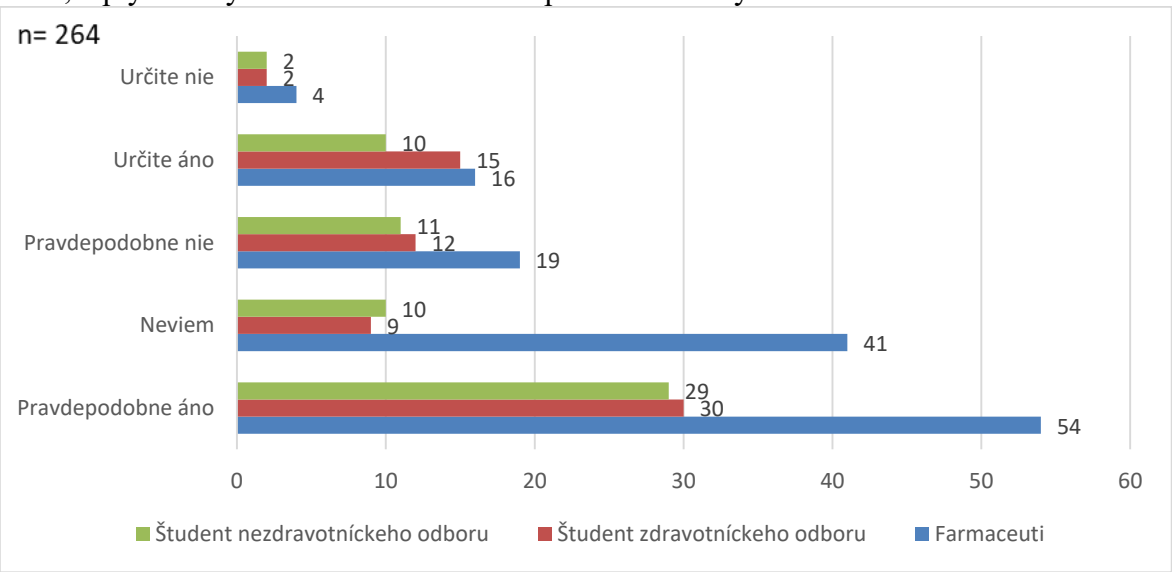
Graf 2, Povolania zapojené do koncepcie OH



3.3 Vplyv ťažby dreva a urbanizácie na prenos infekčných ochorení

Vo všeobecnej časti prieskumu sme sa pýtali aj na otázku „Myslíte si, že činnosti ako ťažba dreva a urbanizácia, môžu zvyšovať prenos infekčných ochorení?“ Najviac respondentov si myslí, že pravdepodobne áno. Z výsledkov vyplýva (graf 3), že len 52,2 % (70) farmaceutov si myslí, že tieto činnosti môžu určite/pravdepodobne zvyšovať prenos infekčných ochorení. Až 30,6 % (41) farmaceutov nevedelo na túto otázku odpovedať.

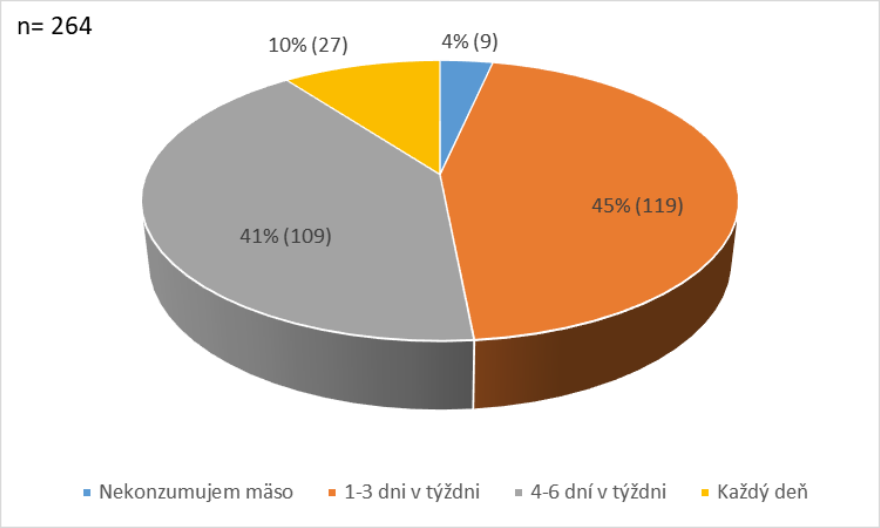
Graf 3, Vplyv ťažby dreva a urbanizácie na prenos infekčných ochorení



3.4 Konzumácia mäsových výrobkov

Ďalšou otázkou vo všeobecnej časti sme chceli zistiť, ako často respondenti konzumujú mäso (graf 4). Najviac respondentov (45 %) konzumuje mäso 1 až 3 dni v týždni. Najmenej respondentov (4 %) odpovedalo na otázku, že mäso nekonzumujú vôbec.

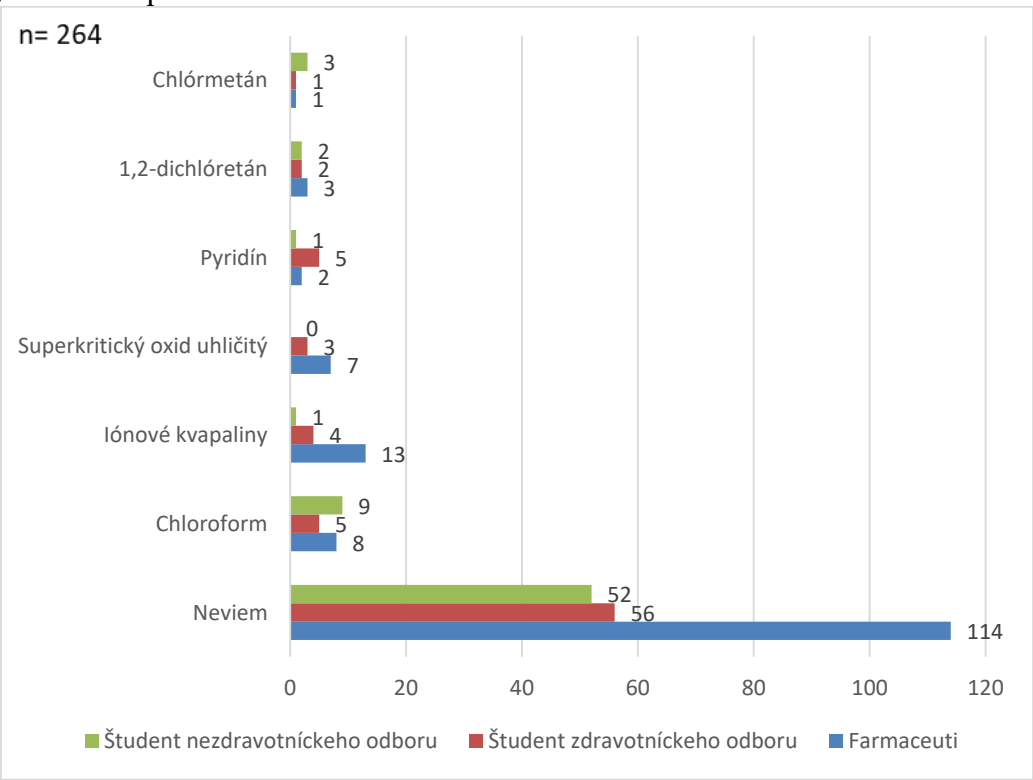
Graf 4, Konzumácia mäsa



3.5 Zelené rozpúšťadlá

Poslednou otázkou vo všeobecnej časti prieskumu sme chceli zistiť, či sa repondenti stretli s pojmom zelené rozpúšťadlá (graf 5). V tejto otázke mali respondenti na výber z viacerých možností rozpúšťadiel. Správnu odpoveď, t. j. iónové kvapaliny a superkritický oxid uhličitý, označilo len 2,3 % respondentov. Z toho 5 pracujúci farmaceuti a 1 študent farmácie. Až 84,1 % respondentov nevedelo odpovedať.

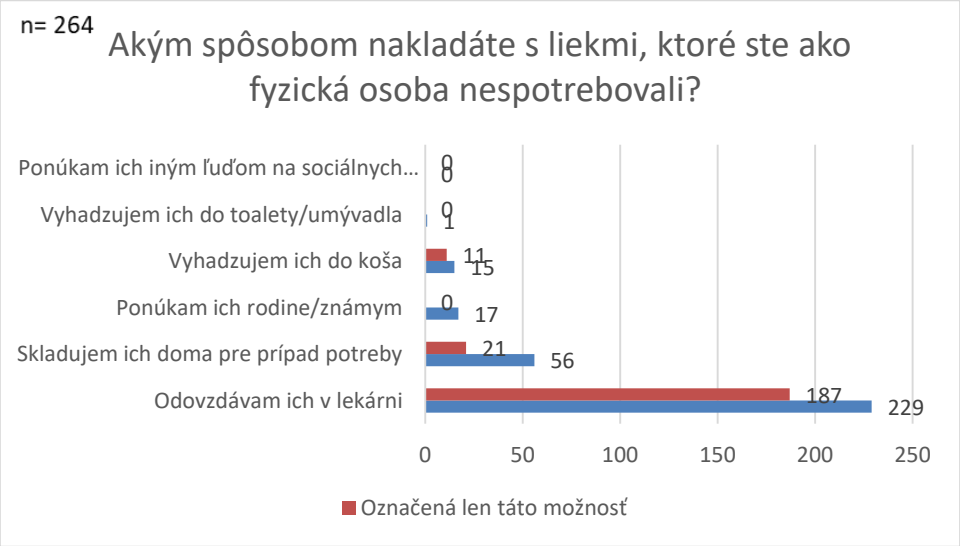
Graf 5, Zelené rozpúšťadlá



3.6 Liekový odpad

V druhej časti prieskumu sme sa s sústredili na problematiku liekového odpadu. Respondentov sme sa pýtali, akým spôsobom nakladajú s liekovým odpadom (graf 6). Najčastejšie (86,7 %) označenou odpoveďou bolo, že lieky odovzdávajú do lekárne a/alebo ich skladujú doma pre prípad potreby (21,2 %). Z 229 odpovedí, že lieky odovzdávajú v lekárni, bolo 128 (95,5 %) farmaceutov, 59 (86,8 %) ŠZO a 42 (67,7 %) ŠNO. 15 (5,7 %) respondentov odpovedalo, že lieky aj vyhadzujú do koša, pričom 11 z nich (8 ŠNO, 2 ŠZO a 1F) zvolilo len túto možnosť.

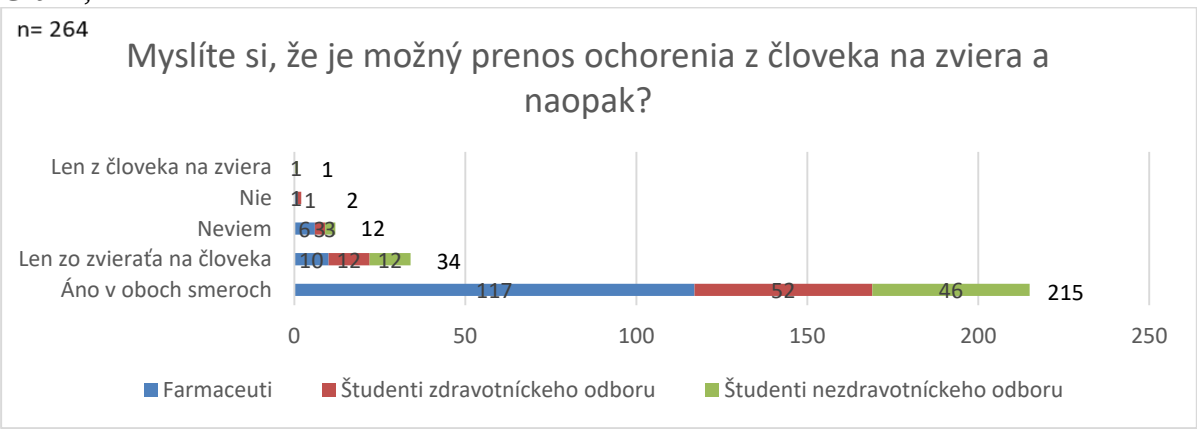
Graf 6, Nakladanie s liekovým odpadom



3.7 Zoonózy

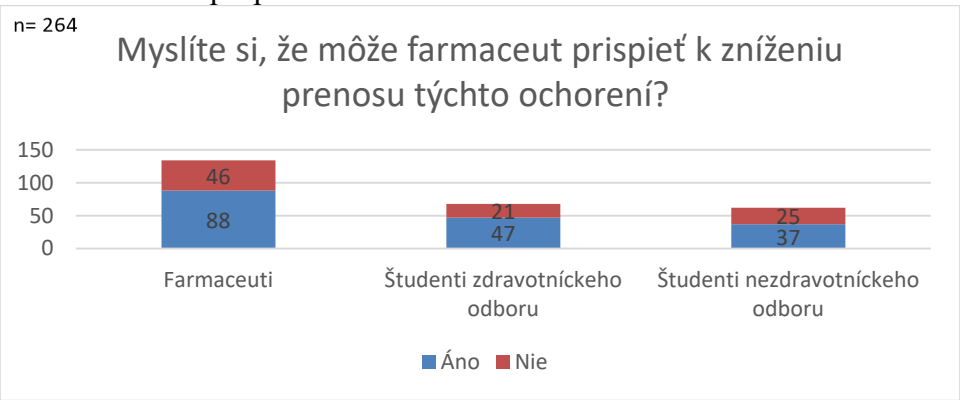
V tretej časti prieskumu sme sa venovali problematike zoonóz a vakcinácie. V prvej otázke sme chceli zistiť, či si respondenti myslia, že ľudia a zvieratá môžu trpieť rovnakými ochoreniami s rovnakými prejavmi. Najviac respondentov (80,7 %, 213) odpovedalo správne, že áno. V druhej otázke (graf 7) sme sa pýtali, či si respondenti myslia, že je možný prenos ochorenia z človeka na zviera a naopak. Najviac respondentov (81,4 %, 215) odpovedalo správne, že prenos je možný v oboch smeroch. Z toho bolo 87,3 % (117) F; 76,5 % (52) ŠZO a 74,2 % (46) ŠNO.

Graf 7, Prenos zoonóz



V poslednej otázke sme sa pýtali respondentov, či si myslia, že farmaceut môže prispieť k zníženiu prenosu zoonóz. 65,2 % (172) respondentov na danú otázku odpovedalo „áno“ a 92 (34,8 %) respondentov zvolilo odpoveď „nie“ (graf 8).

Graf 8, Úloha farmaceuta pri prenose zoonóz



Respondentov, ktorí odpovedali na otázku „áno“ sme sa ďalej pýtali, akým spôsobom môžu farmaceuti prispieť k zníženiu prenosu zoonóz. Zaznamenali sme 141 odpovedí, ktoré sú uvedené v tabuľke 1.

Tabuľka 1, Možnosti zapojenia farmaceutov pri znížení rizika prenosu zoonóz

Ako?	Počet odpovedí (%)
Edukácia pacientov	109 (77,3 %)
Podanie správneho lieku	13 (9,2 %)
Neviem	6 (4,3 %)
Výskum, výroba liekov/vakcín	4 (2,8 %)
Zvýšenie imunity predajom OTC prípravkov	4 (2,8 %)
Vakcinácia v lekárni	3 (2,1 %)
Edukácia o odčervovaní zvierat	2 (1,4 %)
Spolu	*141 (100 %)*

3.8 Užívanie antibiotík

V štvrtej časti prieskumu sme sa venovali problematike antimikrobiálnej rezistencie. Na otázku „Užívali ste niekedy antibiotiká (ATB) aj keď ste neboli na vyšetrení u lekára a neboli Vám lekárom predpísané na dané ťažkosti?“ odpovedalo 69,3 % (183) respondentov „nie“ a 30,7 % (81) zvolilo možnosť „áno“. Respondentov sme sa ďalej pýtali, ako sa k danému ATB dostali. Ich odpovede sa nachádzajú v tabuľke 2.

Tabuľka 2, Spôsoby získania ATB bez lekárskeho predpisu

Spôsob	Počet odpovedí (%)
Som farmaceut/z práce	23 (37,7 %)
Zvyšné ATB z predošlej liečby	14 (23,0 %)
Domáce zásoby	13 (21,3 %)
Od známych, rodiny	4 (6,6 %)
Vybral/a som si ATB v lekárni bez receptu	4 (6,6 %)
Išlo o OTC ATB (Dorithricin)	2 (3,3 %)
Po telefonickej konzultácii s lekárom	1 (1,6 %)
Spolu	*61 (100 %)*

4 DISKUSIA

Pojem „One Health“ je veľmi široký a každý si pod ním môže predstaviť rôzne možností zapojenia sa do tejto koncepcie. To, že pojem OH je na Slovensku stále cudzí, potvrdzujú aj výsledky nášho prieskumu. Až 74,2 % (196) respondentov odpovedalo, že o koncepcii OH nepočulo. Do koncepcie OH by mali byť zapojení hlavne profesionáli v oblasti medicíny, verejného zdravia a životného prostredia, no zapojiť sa môže každý z nás, napríklad triedením odpadu, racionálny nakupovaním, uprednostňovaním ekologickejšej formy dopravy, obmedzením konzumácie mäsa a podobne. Uvedomenie si tejto skutočnosti sme chceli docieliť otázkou: „Kto môže byť podľa Vás zapojený do koncepcie OH?“. Ako sme predpokladali, tak najčastejšie odpovede boli zdravotnícke povolania (cca 83 %).

Na znečistení ovzdušia sa vo veľkej miere podieľajú pevné častice zo spaľovania fosílnych palív (McClymont et al. 2022). Podľa údajov FAO približne 14,5 % všetkých emisií skleníkových plynov spôsobených ľudskou činnosťou môžeme pripísať mäsovému priemyslu. Každý z nás môže obmedzením konzumácie mäsa prispieť k zníženiu emisií skleníkových plynov (FAO 2013). Z nášho prieskumu vyplýva, že 45,1 % respondentov konzumuje mäso 1 až 3 dni v týždni. Podľa dostupných zdrojov predstavuje takáto konzumácia ideálne množstvo. Len 10,2 % respondentov konzumuje mäso každý deň. Mäso vôbec nekonzumuje 3,4 % respondentov. Získané výsledky poukazujú na fakt, že veľká časť respondentov sa svojim životným štýlom zapája do koncepcie OH. A to aj napriek tomu, že im tento pojem nie je známy.

Výsledky viacerých štúdií poukazujú na fakt, že ako ťažba dreva, tak aj urbanizácia, zvyšujú prenos infekčných chorôb (Li et al. 2022). Z nášho prieskumu vyplýva, že len 58,3 % respondentov (z toho 52,2 % všetkých farmaceutov) si myslí, že uvedené činnosti môžu zvyšovať prenos infekčných ochorení. Väčšina (81,4 %) respondentov si myslí, že prenos zoonóz je možný v oboch smeroch, tzn. z človeka na zviera a naopak. Viaceré štúdie dokazujú, že ľudia a zvieratá môžu trpieť rovnakými ochoreniami s rovnakými prejavmi. Napríklad jedna štúdia popisuje prenos opičích kiahní, s rovnakými príznakmi, z človeka na psa, ktorý zdieľal posteľ s dvoma sexuálnymi partnermi, ktorým bolo diagnostikované toto ochorenie (Choudhary et al. 2022).

Väčšina (65,2 %) respondentov si myslí, že farmaceut môže prispieť k zníženiu prenosu zoonóz. Farmaceut sa môže do prevencie zoonóz zapojiť rôznymi cestami, to potvrdzujú aj výsledky nášho prieskumu. Podľa respondentov sa farmaceuti môžu zapojiť hlavne osvetovou činnosťou a edukáciou pacientov (77,3 %). Medzi odpoveďami sme zaznamenali aj podieľanie sa na výskume a výrobe liekov/vakcín (2,8 %), či vakcináciu v lekárni (2,1 %). Vakcinácia je jednou z najjednoduchších a najúčinnejších foriem prevencie. Zároveň je to činnosť, pri ktorej majú farmaceuti široké uplatnenie. Môžu sa podieľať na výskume a výrobe nových vakcín, na ich expedovaní, skladovaní, podávaní a hlavne na edukácii pacientov o dôležitosti očkovania.

V súčasnosti je veľkým problémom liekový odpad. Liečivá a ich metabolity sa môžu dostať do životného prostredia rôznymi spôsobmi. Jedným zo spôsobov je nesprávna likvidácia liekov t. j. vyhadzovanie do koša, toalety či umývadla. Väčšina (86,7 %) respondentov odovzdáva nespotrebované lieky v lekárni.

Výsledky viacerých publikovaných štúdií poukazujú na fakt, že hlavnou príčinou vzniku a šírenia AMR je nadmerné a neracionálne užívanie ATB v humánnej a veterinárnej praxi (Podracká 2017). V súčasnosti naša legislatíva nepovoľuje výdaj ATB bez lekárskeho predpisu. Dôležitou súčasťou povolania farmaceut je informovanie pacientov o racionálnom užívaní ATB, o dodržiavaní časových rozstupov medzi jednotlivými dávkami a dodržaní dĺžky liečby. Koncepcia OH je založená na spolupráci. Podľa nášho názoru spolupráca medzi farmaceutom a lekárom môže prispieť k redukcii neracionálneho užívania ATB.

5 ZÁVER

V súčasnosti je uplatňovanie koncepcie OH dôležitejšie ako kedykoľvek predtým. Osveta a edukácia verejnosti je kľúčová pre pokrok v prístupe a záchrane nášho spoločného zdravia a planéty. Je dôležité, aby sa do koncepcie OH zapájali všetci ľudia a zo všetkých sektorov. Farmaceuti, ktorí pracujú v lekárni, sú v každodennom kontakte so širokou verejnosťou. Z uvedeného dôvodu majú veľmi dobré predpoklady na to, aby edukovali pacientov o správnom zaobchádzaní s nespotrebovanými liekmi, o dôležitosti prevencie chorôb a o racionálnom užívaní liekov, predovšetkým ATB. Ako aj z nášho prieskumu vyplýva, tak farmaceuti sa môžu zapájať do rôznych osvetových činností, ktoré môžu v rámci lekárne organizovať. Taktiež sa môžu podieľať aj na výskume a výrobe nových liečiv alebo vakcín. V niektorých krajinách sa farmaceuti v lekárňach priamo podieľajú aj na vakcinácii.

Liečivá a ich metabolity sa dostávajú do životného prostredia rôznymi spôsobmi. Veľká časť liečiv sa do životného prostredia dostáva prostredníctvom farmaceutického priemyslu. Rizikovým spôsobom je nesprávna likvidácia liekov, napr. vyhadzovaním liekov do koša. Liekový odpad, rovnako ako každý druh odpadu, znečisťuje životné prostredie, navyše predstavuje aj riziko pre zdravie ľudí a zvierat. Z uvedeného dôvodu je dôležité, aby v rámci koncepcie OH farmaceuti podporovali správnu likvidáciu liekového odpadu a motivovali pacientov k odovzdávaniu nespotrebovaných liekov do lekárne.

Poďakovanie

Táto práca bola podporená Ministerstvom školstva, vedy, výskumu a športu Slovenskej republiky prostredníctvom grantu VEGA č. 1/0368/21.

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TVORBA AGREGÁTOV CYTOCHRÓMU C S POLYMÉRMI

FORMATION OF CYTOCHROME C AGGREGATES WITH POLYMERS

Jakub Olajoš, Marian Antalík

Abstrakt

Proteíny obsahujúce hém sa zúčastňujú širokého spektra bunkových funkcií od monitorovania kyslíka a transportu až po katalyzovanie oxidoredukčných reakcií. Dva hlavné typy cytochrómu (typ b a typ c) sa líšia od seba len v mechanizme ich pripojenia k hému, čo zohráva dôležitú úlohu pri ich bunkových úlohách v lokalizácii aj v mechanizme. Mechanizmus pripojenia hému umožňuje zostavenie komplexných multi-hémových komplexov typu c, ktoré majú kapacitu pojať viac elektrónov. Tieto elektróny sú čoraz častejšie identifikované ako vylučované do extracelulárneho prostredia. V prípade organizmov, ktoré dokážu dýchať pomocou extracelulárnych substrátov, umožňujú tieto veľké multi-hémové cytochrómy vytvárať siete na prenos elektrónov z cytoplazmatickej membrány do vonkajšej strany bunky, aby sa tak redukovali extracelulárne akceptory elektrónov. Táto práca prezentuje súbor získaných poznatkov o možnosti tvorby agregátov cytochrómu c s polymérmi. Navyše, pri spektrálnych meraniach boli zistené zaujímavé skutočnosti o vytváraní komplexov spomínaného cytochrómu c s heparínom, polystyrensulfátom a inzulínom. Otvára sa tak možnosť redukcií externých železných minerálov pomocou bunkového elektrónového transportu a extracelulárneho transportu elektrónov pomocou proteínov.

Kľúčové slová: *cytochrom c, siderofóry, extracelulárny transport proteínov*

Abstract

Heme-containing proteins are involved in a wide range of cellular functions, from oxygen monitoring and transport to catalyzing redox reactions. The two main types of cytochrome (type b and type c) differ from each other only in the mechanism of their attachment to the heme, which plays an important role in their cellular roles in both localization and mechanism. The heme attachment mechanism allows the assembly of complex c-type multi-heme complexes that have the capacity to hold multiple electrons. These electrons are increasingly identified as being secreted into the extracellular environment. Providing of organisms that can breathe with extracellular substrates, these large multi-heme cytochromes allow networks to form electron transfer from the cytoplasmic membrane to the outside of the cell, thus reducing extracellular electron acceptors. This work presents a set of acquired knowledge about the possibility of forming cytochrome c aggregates with polymers. In addition, interesting facts about the formation of complexes of said cytochrome c with heparin, polystyrene sulphate and insulin were found during spectral measurements. This opens up the possibility of reducing external iron minerals by cellular electron transport and extracellular electron transport by proteins.

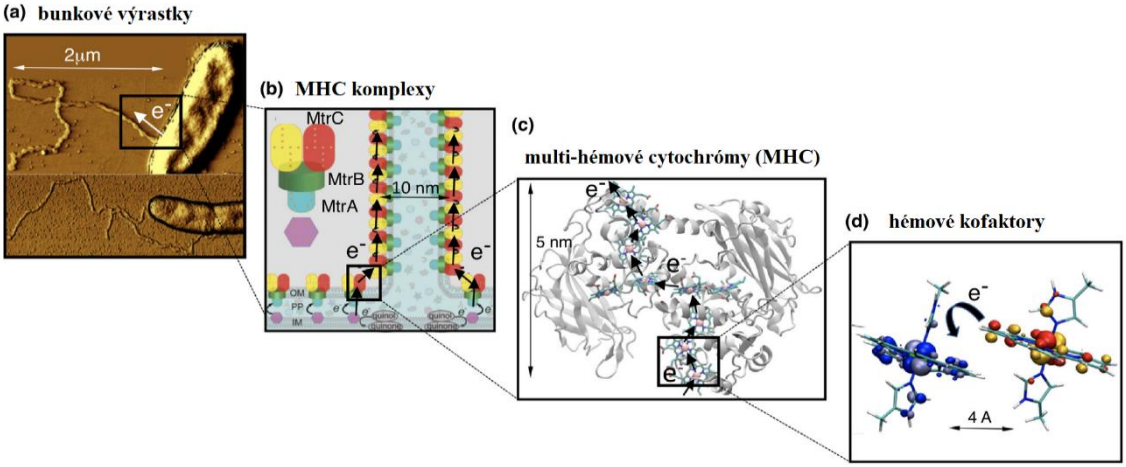
Key words: *cytochrome c, siderophores, extracellular electron transport*

1 ÚVOD

Elektrónový prenos z cytoplazmy do mimobunkových priestorov k redukcii minerálov oxidu železitého, vyžaduje dômyselný transportný systém zahrňujúci nízkomolekulárne látky a viac hémové cytochrómy, ako aj proteínové agregáty vytvorené z hemových proteínov, ktoré zabezpečujú tento proces cez vonkajšiu bunkovú membránu a aj mimo bunky. V nedávnej minulosti bolo získaných mnoho poznatkov k poznaniu povahy týchto štruktúr, ako aj k mechanizmu, ako prebieha takýto elektrónový prenos. Napriek tomu množstvo základných vedomostí o týchto procesoch, ako aj štruktúrach multi-hémových agregátoch je nedostatočne preskúmaných.

Elektrón výmenné reakcie, ktoré prebiehajú medzi mikrobiálnymi bunkami a tuhými materiálmi, ktoré sa označujú ako extracelulárny transport elektrónov (EET), priťahujú čoraz väčšiu pozornosť v oblasti mikrobiálnej fyziológie, mikrobiálnej ekológie ako aj biotechnológie. Štúdie modelových druhov baktérií, ktoré dokážu redukovať železo, ako je napríklad Geobacter spp. a Shewanella spp. odhalili, že redoxne aktívne proteíny, najmä cytochrómy typu c vonkajšej membrány (OMC), hrajú v procese EET veľmi dôležitú úlohu. Nedávne metagenómové analýzy odhalili, že rôzne mikroorganizmy, u ktorých sa nepreukázalo, že majú schopnosť EET, obsahujú aj proteíny podobné OMC, čo naznačuje, že EET prostredníctvom OMC by sa mohol v mikroorganizmoch viac zachovať, ako sa pôvodne předpokládalo.

V ET dochádza k prenosu elektrónu medzi donorom elektrónu a akceptorom elektrónu, čo vedie k zmene ich čistého náboja, ktorá je sprevádzaná dielektrickou relaxáciou prostredia, ak je prítomná. Tento proces je zvyčajne charakterizovaný chemickou (tu ET) rýchlostnou konštantou. V biológii je často prípad, že sa niekoľko po sebe idúcich ET udalostí vyskytuje pozdĺž reťazca redoxných kofaktorov, pričom každá ET udalosť je charakterizovaná rýchlostnou konštantou. Príklad, ktorý tu bude diskutovaný, je „vstrekovanie“ elektrónov do MHC prostredníctvom molekulárnych donorových skupín a následné ET cez proteín. Na druhej strane je ETp definovaný ako tok elektrónov cez molekulu (alebo biomateriál) bez zmeny čistého náboja tejto molekuly, alebo donorových/akceptorových skupín (napr. redoxných kofaktorov) v rámci tejto molekuly. V praxi sa ETp realizuje aplikáciou predpätia na koncoch molekuly a elektrický prúd nahrádza rýchlostnú konštantu ET ako experimentálne pozorovateľné (1).



Obr. 1 Prenos elektrónov v baktérii *Shewanella oneidensis* (2).

Na Obr. 1A môžeme vidieť elektricky vodivé pár mikrometrov dlhé bunkové vlákna. Obr. 1B znázorňuje model bunkového prívesku ako predĺženie vonkajšej membrány a periplazmy

(svetlozelená farba). Komplexy MtrCAB zložené z dekahémových proteínov MtrC a MtrA a proteínu MtrB sú vložené do vonkajšej membrány a tvoria prepojenú dráhu transportu elektrónov pozdĺž prívesku. Na Obr. 1C je znázornená kryštalická štruktúra MtrC, pričom kofaktory hému sú uvedené zelenou farbou a atómy železa ružovou farbou. Predpokladané miesto vstupu elektrónu (hém 10) je zobrazené na spodnej časti a predpokladané miesto výstupu elektrónu (hém 5) v hornej časti. Obr. 1D nám predstavuje detailný záber na dvojicu hémov 10 a 9, ktorá vytvára tzv. „naukladaný motív“ so vzdialenosťou hému od okraja približne 4 Å. Dve dráhy, ktoré prispievajú k elektrickému spojeniu medzi týmito hémami, sú označené modrosivými a červenožltými pozitívnymi, alebo negatívnymi izoplochami (3).
Sideroféry, sú látky, ktoré viažu katióny železa, ktoré produkujú rôzne druhy organizmov a ktoré sú zatiaľ nedostatočne študované a úzko súvisiace s našim výskumom, respektíve cieľom, ktorý plánujeme dosiahnuť, a to je redukcia externých železných minerálov pomocou bunkového elektrónového transportu.
Polyméry heparín, PSS a inzulín, sú potencionálnymi látkami, ktoré môžu vytvárať komplexy a agregáty s proteínmi, v našom prípade s cytochrómom c a tak je možné získať štruktúry pre štúdium extracelulárneho transportu pomocou proteínov.

2 METODIKA PRÁCE

2.1 Použité chemikálie

V rámci praktickej časti boli využívané najme spektrálne metódy, a to konkrétne Spektrofotometer Specord S300, Spektrofluorimeter Varian Cary Eclipse, Kruhový dichroizmus Jasco J-810 a Zetasizer Malwern. Chemické látky boli získane z komerčných zdrojov od výrobcu Sigma-Aldrich (Tab. 1).

Názov	Výrobca	CAS číslo
Cytochróm c	Sigma-Aldrich	637-01-4
Heparín	Sigma-Aldrich	9005-49-6
Kys. polystyrénsulfónová	Sigma-Aldrich	28210-41-5
Inzulín	Sigma-Aldrich	11061-68-0
$K_3[Fe(CN)_6]$	Sigma-Aldrich	13746-66-2
$Na_2S_2O_4$	Sigma-Aldrich	7775-14-6

Tab.1 Použité chemikálie

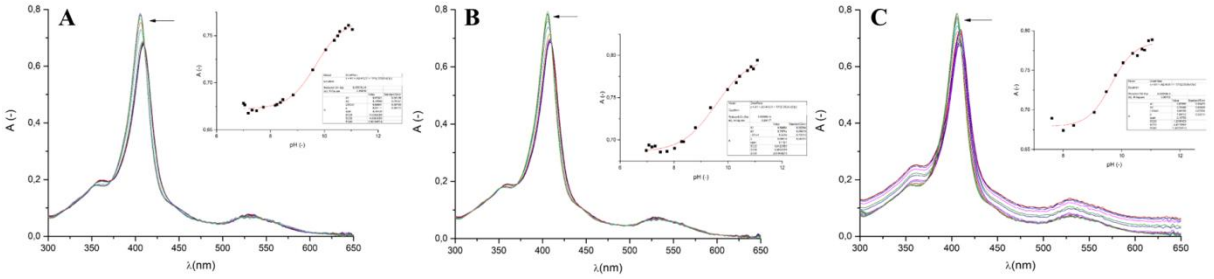
3 VÝSLEDKY A DISKUSIA

Vďaka doterajším získaným informáciám zo spektroskopických meraní sa nám podarilo zistiť základné poznatky o interakcii a tvorbe agregátov medzi proteínom cytochrómom c a polymérmi, v našom prípade hydrofílnym heparín, hydrofóbnym polystyrensulfát a inzulín. Zamerali sme sa na sledovanie spektrálnych zmien, sledovanie turbidity a následným utvrdením sa pomocou zetasizeru.

3.1 Turbidimetrické pozorovanie agregácie cytochrómu c

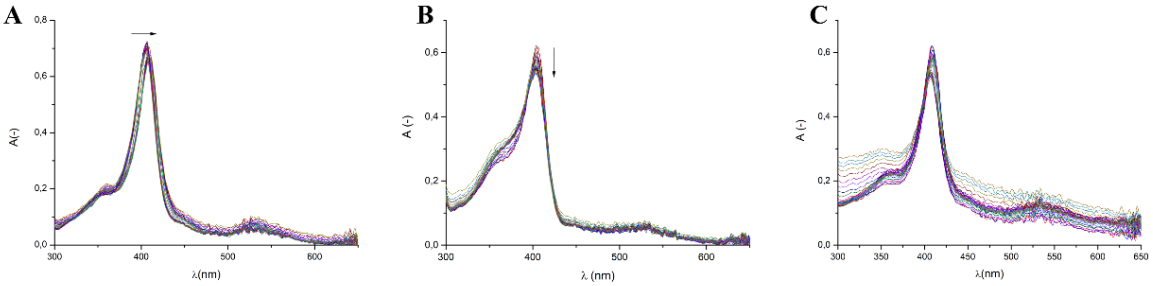
Vo všeobecnosti je známe, že cytc v slabom kyslom prostredí s pH približne 4 neagreguje a spektrálne zmeny sú tak pekne vyvinuté, čo sa týka posun maxím absorpčných pásov. Taktiež sme zistili, že pri vyššom pH ako je 7 a pri vyššej teplote samotný cytc agreguje. Ak sa pridá vyššia koncentrácia heparínu či PSS k cytc v pH okolo 6, tak cytc nám už nevypadáva.
Na Obr. 2 pozorujeme agregáciu cytc s polymérmi, v našom prípade sme pracovali s heparínom, polystyrensulfátom a inzulínom, pri rôznych hodnotách pH, od hodnôt neutrálneho po hodnoty kyslého pH. Pri všetkých troch meraniach vidíme značné posuny

hodnôt, a to v smere k nižším vlnovým dĺžkam (hypsochrómny posun) a taktiež zvyšovanie absorbancie (hyperchrómny posun), čo vedie k agregácii cytochrómu c s polymérmi.
V zmenšených pH závislostiach na Obr. 2 sme získali izoelektrické body, ktorých hodnota v prípade heparínu je 9,7. V porovnaní s čistým cytochrómom c (~10) sa jeho hodnota zmenšila. Pri PSS nastal ešte väčší pokles, 9,55 a pri inzulíne to bolo 9,65.



Obr. 2 Absorpčné spektrá pH závislosti oxidovaného cytochrómu c s (A) heparínom, (B) PSS a (C) inzulínom pri zvyšujúcom sa pH v rozmedzí od 7 do 11.

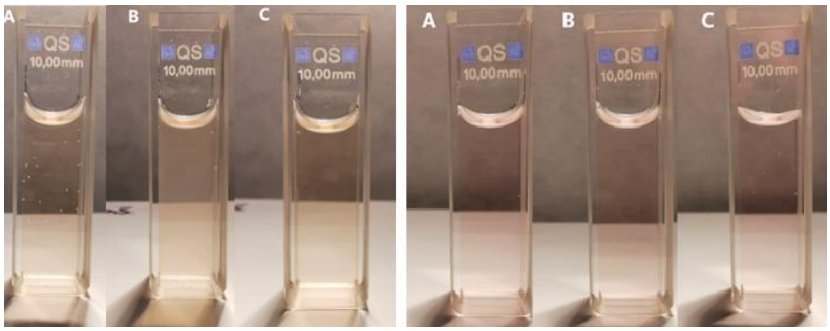
Z nameraných absorpčných spektier môžeme vidieť, že v závislosti od teploty sa absorpčné spektrá výrazne menia (Obr. 3). Aj teplota je jedným z možných faktorov, ktoré dokážu ovplyvňovať agregáciu a možnú tvorbu fibríl. V tomto prípade sme opäť pracovali s rovnakou koncentráciou cytc zo zásobného roztoku (200 μmol/dm^3), na oxidovanú formu cytc sme použili ferikyanid s koncentráciou 73 μmol/dm^3, koncentrácia heparínu v kyvete bola 4,69 μmol/dm^3, PSS 30,5 μmol/dm^3 a inzulínu 7,81 μmol/dm^3. Tieto koncentrácie považujeme za najvhodnejšie pre agregáciu cytc s polymérmi, nakoľko turbidita v kyvete bola najlepšie pozorovaná pri nich, ako to bude znázornené nižšie. Merania prebiehali v rozmedzí teplôt od 26°C – 96°C pri pH 7.



Obr. 3 Zmeny absorpčných spektier oxidovaného cytochrómu c s (A) heparínom, (B) PSS a (C) inzulínom vyvolané zmenou teploty.

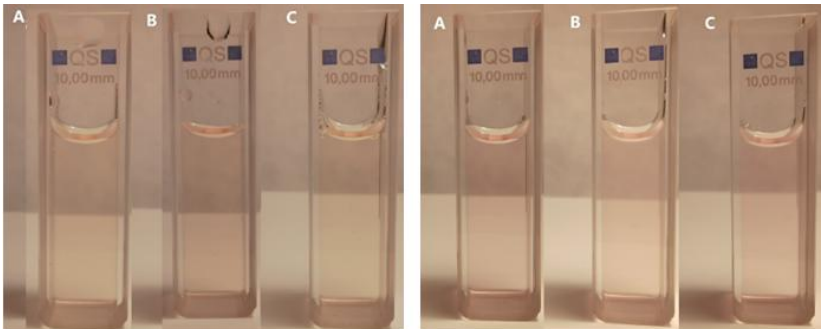
Z nameraného spektra (Obr. 3) môžeme vidieť, že dochádza k absorpčným zmenám. V prípade zvyšovania teploty pri heparíne (Obr. 3A) dochádza k posunu vlnovej dĺžky k vyšším hodnotám (batochrómny posun) oproti zvyšovaniu koncentrácie a stálej teplote, kedy dochádzalo k opačnému posunu. Pri PSS (Obr. 3B) sledujeme posun k nižším hodnotám absorbancie, tzv. hypochrómny jav a pri inzulíne, naopak zvyšovaním teploty sa permanentne zvyšuje absorbancia, pozorujeme tak hyperchrómny jav. Podstatné však bolo zistenie, že po ukončení meraní nastal v kyvete silný zákal, čo nám potvrdilo, že zvýšenie teploty prostredia má pozitívny vplyv na tvorbu agregátov. Avšak pri použití vyšších koncentráciách polymérov nedochádza ani pri vysokých teplotách k turbidimetricky pozorovanej agregácii.
Na Obr. 4 a Obr. 5 môžeme vidieť fotky 1 cm kyviet, ktoré sme používali pri spektrálnych meraniach pri UV-Vis. V tomto prípade pozorujeme turbidimetrickú agregáciu oxidovaného aj redukovaného cytc s polymérmi heparínom a PSS. V oboch prípadoch sme v každej kyvete použili rovnakú koncentráciu cytc 51,4 μmol/dm^3, na oxidovanú formu cytc sme použili už

spomínaný ferikyanid s koncentráciou 73 μmol/dm^3 a na redukovanú formu ditioničnan draselný. Jednotlivé koncentrácie heparínu (Obr. 4 vľavo) boli 2,98 μmol/dm^3 (A), 5,36 μmol/dm^3 (B) a 6,55 μmol/dm^3 (C). Pri redukovanej forme (Obr. 4 vpravo) sme použili rovnaké koncentrácie. Jednotlivé koncentrácie PSS (Obr. 5 vľavo) boli 7,94 μmol/dm^3 (A), 27,7 μmol/dm^3 (B) a 39,7 μmol/dm^3 (C). Pri redukovanej forme (Obr. 5 vpravo) sme opäť použili tie isté koncentrácie PSS. Všetko to bolo rozpúšťané v 10 mmol/dm^3 PB s pH 7.



Obr. 4 Turbidimetrické pozorovanie agregácie oxidovaného (vľavo) a redukovaného (vpravo) cytochrómu c s polymérom heparín pri rôznych koncentráciách.

Zo získaných fotografii (Obr. 4) vieme jednoduchým pozorovaním zistiť, v ktorých prípadoch dochádza k turbidimetrickej agregácii. V prípade oxidovaného cytc možno vidieť silný zákal pri koncentrácii heparínu 5,36 μmol/dm^3 (Obr. 4 vľavo B), pri vyšších a nižších koncentráciách heparínu už pravdepodobne nedochádza k spomínanej agregácii a možnej tvorbe fibríl, čomu nasvedčuje vyčírenie roztokov v kyvetách (Obr. 4 vľavo A,C). Vo všeobecnosti je známe, že redukovaná forma cytc je omnoho stabilnejšia ako oxidovaná forma. Toto tvrdenie sme si potvrdili aj pri pozorovaní turbidimetrickej agregácii redukovaného cytc s heparínom (Obr. 4 vpravo), kedy ani v jednom prípade sme nezaznamenali zakalenie kyvety, pričom podmienky pred možnú agregáciu sme nemenili.

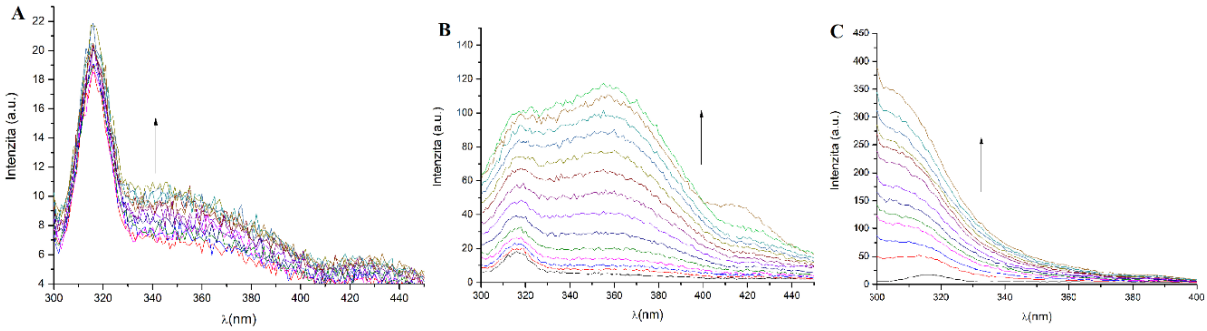


Obr. 5 Turbidimetrické pozorovanie agregácie oxidovaného (vľavo) a redukovaného (vpravo) cytochrómu c s polymérom PSS pri rôznych koncentráciách.

V prípade pozorovania turbidity a možnej agregácii oxidovaného a redukovaného cytc s PSS (Obr. 5) to bolo viac-menej rovnaké. Aj v tomto prípade možno sledovať turbidimetrickú agregáciu cytc pri koncentrácii PSS 27,7 μmol/dm^3 (Obr. 5 vľavo B). Pri redukovanej forme cytc sme nepozorovali žiadne zmeny v kyvete. Z týchto tvrdení nám vyplýva, že pre agregáciu a tvorbu fibríl je najlepšie používať oxidovanú formu cytc pri izbovej teplote a pH 7 s koncentráciami 5,36 μmol/dm^3 pri heparíne a 27,7 μmol/dm^3 pri PSS, v oboch prípadoch sme pozorovali pri týchto koncentráciách aj absorpčné maximá.

3.2 Spektrofluorimetrické merania cytochrómu c

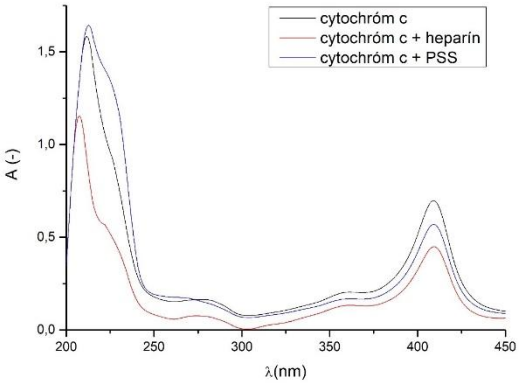
Cytochróm c je hémový proteín, ktorý obsahuje vo svojej štruktúre aminokyselinu tryptofán (Trp), ktorá je v natívnom stave blízko hémovej skupiny. V denaturovanom stave sa Trp vzďaľuje od hému a na spektre môžeme pozorovať nárast fluorescencie vďaka tomu, že Trp je schopný emitovať žiarenie a hém žiarenie absorbuje (400-600 nm). Vo všetkých troch prípadoch, kedy sme sa snažili denaturovať cytc pomocou polymérov, dochádza k stúpaniu intenzity, čo nám utvrdzuje vyššie spomenuté tvrdenia, kedy s veľkou pravdepodobnosťou dochádza k zmene štruktúry cytc z α-helix na β-skladaný list.



Obr. 6 Fluorescenčné spektrá oxidovaného cytochrómu c so stúpajúcou koncentráciou polymérov (A) heparín, (B) PSS a (C) inzulín.

3.3 Pozorovanie zmeny štruktúr cytochrómu c vplyvom polymérov

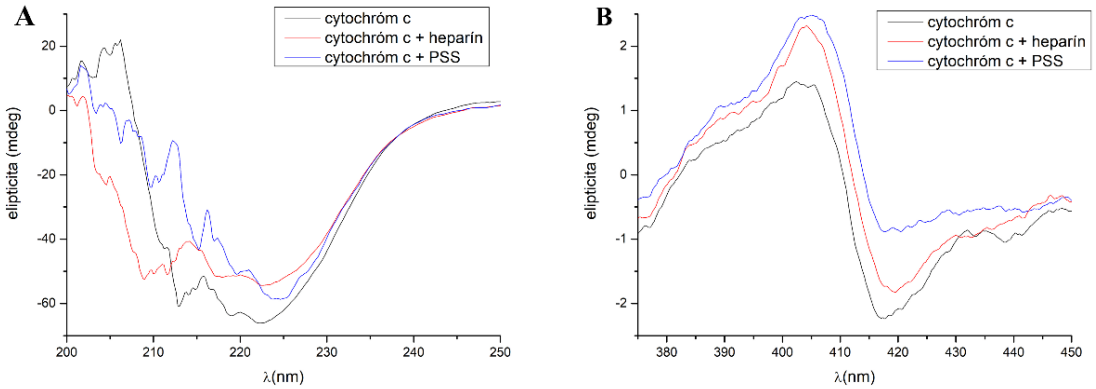
CD je vhodné na meranie konformačných zmien biomakromolekúl ako sú napríklad proteíny. Žiarenie, ktoré je využívané pri meraní je elektromagnetické, ktoré pozostáva z elektrického a magnetického poľa pohybujúceho sa kolmo na seba. CD spektropolarimetria umožňuje jednoduchý spôsob monitorovania konformačných zmien v štruktúre, ktoré môžu byť zapríčinené zmenami v prostredí, napríklad ako polyméri v našom prípade. Zároveň nám CD umožňuje určiť do akej miery je proteín zbalený a charakterizovať jeho sekundárnu a terciárnu štruktúru, a tým aj štruktúrnu rodinu, do ktorej daný proteín patrí.



Obr. 7 Absorpčné spektrum vplyvu polymérov na štruktúru cytochrómu c merané pomocou CD.

Na Obr. 7 sledujeme zmeny natívneho cytochrómu c, ktorý sme denaturovali pomocou polyaniónov. Zo spektra vidieť, že pri prídavkoch heparínu, či PSS dochádza k značným zmenám v oblasti α-helixu (200-250 nm), v prípade heparínu je to pokles elipticity k nižším hodnotám a naopak, pri použití PSS je to posun elipticity k vyšším hodnotám v porovnaní s čistým cytc. V Soretovej oblasti (375-400 nm) pozorujeme rovnaké zmeny. Aj toto meranie

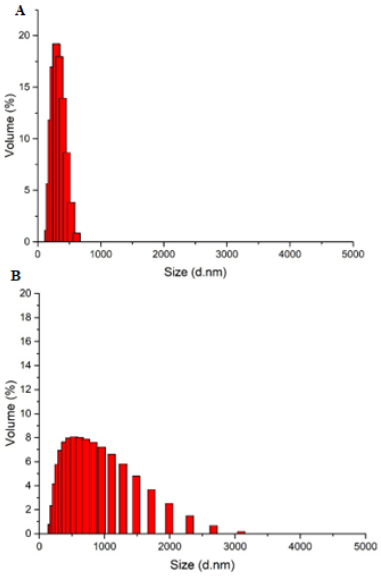
nás utvrdilo opäť v tom, že cytc interaguje s polymérmi za vzniku agregátov, čo môže viesť k tvorbe potrebných fibríl.
Z vyššie uvedeného absorpčného spektra (Obr. 7) sme získali CD spektrá kde sme sa snažili zistiť či dochádza k denaturácii cytc pomocou polymérov (Obr. 8), kde sme si priblížili k akým zmenám dochádza v jednotlivých oblastiach. V oblasti α-helixu (Obr. 8A) pozorujeme pokles elipticity v oboch prípadoch prídavkoch heparínu aj PSS. Naopak, v Soretovej oblasti (Obr. 8B) sledujeme v porovnaní s natívnym cytc nárast elipticity. Heparín nedokáže denaturovať cytc, v neutrálnom a zásaditom pH len mierne modifikuje štruktúru natívneho cytc tak, že zosilňuje väzbu Met80 na hémové železo a v mierne kyslom pH spôsobuje silnú agregáciu pravdepodobne bez výraznej zmeny štruktúry cytc a v kyslom pH spôsobuje stabilizáciu moltenglobulárneho stavu cytc (bez jeho prítomnosti by sám cytc bol už denaturovaný). Výsledkom týchto zmien je vznik agregátov cytc.



Obr. 8 CD spektrum vplyvu polymérov na štruktúru cytochrómu c v oblasti α-helix (A) a v Soretovej oblasti (B).

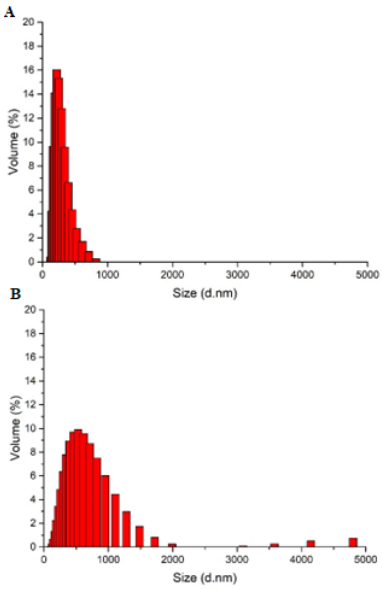
3.4 Meranie DLS – veľkosti častíc vzniknutých komplexov cytc-polymér

Zetasizer je prístroj, ktorý poskytuje možnosť merať tri charakteristiky častíc, alebo molekúl v kvapalnom médiu. Tieto tri základné parametre sú veľkosť častíc, potenciál zeta a molekulovú hmotnosť. Systém Zetasizer stanovuje veľkosť najprv zmeraním Brownovho pohybu častíc vo vzorke s použitím dynamického rozptylu svetla (DLS), a potom z toho interpretuje veľkosť s použitím tradičných teórii. V našom prípade na potvrdenie našej teórie vzniku agregátov cytc sme použili práve meranie DLS-veľkosť častíc.



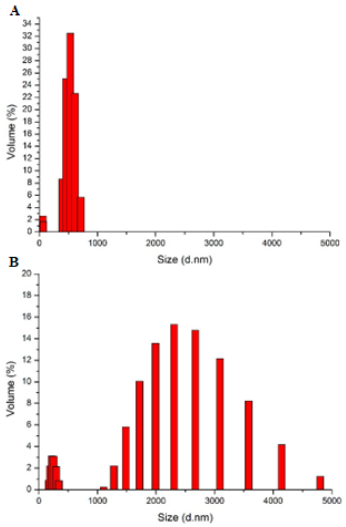
Obr. 9 DLS meranie komplexu cytc-heparín s koncentráciou heparínu (A) 1,15 µmol/dm^3 a (B) 6,87 µmol/dm^3.

Na Obr. 9 sledujeme zmenu veľkosti častíc vzniknutých komplexov cytc s heparínom pri rôznych koncentráciách heparínu. V prípade Obr. 9A sme získali vysokú hodnotu intenzity častíc, avšak priemerná veľkosť častíc bola 295 nm. Pri meraní s vyššou koncentráciou heparínu (Obr. 9B) bola naopak nižšia intenzita častíc, avšak priemer častíc bol 562 nm, čo nás utvrdilo o vzniku agregátov cytc. Tiež sme zistili, že pri použití vyšších koncentrácii heparínu dochádza k reštrukturalizácii agregátu, nakoľko hodnota priemeru častíc nám začal klesať.



Obr. 10 DLS meranie komplexu cytc-PSS s koncentráciou PSS (A) 7,63 µmol/dm^3 a (B) 30,5 µmol/dm^3.

Aj v tomto prípade, pri použití PSS vidíme, že pri vyššej koncentrácii (Obr. 10B) dochádza k vytváraniu agregátov. Opäť pozorujeme zníženie intenzity ale naopak zvýšenie veľkosti častíc. Priemer častíc pri Obr. 9A bol 277,3 nm, pri Obr. 10B to bolo až 711,6 nm. Tiež platí, že pri zvyšovaní koncentrácie PSS už priemer častíc klesal, zanikal agregát cytc.



Obr. 11 DLS meranie komplexu cytc-inzulín s koncentráciou inzulínu (A) 1,12 µmol/dm^3 a (B) 7,63 µmol/dm^3.

V prípade inzulínu sme pozorovali najväčšiu zmenu pri stúpajúcej koncentrácii. Ako je znázornené na Obr. 11, pri hodnote inzulínu 1,12 µmol/dm^3 (Obr. 11A) bol priemer častíc na hodnote 754,8 nm, pri koncentrácii 7,63 µmol/dm^3 (Obr. 11B) to bolo až 3265 nm. Ako aj pri predchádzajúcich polyméroch, pri zvyšovaní koncentrácii dochádzalo k reštrukturalizácii agregátu cytc.

Agregát	**Koncentrácia (µmol/dm^3)**	**Veľkosť (nm)**
Cytc-heparín	1,15	295
	6,87	562
Cytc-PSS	7,63	277,3
	30,5	711,6
Cytc-inzulín	1,12	754,8
	7,63	3265

Tab. 2 Veľkosti častíc vzniknutých komplexov cytc-polymér.

4 ZÁVER

Proteíny v závislosti od mnohých vonkajších podmienok dokážu agregovať a vytvárať tak amorfné, vysoko štruktúrované proteínové agregáty, ktoré sú známe ako amyloidné fibrily. Tieto fibrily sú špecifické tým, že sú zložené zo štruktúrneho motívu β-skladaného listu. Ak sú polypeptidické reťazce nesprávne zbalené, či čiastočne rozbalené, podstupujú procesu fibrilizácie, inak nazvané, dochádza tak k formovaniu fibríl pôsobením rôznych faktorov.

Predpokladáme, že sú známe dve základné geometrické usporiadania agregátov, a to buď amorfný komplex, alebo fibrilárne reťazce. Kedy sa ktorý uplatní závisí jednak od koncentračných pomerov medzi polymérmi a cytochrómu c ale aj od rôznych faktorov, ako sú napríklad teplota, pH alebo iónové sily prostredia. Taktiež dôležitú úlohu môžu zohrávať aj dynamické podmienky ako je miešanie, ultrazvukovanie a iné mechanické vplyvy. Je známe, že príprava modelových amyloidných fibríl vytvorených z lyzozýmu či inzulínu je veľmi citlivá na miešanie vzorky.

Ako sme preukázali v experimentálnej časti tejto práce, cytochróm c spolu s polymérmi, v našom prípade hydrofílny heparín, hydrofóbny polystyrensulfát a inzulín, za určitých správnych podmienok a pomeru koncentrácii dokážu vytvárať komplexy, ktoré sa dajú využiť na prenos elektrónov nie len *in vivo* ale aj *in vitro* za pomoci mikroorganizmov, ktoré boli spomínané v teoretickej časti práce. Zaujímavým pozorovaním v rámci tejto štúdie bolo

sledovanie zmien veľkosti častíc na základe rozptylu svetla merajúceho rozptyl svetla pod uhlom 90° pomocou Zetasizeru, kde sme vplyvom zmien koncentrácii jednotlivých polymérov na cytochróm c získali potrebné údaje o vzniku komplexu cytc-polymér. Ďalším východiskom pre tento výskum a pre potvrdenie našich predbežných výsledkov bude meranie jednotlivých vzoriek za pomoci AFM, kde by sme mohli zostrojiť snímky vzniknutých agregátov a získať tak výsledky k redukcii externých železných minerálov pomocou bunkového elektrónového transportu.

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CULTURE AND CHARACTERIZATION OF NEURAL CELLS ISOLATED FROM CANINE CORTEX

Marcela Maloveska, Nikola Hudakova, Patricia Petrouskova, Filip Humenik, Lubica Hornakova and Dasa Cizkova

Abstract

One of the procedures used in current neuroscience research is work with primary neural cultures. These are cells isolated from various regions of the CNS of embryonic or neonatal rodents (mainly mice and rats), for which a number of techniques have been developed. The aim of our work was to create a protocol for the isolation of canine nerve tissue (*cortex cerebri*), cultivation of nerve cells and subsequent characterization of neurons and astrocytes by immunofluorescence staining. Our results suggest that the isolation procedures described in rodents are also applicable to canine tissue, and the canine neonatal cortex is a suitable source of neurosphere-forming cells. After determining the proportion of individual nerve cells (neurons, astrocytes, oligodendrocytes), the cells thus obtained could prospectively serve as simplified *in vitro* model for the study of processes related to neuroregeneration.

Key words: *canine cortex, culture, characterization*

1 INTRODUCTION

Numerous disorders of the nervous system that predominantly damage neurons are referred to as neurodegenerative diseases. Such harm is irreparable and affects the organism in a number of ways, including cognitive decline, difficulties with the locomotor system, and even death (Slanzi et al. 2020). The choice of an appropriate experimental model is one of the most important steps in the investigation of mechanisms involved in the diagnosis or treatment of such disorders. Despite the fact that the results of *in vivo* studies are considered more reliable and relevant, experimental results from the *in vitro* environment are often more suitable for research and various analyses carried out at the cellular and molecular level (Goshi et al. 2020). Commercially available 2D models representing immortalized cell lines such as PC12, ReNcell or the frequently used human neuroblastoma cell line SH-SY5Y are long-term tools for various neurobiological studies, but the use of primary cultures is desirable because they do not originate from tumors and are likely to better reflect the properties of neuronal cells *in vivo* (Gordon et al. 2013). The development of a protocol for the preparation of characterized canine neural cultures, which would prospectively represent a more suitable model for functional *in vitro* analyses of cellular as well as acellular therapy, still represents a long way to go, which is *inter alia* limited by the availability of valuable biological material (cadavers).

2 MATERIALS AND METHODS

2.1 Isolation of a neural population from canine *cortex cerebri*

Cadavers of puppies (n=3) were obtained in cooperation with the Small Animal Clinic of the University Veterinary Hospital of UVMP (University of Veterinary Medicine and Pharmacy in Kosice) under strictly sterile conditions during (just after) a complicated delivery ended by *sectio caesarea*. Dead puppies were collected after obtaining the informed consent of the bitches owner and with the approval of the Ethical Committee of UVMP in Kosice (EKVP/2022-21). The biological material was transported on ice from the clinic to the tissue laboratory within an hour, where the fetal brain was dissected under sterile conditions. In a Petri dish the removed brain fragments (*cortex cerebri*) were gently rinsed with PBS

containing 2% ATB + ATM ((penicillin-streptomycin-amphotericin B (Biowest)) with an emphasis on thorough removal of the brain meninges. The following procedure of gentle enzymatic processing was performed according to the protocol of the commercial set Papain Dissociation System (Worthington), which is commonly used in embryonic (Sahu et al. 2019) and newborn mice and rats (Ahlemeyer a Baumgart-Vogt 2005). The cells were seeded on a culture flask with an area of 25 cm^2 (seeding density - $0.5x10^6$). Cells in a culture medium consisting of Neurobasal Medium (Gibco) supplemented with the following supplements - B27 (Gibco), N2 (Gibco), 1% L-Glutamine (Gibco), Basic fibroblast growth factor (Abcam), Epidermal growth factor (Roche), with the addition of 2% fetal bovine serum (FBS), were incubated at 37°C and 5% CO_2. Half of the culture medium was changed every 24 hours during the first 2 days, then the serum-free medium was changed every 3 days.

2.2 Cultivation of neural cells

On DIV8 (Days in Vitro), the cells were passaged (Trypsin 0,25%; centrifugation 500 rpm /5 min) and transferred to two 24-well plates (plate A and plate B) with glass inserts (for the purpose of immunocytochemistry). All culture surfaces were pre-coated with Poly-L-Lysine (Sigma). We observed the morphology the cells, formation of neurospheres (free-floating clusters of cells) and their subsequent disintegration with a light microscope. According to most published sources, a healthy population of cells can be cultured for 4 weeks under suitable conditions.

2.3 Immunocytochemistry

The characterization of neurons and astrocytes in cell populations was performed by immunofluorescence staining. Cells in plate A were fixed on DIV10 and in plate B on DIV14. Fixation was performed using 4% paraformaldehyde, and cells were washed in PBS for 15 min. Subsequently, the cells were blocked for 120 min. with 10% NGS in PBS with 0.2% Triton X-100. After the application of primary antibodies: BIII tubulin, Ms (Abcam) and GFAP, Rb (Dako) in a dilution of 1:300, we incubated the cells overnight at 4 °C. After washing with PBS, the cells on the plate were incubated for 120 min. at room temperature, without access to light, with secondary fluorescently labeled antibodies: Alexa Fluor 488, Anti-Ms (Invitrogen) and Alexa Fluor 495, Anti-Rb (Invitrogen). Cells were washed twice in PBS, and glass inserts were mounted on glass slides using DAPI Fluoroshield mounting medium (Sigma). Cells were vizualised using a Zeiss Axio Vision fluorescence microscope.

3 RESULTS

3.1 The morphology of isolated cells

At DIV3 (in a T25 culture flask) we registered the creation of primary neurospheres—the formations of nerve cells resulting from their intrinsic motility and tendency to aggregate in culture (Fig.1A). In the neural population, we subsequently registered their disintegration (from DIV5) and change to an adherent culture (Fig.1B). After passage and seeding of cells on plates (DIV8), the cells formed the so-called secondary neurospheres (DIV10),that displayed a perfectly round shape with later disintegration of borders (Fig. 1C).

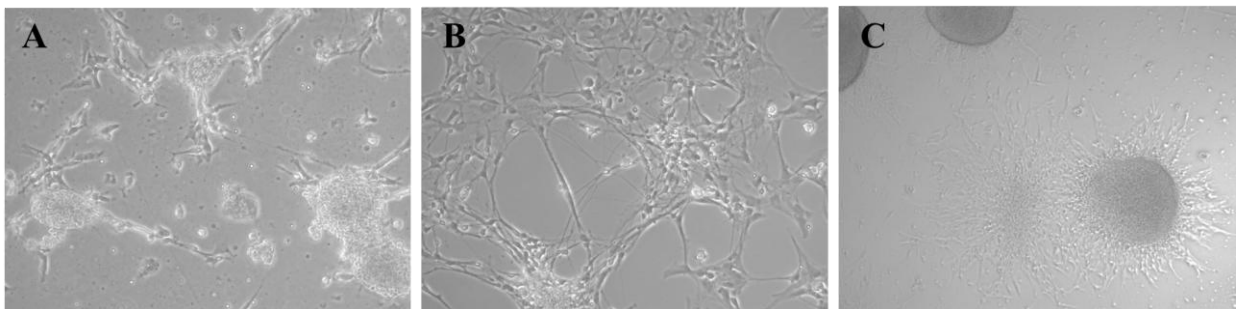

Figure 1. Morphology of isolated cells: The creation of primary neurospheres at DIV3. B Disintegration of primary neurospheres to an adherent culture (DIV8), C Secondary neurospheres (DIV10). (A, B – in culture flask; magnification 10x; C – on plate; magnification 5x)

3.2 Immunocytochemical characterization of isolated cells

There are a number of specific markers that can be used to label cells and reveal the proportion of neural cells (neurons, astrocytes, oligodendrocytes) in a culture. Classical lineage-specific markers for CNS cells include βIII-tubulin for neuronal cells, GFAP for astrocyte cells, O4 for oligodendrocytes, and OX-42/CD-11b for microglia (Brewer a Torricelli 2007). In our work, we focused on the identification of neurons and astrocytes. Their presence in secondary neurospheres is illustrated in Figure 2. Figure 3A captures the disintegration of such neurospheres and change into an adherent culture 3B.

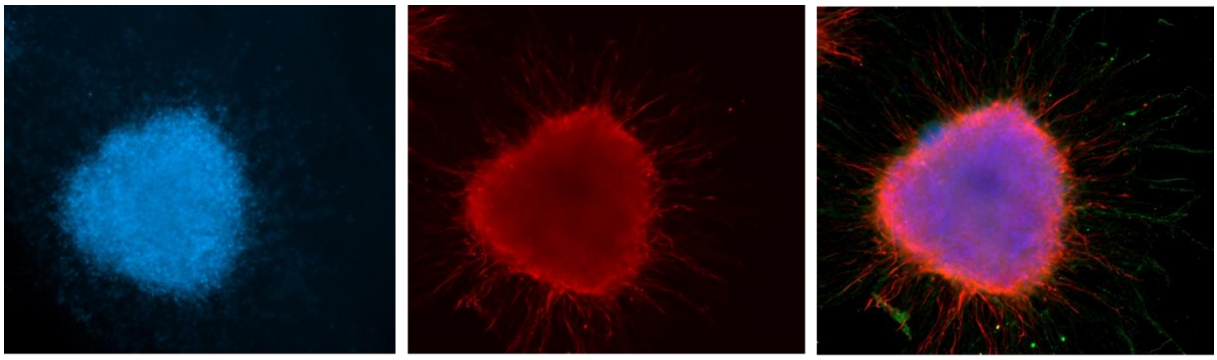

Figure 2. Secondary neurosphere stained for astrocyte marker GFAP (red) and neuron marker βIII-tubulin (green). Nuclei of cells stained with DAPI.
Magnification 5x.

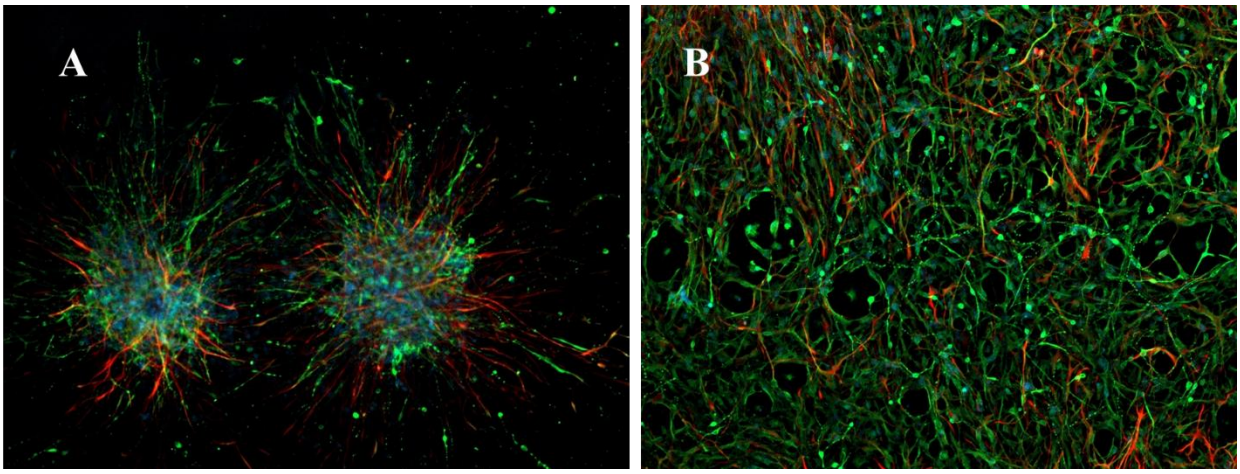

Figure 3. Representative fluorescence images of: A disintegrating neurospheres and B monolayer of a heterogeneous population of cells (B). The immunocytochemistry was focused on neurons: βIII-tubulin (green) and astrocytes: GFAP (red). Cell nuclei were stained blue with DAPI. Magnification 10x.

4 DISCUSSION

Although it is considered relatively easy to isolate and culture prenatal neurons of mice or rat embryos, the isolation of postnatal neurons is problematic due to the tight adhesion of cell bodies as well as the presence of thousands of synapses (Shabanipour et al. 2019; Pacifici a Peruzzi 2012). The nervous tissue of just-born individuals could probably be considered a transition between the prenatal and adult types. In our work, we confirmed the possibilities of using the Papain kit for the enzymatic processing of canine nerve tissue. In comparison with the isolation of cells by the method of mechanical dissociation, we recorded a higher yield and viability of the cells (based on an optical evaluation). Although this methodology is commonly used for the isolation of primary neural culture in rodents (Sahu et al. 2019; Ahlemeyer and Baumgart-Vogt 2005), it has not been described in neonatal puppies. This fact is probably related to the limitations in obtaining the source tissue. The obtained and cultured primary population of cells was evaluated morphologically and partially characterized by immunocytochemistry. The specific markers chosen by us confirmed the presence of neurons and astrocytes. In perspective, the culture obtained in this way could serve as a simplified *"in vitro"* model for procedures at our workplace, where we would thus prepare species-uniform conditions for verifying the effectiveness of the neuroregenerative (neurite-outgrowth-promoting effect, neuron-like cell differentiation-inducing effect) potential of conditioned media derived from canine mesenchymal stem cells. A remarkable feature is the confirmation of the presence of neurosphere-forming cells from the cortex tissue. This fact is probably related to the still unfinished neurogenesis of newborns, but the results of the review published in 2020 confirm that, in addition to the long-accepted zones (hippocampus and the subventricular zone), there are also other places of adult neurogenesis in the brain of mammals, namely areas such as the hypothalamus, striatum, substantia nigra, cortex, and amygdala (Jurkowski et al. 2020).

5 CONCLUSIONS

Our research's objective was to develop a protocol for the dissection of canine nerve tissue (*cortex cerebri*), the isolation, and the culture of neural cells. We can state that the isolation techniques established for rodent tissue also apply to canine tissue. By immunocytochemical characterization, we confirmed the presence of neurons and astrocytes, and after determining the ratio of individual types of nerve cells (neurons, astrocytes, and oligodendrocytes), the

culture could potentially be used as a simplified *in vitro* model for research on neuroregeneration-related processes. Our findings indicate that the canine newborn cortex is also a good source of neurosphere-forming cells.

Acknowledgment
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GENETIC ALGORITHM IMPROVEMENTS FOR SOLVING FLOW-SHOP PROBLEMS IN INDUSTRIAL PRODUCTION

Pavol Oršanský, Vladimír Guldan

Abstract

In this work, we deal with the use of optimization methods of the genetic algorithm for the optimization of production process plans in serial production. Specifically, we deal with the creation of an optimal sequence of production processes with regard to time and economic savings. In addition to the classically used genetic algorithms, we will focus on their improvements, such as the Tabu search, the penalty algorithm and simulated annealing. The simulation modeling took place in the Matlab environment.

Keywords: *Optimization, Genetic algorithm, Simulated annealing*

1 OPTIMIZATION FLOW-SHOP SHEDULING

Optimization is the search for the best solution from a set of possible solutions. In this case, we do not understand the term "solution" only in a strictly mathematical sense, such as solving an equation. Optimization deals with the search for the global minimum (or maximum) of functions of many variables with respect to possible limiting conditions. Many tasks from both engineering practice and natural sciences correspond to this general definition.

Flow-shop scheduling is an optimization problem in computer science and operations research. It is a variant of optimal job scheduling. In a general job-scheduling problem, we are given n jobs $J_1, J_2, \dots, J_n$ of varying processing times, which need to be scheduled on m machines with varying processing power, while trying to minimize the makespan – the total length of the schedule (that is, when all the jobs have finished processing). In the specific variant known as flow-shop scheduling, each job contains exactly m operations. The i-th operation of the job must be executed on the i-th machine. No machine can perform more than one operation simultaneously. For each operation of each job, execution time is specified. The flow shop problem is a special case of the job shop problem.

There are m machines and n jobs. Each job contains exactly m operations. The i-th operation of the job must be executed on the i-th machine. No machine can perform more than one operation simultaneously. For each operation of each job, execution time is specified.

Operations within one job must be performed in the specified order. The first operation gets executed on the first machine, then (as the first operation is finished) the second operation on the second machine, and so on until the m-th operation. Jobs can be executed in any order, however. Problem definition implies that this job order is the same for each machine. The problem is to determine the optimal such arrangement, i.e., the one with the shortest possible total job execution makespan. [6]

The planning problem generally belongs to NP-complete problems (nondeterministic polynomial-time complete). This means that the time required to solve an NP-complete problem grows asymptotically faster than polynomially (usually exponentially) with the size of the problem input (instance). The consequence is that the time required to solve even moderately large instances of NP-complete problems easily reaches billions or trillions of years using any amount of computing power available today. This is also why the question of whether it is possible to solve NP-complete problems efficiently is one of the central questions of computer science today. [2]

More extensive problems must be solved by heuristic methods, which do not guarantee finding an optimal solution, nor can they determine how close to the optimum a certain admissible

solution is but are able to provide a "satisfactory" solution in a reasonable time. Evolutionary algorithms based on biological knowledge are a special chapter of heuristic algorithms. The disadvantages of these algorithms include the probabilistic nature of the results. This means that a different result may occur after each run. Among the basic and best-known evolutionary algorithms at the present time is so called genetic algorithm and its improvements such as the Tabu search, simulated annealing and the penalty algorithm.

2 GENETIC ALGORITHM

The genetic algorithm (GA) is a method for solving optimization problems that is based on natural selection, the process that drives biological evolution. It was pioneered by John Holland (1975) and his students at the University of Michigan. [11] The GA repeatedly modifies a population of individual solutions. At each step, the genetic algorithm selects individuals from the current population to be parents and uses them to produce the children for the next generation. Over successive generations, the population "evolves" toward an optimal solution. The genetic algorithm is a non-deterministic method of problem solving based on the principles of Darwin's theory of evolution. Each solution to the problem is called a chromosome and is made up of a binary string of a given length, which is the same for all chromosomes of the given population. A population is a finite set of chromosomes.

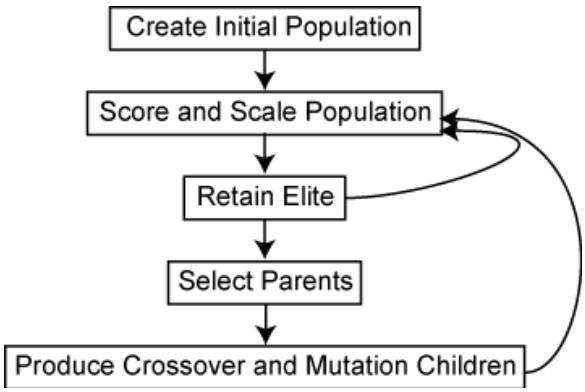

Figure 1: This flow chart outlines the main algorithmic steps.

The GA uses three main types of rules at each step to create the next generation from the current population:

- *Selection rules* select the individuals, called parents, that contribute to the population at the next generation. The selection is generally stochastic, and can depend on the individuals' scores.
- *Crossover rules* combine two parents to form children for the next generation.
- *Mutation rules* apply random changes to individual parents to form children.

The selection is based on the fitness function. The fitness function is the function you want to optimize. For standard optimization algorithms, this is known as the objective function. The fitness value of an individual is the value of the fitness function for that individual. To create the next generation, the genetic algorithm selects certain individuals in the current population, called parents, and uses them to create individuals in the next generation, called children. Typically, the algorithm is more likely to select parents that have better fitness values.

The algorithm creates crossover children by combining pairs of parents in the current population. At each coordinate of the child vector, the default crossover function randomly selects an entry, or gene, at the same coordinate from one of the two parents and assigns it to the child. For problems with linear constraints, the default crossover function creates the child as a random weighted average of the parents.

The algorithm creates mutation children by randomly changing the genes of individual parents. The GA differs from a classical, derivative-based, optimization algorithm in two main ways. GA generates a population of points at each iteration. The best point in the population approaches an optimal solution, unlike classical algorithm, which generates a single point at each iteration. The sequence of points approaches an optimal solution. GA selects the next population by computation which uses random number generators, unlike classical algorithm, which selects the next point in the sequence by a deterministic computation. [5, 14]

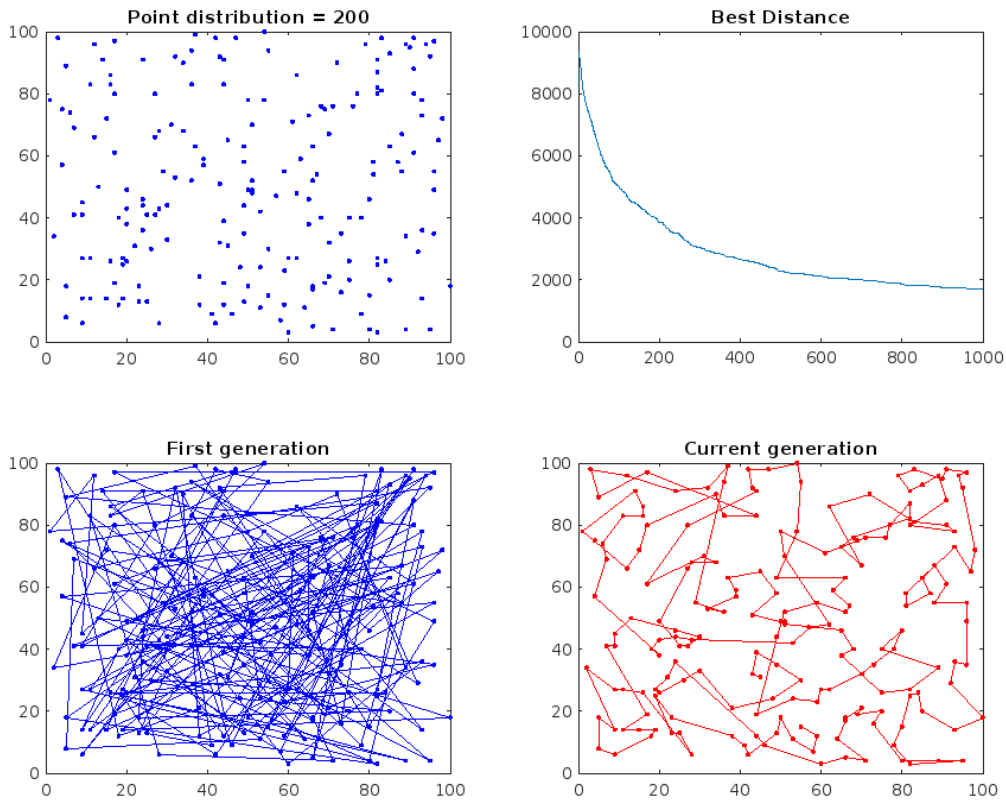

Figure 2: Results of a simple example of optimizing the task of a business traveler using a genetic algorithm for 1000 generations. Finding the shortest path between 200 points is the task of finding the shortest distance between $200! = 8.8 \cdot 10^{377}$ permutations. The found path is not the shortest but it is found in real time.

2.1 Tabu search

Tabu search (TS) is a metaheuristic search method employing local search methods used for mathematical optimization. The method was created by Fred W. Glover in 1986 and formalized in 1989. The basic idea of TS is to penalize moves that take the solution into previously visited search spaces (also known as tabu). TS does deterministically accept non-improving solutions in order to prevent getting stuck in local minimums. During the algorithm, the best solution is recorded, which we consider to be the resulting optimal solution. The disadvantage of this algorithm is that after a certain given number of interaction steps it returns to the local solution that has already occurred in the previous steps. This deficiency was solved by introducing the so-called *short-term* and *long-term memory*.

Short-term memory (tabu list) contains inverse transformations to the transformations used in previous interactions. If the transformation is contained in a tabu sheet, then it cannot be used to construct the neighborhood of the current solution. When the algorithm is initialized, the tabu sheet is empty, after each iteration a transformation is added to it, which provided a lo-

cally optimal solution. After the tabu list is filled, it is updated in each iteration (the length of the ban for all moves is reduced by one). An important parameter is the length of the tabu sheet. If the size is too small, then looping of the algorithm may occur. If the length is too large, then with a high probability we will miss local minima, which could be global minima. The search process can be significantly improved by using the so-called aspirational criteria. An aspirational criterion is a condition that allows ignoring a tabu constraint under certain circumstances (e.g. a forbidden move leads to a solution that is better than all solutions achieved so far).
Long-term memory works by disadvantaging (penalizing) those transformations which are not contained in the tabu list, but often occurred in the previous history of the algorithm We distinguish two processes, intensification and diversification. Intensification strategies will focus on supporting "good" attributes in the search for solutions. Diversification strategies instead generate solutions involving attributes significantly different from those encountered in the previous search process. [8, 9, 10]

2.2 Penalty algorithm

The idea of using penalty functions in calculations was for the first time presented in [3]. Sometimes they have been used in optimization techniques. Several early approaches of evolutionary computations using the penalty functions were born in 1993–1995 [7]. Since genetic algorithms are generic search methods, most applications of genetic algorithms to constraint optimization problems have used the penalty function approach of handling constraints. The most frequently used and the simplest approach is penalization, in which the original fitness function $f(x)$ is supplemented with a penalty function. The *objective function* $F(x)$ expanded in this way has the form

$$F(x) = f(x) + \text{penalty}(x).$$

The penalty function approach involves a number of penalty parameters which must be set right in any problem to obtain feasible solutions. This dependency of genetic algorithms performance on the penalty parameters has led researchers to devise sophisticated penalty function approaches, such as multi-level penalty functions, dynamic penalty functions, and penalty functions involving temperature-based evolution of penalty parameters with repair operators.
We decided to make the optimization algorithm more efficient by introducing a dynamic penalty. This means that the amount of the penalty increases during the calculation depending on the number of generations. We have therefore introduced a variable into the algorithm which grows during the calculation, always after a certain number of generations (is multiplied to the second). The weight of such an increasing penalty increases with the increasing number of generations. [4, 15]

2.3 Simulated annealing

The basics of this method were first published in 1953 in an algorithm that simulated the cooling of the material in a hot bath. In the early 1980s, Kirkpatrick, Gelatt and Vecchi (1983) [12] and independently Vladimír Černý (1985, MFF UK in Bratislava) [1] proposed that this type of simulation could be used to find admissible solutions of optimization problem in order to ensure convergence to an optimal solution. They also proposed its current name, simulated annealing (SA).
Physical Annealing is the process of heating up a material until it reaches an annealing temperature and then it is cooled down slowly in order to change the material to a desired structure. When the material is hot, the molecular structure is weaker and is more susceptible to change. When the material cools down, the molecular structure is harder and is less susceptible to change.

The acceptance criterion determines whether a new solution is accepted or rejected. The acceptance depends on the energy difference between the new solution and the current solution, as well as the current temperature. The classic acceptance criterion of SA comes from statistical mechanics, and it is based on the Boltzmann probability distribution. A system in thermal equilibrium at temperature t can be found in a state with energy E with a probability proportional to

$$P(\Delta E) = \mathrm{e}^{-\frac{\Delta E}{k \cdot t}},$$

where k is the Boltzmann constant. Hence, at low temperatures, there is a small chance that the system is in a high-energy state. This plays a crucial role in SA because an increase in energy allows escape from local minima and find the global minimum.
Based on the Boltzmann distribution, the following algorithm defines the criterion for accepting an energy variation ΔE at temperature t.

```
t, ΔE ... the temperature and energy variation
          between new and curent one candidate
if (ΔE < 0 ) then
        true;
else
        r = random number ∈ [0,1);
        if (r < exp(−ΔE/(k · t))) then
                true;
        else
                false;
        end
end
```

A candidate solution with lower energy is always accepted. Conversely, a candidate solution with higher energy is accepted randomly with probability $P(\Delta E) = \exp(-\Delta E/k \cdot t)$. The latter case can be implemented by comparing the probability with a random value generated in the range [0, 1). The temperature schedule determines how the temperature of the system changes over time. In the beginning, the temperature is high so that the algorithm can explore a wide range of solutions, even if they are worse than the current solution. As the iterations increase, the temperature gradually decreases, so the algorithm becomes more selective and accepts better solutions with higher probability. A simple scheduling can be obtained by dividing the current temperature by a factor $\alpha < 1$.
And so, as a final improvement, we supplemented the algorithm with a decision to accept a new individual into the next generation based on the principle of simulated annealing. The mutation operation is of more fundamental importance to the calculation process, we decided to apply this procedure to it. And so that the quality (determined by the objective function) of each mutated individual is compared with the quality of its predecessor. If the quality of the mutated is better than the quality of the predecessor, the mutated advances to the next generation. If not, it advances to the next generation with a probability given by the principle of simulated annealing. [13, 16]

3 SIMULATION

We simulated the algorithm to run a production schedule optimization with a dynamic penalty and a decision operation using simulated annealing after mutation for 50 entities with pre-

defined move times between entities. The termination of the simulation occurs if the smallest dynamic penalty is sufficiently close to zero, which means that the found approximate solution is not an approximation of the local solution. The entire simulation was programmed in the Matlab environment.
The results are in the following graphs.

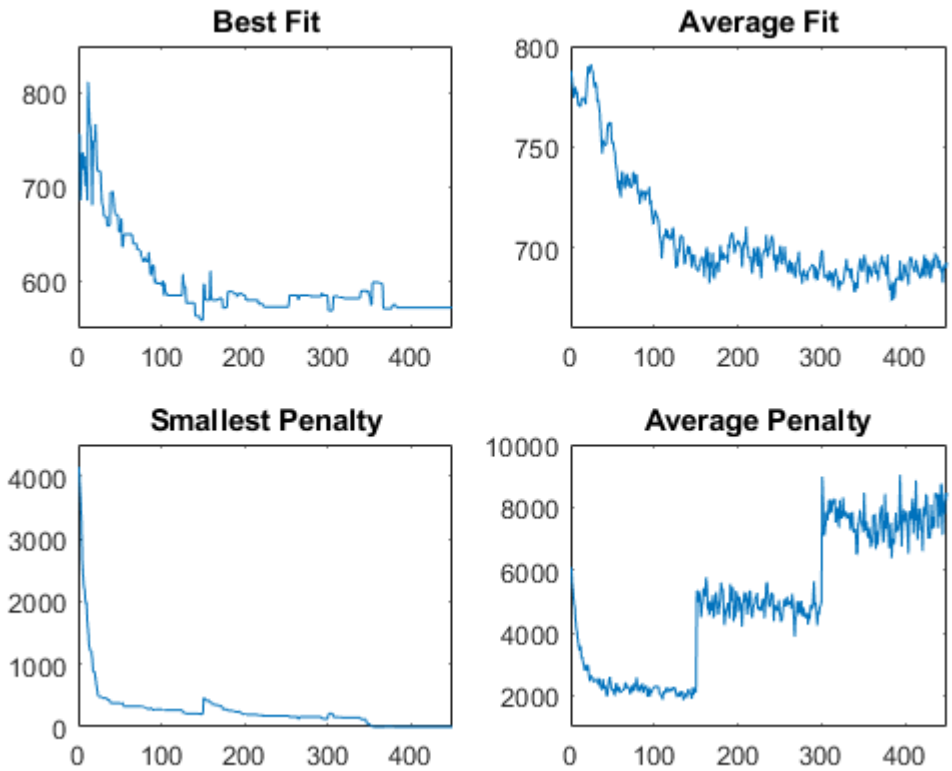

Figure 3: Simulation (first attempt) results for 50 randomly selected flow-shop operations with predefined times between operations, with a population size of 200.

4 CONCLUSION

Genetic algorithms are widely used in practice, not only technical and economic, but also, as we can see, in production processes. As a method for solving both constrained and unconstrained optimization problems that is based on natural selection, the process that drives biological evolution can be the genetic algorithm apply the genetic algorithm to solve a variety of optimization problems that are not well suited for standard optimization algorithms, including problems in which the objective function is discontinuous, nondifferentiable, stochastic, or highly nonlinear. All three mentioned ways of improving this algorithm not only speed up the algorithm but also increase its reliability.

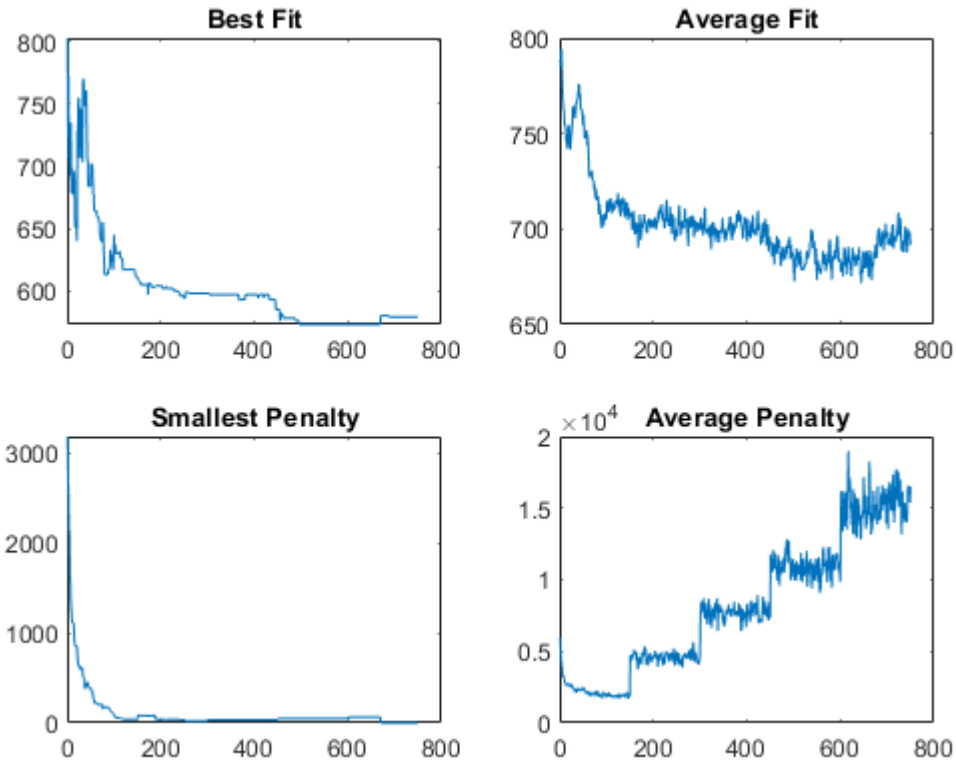

Figure 4: Simulation (second attempt) results for 50 randomly selected flow-shop operations with predefined times between operations, with a population size of 200.

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BENEFIT EDUKÁCIE V OBLASTI STRAVOVANIA A PITNÉHO REŽIMU U DETÍ S NADHMOTNOSŤOU/OBEZITOU A ICH RODIČOV

BENEFIT OF NUTRITION AND DRINKING EDUCATION FOR OVERWEIGHT/OBESE CHILDREN AND THEIR PARENTS

Jana Michalková, Jana Sušinková, Lucia Dimunová, Hedviga Kurcinová

Abstrakt

Nadhmotnosťou a obezitou v detskom veku ako aj u dospelých sa zaoberajú odborníci z mnohých rezortov, keďže ide o celospoločenský problém, ktorý má dokonca charakter pandémie. Členovia multidisciplinárneho tímu v intervenčnom programe Škola obezity v Košiciach približujú zaujímavé zistenia, ktoré potvrdzujú opodstatnenosť individuálnych a skupinových edukačných stratégií v prospech detí s nadhmotnosťou/obezitou a ich rodičov. Cieľom príspevku je analyzovať dáta zo vstupných a výstupných dotazníkov distribuovaných v rámci 6-mesačného ambulantného programu deťom a ich rodičom a poukázať na očakávané zmeny v kontexte prebiehajúcej edukácie vzhľadom k potvrdenému benefitu v oblasti stravovania a pitného režimu detí.

Kľúčové slová: *obezita, stravovanie, pitný režim, dieťa, edukácia*

Abstract

Childhood and adult overweight and obesity are being tackled by experts from many departments, as it is a societal problem, even pandemic in nature. Members of the multidisciplinary team in the Obesity School in Košice intervention programme present interesting findings that confirm the validity of individual and group educational strategies for the benefit of overweight/obese children and their parents. The aim of this paper is to analyze data from entry and exit questionnaires distributed during a 6-month outpatient program to children and their parents, and to highlight the expected changes in the context of ongoing education in view of the confirmed benefit in the area of children's eating and drinking.

Key words: *obesity, eating, drinking, child, education*

1 OBEZITA V DETSKOM VEKU A STRATEGICKÉ DOKUMENTY

Obezita je problémom, ktorý sa ešte viac znásobil vzhľadom na sedavý spôsob života počas obdobia pandémie Covid-19. Týka sa dospelej populácie, dospievajúcich aj detí. Obezita je chronické ochorenie, ktoré je výsledkom genetických, metabolických, enviromentálnych a behaviorálnych faktorov a vedie k zvýšenej morbidite a mortalite (Kuchta, Schusterová, 2022). Vplyv jedného rizikového faktora na telesnú hmotnosť môže byť relatívne malý, avšak spolupôsobenie viacerých faktorov môže mať výraznejší vplyv. Obezita sa spája so zvýšeným ukladaním tuku v organizme, následkom čoho sa zhoršuje zdravotný stav jedinca. Ak hovoríme o deťoch, obezita je jedným z najrozšírenejších problémov, ktoré ohrozujú ich zdravý vývin. Pri klasifikácii nadhmotnosti a obezity u detí zohľadňujeme percentilove grafy BMI a v rámci toho sa okrem výšky a hmotnosti hodnotí aj vek a pohlavie. U dieťaťa vo veku 2 - 19 rokov s nadhmotnosťou sú hodnoty BMI vyššie ako 85. percentil a nižšie ako 95. percentil, za obézne považujeme deti s hodnotami nad 95. percentil (Bánovčinová, 2022 podľa Kuczmarski et al., 2000). Pri výskyte nadhmotnosti a obezity u detí existuje až 80 % pravdepodobnosť obezity v dospelom veku. Celopopulačné zámery a ciele sú stanovené tak,

aby sa znížil výskyt a negatívny trend rozvoja obezity. Prevencia zostáva naďalej priroritou pri riešení tohto globálneho problému. Celonárodne prebieha viacero preventívnych programov zameraných na redukciu až elimináciu rizikových faktorov chronických neinfekčných ochorení. V nasledujúcom texte konkretizujeme významné strategické dokumenty, cez ktoré sú podporované preventabilné princípy v boji proti detskej obezite a obezite v populácii na Slovensku.

Štandardný diagnostický, preventívny a liečebný postup s názvom Komplexný manažment detského a adolescentného pacienta s obezitou a nadváhou, ktorý bol schválený MZ SR v júni 2022 má za cieľ zlepšiť dostupnosť a kvalitu zdravotnej starostlivosti pre deti a adolescentov s nadváhou alebo obezitou. Ďalším smerovaním je zvýšiť povedomie o závažnosti tohto ochorenia u zdravotníckych pracovníkov a zlepšiť koordináciu liečby (Petrocová, Majerčák, Šlepecký, 2022).

V zmysle tvorby nových a inovovaných postupov pre výkon prevencie a ich zavedenie do medicínskej praxe je podpora pohybovej gramotnosti u detí nabádaná aj cez preventívny postup s názvom Pravidelná fyzická aktivita ako nástroj prevencie neprenosných ochorení v kontexte negatívnych vplyvov pandémie COVID-19 u detí mladšieho školského veku – 1. revízia (schválené MZ SR v júni 2022, Sližik, Csino, Moises, 2022).

V roku 2017 bol MZ SR schválený Akčný plán pre potraviny a výživu na roky 2017–2025 s cieľom zavedenia správnych stravovacích návykov, ktorými sa bude na celopopulačnej úrovni predchádzať obezite, chronickým ochoreniam asociovaným s obezitou, vysokej chorobnosti a predčasnej úmrtnosti.

Za dôležitý pokladáme aj Národný akčný plán na prevenciu obezity na roky 2015 – 2025, ktorý tematicky vychádza z Národného programu prevencie obezity a centralizuje pozornosť na dva hlavné rizikové faktory - výživu a fyzickú aktivitu. Spolupráca medzi zainteresovanými subjektmi a partnermi má podporovať prostredie, ktoré umožní zmeny k zdraviu prospešnému správaniu sa jednotlivcov, rodín a komunít (Fábryová, 2018).

Aktualizácia Strategického rámca starostlivosti o zdravie pre roky 2014 – 2030 v júni 2022 priniesla sumarizáciu priorít v jednotlivých oblastiach zdravotníctva. Jedným zo silných plánovaných krokov je aj podpora zdravého životného štýlu a zlepšenie prevencie ochorení s cieľom zníženia nákladov na liečbu chorôb alebo hospitalizáciu vrátane podpory a rozvoja infraštruktúry (inštitucionálnej a personálnej) pre aktivity zamerané na rizikové faktory životného štýlu a skríning ochorení. Dlhodobým výsledným ukazovateľom vo sfére verejného zdravia má byť aj znižovanie miery obezity a detskej obezity v slovenskej populácii.

1.1 Intervenčný ambulantný program Škola obezity

Intervenčný ambulantný program Škola obezity prebieha pod gesciou Detskej fakultnej nemocnice v Košiciach od roku 2018 (Škola obezity, 2023). V naväznosti na vyššie uvedené strategické dokumenty, predstavuje 6-mesačnú cestu účastníkov tohto programu (dieťa vo veku od 5-18 rokov a jeho rodinný príslušník) a ponúka, aby sa v rámci sekundárnej prevencie nefarmakologickým prístupom dosiahlo u dieťaťa po absolvovaní skupinovej edukácie zdraviu prospešné a nie rizikové správanie. Cieľom je vypestovať u ňho optimálne stravovacie návyky a primeranú pohybovú aktivitu na celý život. Rozhodujúci je aj celkový postoj dieťaťa k vlastnej modifikácii životného štýlu. Obsahom edukácie by malo byť vybrané množstvo a kvalita poznatkov, ktoré vedú detského edukanta a jeho rodinných príslušníkov k zmene postojov a získaniu zručností, ktoré si má po ukončení edukačného programu naplno osvojiť a následne ich aplikovať v osobnom živote. Zdravotnícki pracovníci, tvoriaci súčasť multidisciplinárneho tímu, patria medzi skúsených a erudovaných lektorov a ich vzájomná kooperácia by mala priviesť účastníkov programu k celoživotnej zmene v nutričných a pohybových opatreniach. Svojou účasťou na edukačných aktivitách participuje

lekár, sestra, výživový poradca, nutričný terapeut, fyzioterapeut, klinický psychológ, kondičný tréner, pedagóg, študent v odbore ošetrovateľstvo a iní.
Pracovníci z Ústavu ošetrovateľstva Lekárskej fakulty UPJŠ v Košiciach (pedagóg + študent) každomesačne prichádzajú so svojím interaktívnym vstupom. Prvé edukačné stretnutie interpretuje pohľad na obezitu a jej komplikácie. Vyriešením tajničky sú preverované získané poznatky edukantov o téme. Náplň druhého edukačného stretnutia tvorí 5 základných zložiek potravy a verifikácia získaných znalostí prebieha pomocou kvízu. Na treťom edukačnom stretnutí je ústrednou témou látková premena. Opäť na potvrdenie nadobudnutých poznatkov je použitý kvíz. Zdravá strava – cesta k zdraviu je názov štvrtého edukačného stretnutia, na ktorom oboznamujeme účastníkov programu s nutrične vyváženou stravou. Správnym vyplnením kvízových otázok sa preukáže doplnenie vedomostí u edukantov a efektivita edukačných intervencií zo strany edukátorov. Piate edukačné stretnutie je sústredené na zdraviu prospešné pohybové aktivity, relax a oddych. V tomto edukačnom vstupe je v centre pozornosti pohyb, kedy ho vykonávať, ako sa naň pripraviť, ktoré druhy športu sú pre deti odporúčané a iné. Záver stretnutia riešia edukanti tajničku a my preverujeme ich dosiahnuté znalosti. Šieste edukačné stretnutie finalizuje našu snahu a edukantom konkretizujeme, čo sú zdravé návyky a naopak zlozvyky pri stravovaní a pohybovej aktivite. Prostredníctvom ponúknutých videoukážok edukanti hodnotia správne a nesprávne postupy v oblasti stravovania, pitného režimu a pohybu a odôvodňujú, aká by bola ich vôľba pre vlastný život.
Každý z členov tímu Školy obezity prináša z pohľadu svojej odbornosti prehľadné informácie o problematike nadhmotnosti/obezity a tak je deťom a ich rodinným príslušníkom ponúkaný celostný komplex poznatkov, ktorý ich má viesť k zlepšovaniu zdravotného stavu a celkovej podpore zdravia.

2 EDUKÁCIA U DETSKÉHO PACIENTA A PODMIENKY EDUKAČNÉHO PROCESU

Edukácia je považovaná za celoživotný proces a môžeme ju na základe mnohých relevantných zdrojov definovať ako výchovu a vzdelávanie. Predstavuje pre pacienta dôležitú súčasť preventívneho a liečebného procesu, tak pri opatreniach prevencie a podpory zdravia, diagnostike a liečbe ochorení, ako aj pri následnej zdravotnej starostlivosti zameranej na rehabilitáciu, rekonvalescenciu a dosahovanie lepšej kvality života.
Špecifiká edukácie detského pacienta determinujú viaceré faktory, ktoré v značnej miere modifikujú to, či je dieťa pripravené spracovávať poznatky ponúkané v rámci edukačného stretnutia. Môže ísť o nadobúdanie úplne nových znalostí t.j. základná edukácia alebo v rámci reedukácie dopĺňame prípadne rozširujeme vedomosti vzhľadom na doteraz známu problematiku. Pri komplexnej edukácii, za ktorú je považovaný aj náš intervenčný ambulantný program, dostáva edukant adekvátne a komplexné poznatky k tomu, aby sa staral o svoje zdravie, zvládal self-manažment ochorenia, čo najefektívnejšie, predchádzal tak komplikáciám a viedol, čo najkvalitejší život. Edukačné intervencie sestry sú vždy smerované na zmenu správania a konania. Podľa Kelčíkovej (2013) ošetrovateľstvo využíva poznatky o edukácii a súčasne ich adaptuje na jednotlivca, rodinu, či skupinu.
Podmienky edukačného procesu môžeme súhrne charakterizovať ako konkrétne sociálne, materiálne, biologické a psychické okolnosti ovplyvňujúce priebeh a efektívnosť edukácie. V tomto zmysle upriamujeme pozornosť na vonkajšie a vnútorné podmienky edukácie. Pri vonkajších podmienkach máme na mysli interiér, v ktorom sa edukácia uskutočňuje tzv. edukačné prostredie. Najlepšie je, ak sú na účel edukácie vytvorené priestory a tak môže edukačný proces prebiehať nerušene, bez vonkajších vplyvov (napr. hluk, umelé svetlo) a vo vhodných podmienkach. Edukačným prostredím je izba pacienta, vyšetrovňa, jedáleň alebo denná miestnosť, no najviac spĺňa predpoklady tzv. edukačná miestnosť. Edukačné prostredie by malo byť pre detského pacienta pozitívne, komfortné a stimulujúco pôsobiace. Keďže

v našom prípade ide o skupinovú edukáciu, edukačný program Školy obezity prebieha v priestoroch knižnice DFN v Košiciach, ktorá slúži vo vyhradenom čase, len pre túto cielenú edukačnú aktivitu. Víziou do budúcna sú samostatné priestory so širším spektrom zabezpečovaných služieb. K vonkajším podmienkam patria aj sociálne podmienky, v ktorých edukácia prebieha. V prvom rade ide o zoskupenie edukantov, vzájomné vzťahy medzi zúčastnenými stranami a spôsob komunikácie, ktoré určujú celkovú atmosféru počas edukácie. Pozitívny prístup v komunikácii je významným úspechom počas plnenia edukačných cieľov.
Vnútorné podmienky vyplývajú z biologických a psychologických zvláštností aktérov edukácie t.j. z ich vlastností, životnej skúsenosti, vekových a individuálnych osobitostí (Kováčiková, Sámelová, 2016). V rámci vnútorných podmienok je dôležité uviesť, že silným faktorom smerujúcim k úspešnej edukácii je aj vnútorná motivácia edukanta. Motivovaní edukanti majú oveľa väčšiu šancu využiť svoj potenciál a dosiahnuť úspech. Motivácia je základným prvkom efektívneho vyučovania a učenia sa. Prináša nielen pozitívnejšie správanie edukantov, ale prispieva aj k väčšiemu pocitu pohody.

2.1 Kľúčové kompetencie edukátora pre úspešnú edukáciu v praxi

Profesijná kompetencia je charakterizovaná ako komplexná schopnosť či spôsobilosť k úspešnému vykonávaniu profesie. Jej súčasťou sú vedomosti, zručnosti, postoje, hodnoty, motívy a vlastnosti osobnosti, ktoré sa prejavujú v určitom charakteristickom spôsobe správania a ovplyvňujú úroveň výkonu a činnosti (Šutáková, 2017). Súhlasíme s Kunterom et al. (2011), ktorí medzi odborné kompetencie edukátora (učiteľa) radia motiváciu, sebareguláciu a profesijné vedomosti. K týmto oblastiam kompetencií pričleňujú aj:

a) špeciálne didaktické kompetencie - schopnosť prezentovať a vysvetľovať problematiku, poznať proces myslenia edukanta,
b) psychologické kompetencie: mať znalosti o testovaní a hodnotení, o procesoch učenia a vyučovania a vedomosti o efektívnom riadení edukačnej skupiny,
c) organizačné kompetencie - schopnosť plánovať, koordinovať, kontrolovať, stanovovať limity, rozhodovať a zmysluplne zadávať úlohy,
d) interpersonálne (sociálne) kompetencie - schopnosť riadiť vzťahy s edukantmi, schopnosť komunikovať, starať sa o iných, byť tolerantný a flexibilný (Hockicková, Žilová, 2015)

Uvedené kompetencie sa následne odrážajú v efektívnej edukácii, ktorú Petlák a kol. (2011) približujú ako to, aby sa v čo najkratšom čase, s čo najmenšou námahou edukátora a edukanta dosiahli čo najlepšie výchovno-vzdelávacie výsledky. V tomto kontexte je nutné aplikovať premyslený výber vyučovacích metód a tiež záleží na voľbe jednotlivých činností aktérov edukačnej aktivity.

3 VÝSKUM

Potvrdený benefit po realizovanej edukácii u detských pacientov s nadhmotnosťou/obezitou a vedomosti edukantov, ktoré dokáže implementovať do svojho života cez zmenu životného štýlu a režimových opatrení je základnou tézou výskumu v rámci intervenčného ambulantného programu Škola obezity.

3.1 Cieľ a metodika

Naším cieľom je prezentovať vybrané výsledky dotýkajúce sa stravovania a pitného režimu u detí a ich rodičov v rámci Školy obezity, ktoré poukazujú na účinnosť edukačných intervencií v klinickej praxi. Deťom a rodičom zapojených detí sme distribuovali neštandardizovaný vstupný dotazník na začiatku 6-mesačného programu a výstupný dotazník na konci programu. Dotazník obsahoval spolu 19 otázok zameraných na stravovane a pitný režim ako aj na

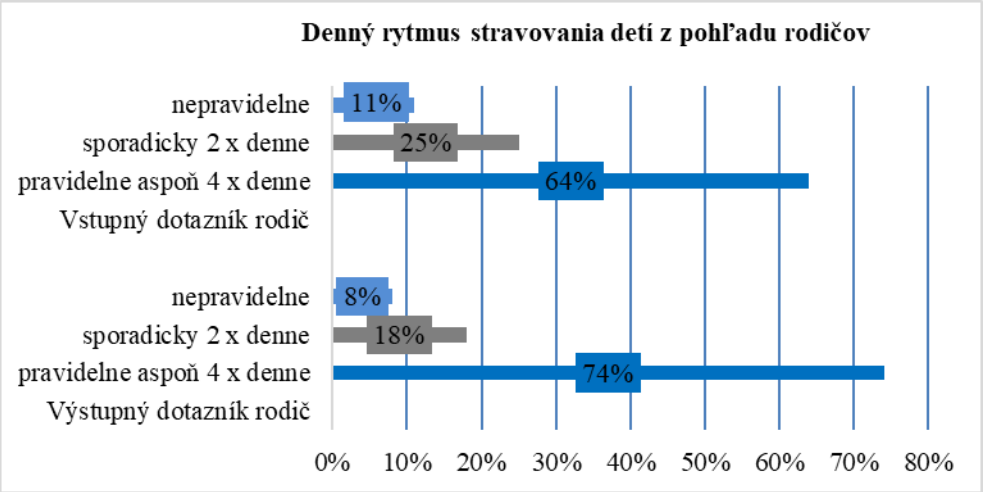
pohyb, či iné oblasti súvisiace s komplikáciami obezity. Zber dát začal od 09/2019 do 04/2023. Výskumu sa zúčastnilo spolu 120 rodičov a ich detí, do tohto času 97 z nich už účasť na edukačných stretnutiach ukončilo. Deti boli zastúpené vo veku od 5 do 18 rokov. Deti do 10 rokov vypĺňali dotazníky spolu s rodinným príslušníkom (celkovo 25 detí). Dáta boli analyzované s využitím metód deskriptívnej a induktívnej štatistiky.

3.2 Výsledky a diskusia

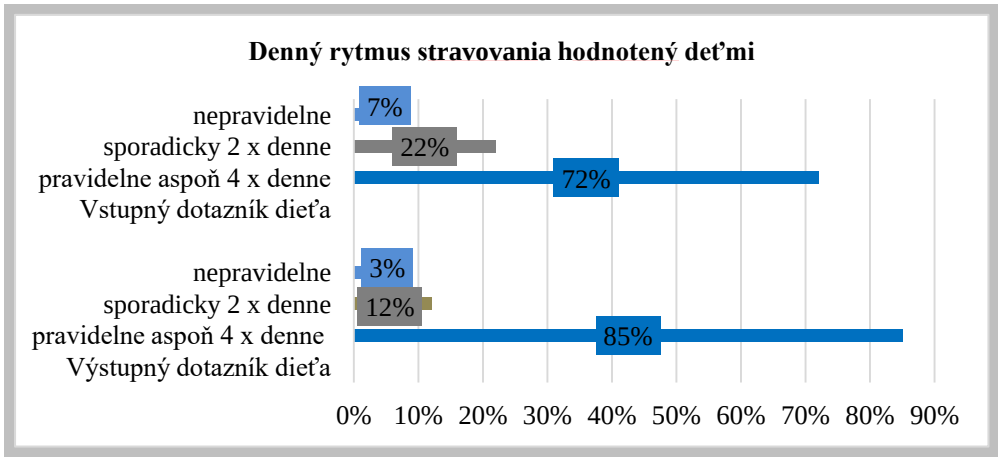
V nasledujúcom grafickom zobrazení výsledkov chceme poukázať na zlepšenie stravovacích návykov, pitného režimu ako aj vedomostnej otázky o zložkách potravy po absolvovanej edukácii u detí aj ich rodičov.

Pri pohľade na vstupné a výstupné dáta v grafe 1 u rodičov a v grafe 2 u detí je zrejmé, že pravidelnejší režim stravovania aspoň 4 x denne uvádzajú aj rodičia aj deti. Vo výstupných dotazníkoch 74% rodičov a 85% detí potvrdilo pravidelnejší príjem potravy. Je známe, že trendom detí je vynechávať raňajky dokonca aj obed a prvé jedlo konzumujú až po príchode zo školy domov. Podľa výsledkov projektu Viem čo zjem, ktorý prebieha pod záštitou ÚVZ SR takmer 40% detí na Slovensku nekonzumuje pravidelne raňajky (Ochaba, Patoprstá, 2023). Ma et al. (2020) na základe systematického prehľadu a metaanalýzy interpertuje, že vynechávanie raňajok je spojené s nadhmotnosťou a obezitou. Chen et al. (2022) rovnako prezentuje, že nedostatok spánku a vynechávanie raňajok sú prediktormi nadhmotnosti/obezity u detí a adolescentov. Podpora konzumácie raňajok a pravidelného stravovania vo všetkých skupinách obyvateľstva je užitočné odporúčanie na zníženie rizika nadhmotnosti/obezity. Veríme, že zmena potvrdená deťmi a rodičmi po absolvovanej edukácii bude mať dlhodobý charakter.

Graf 1 Stravovanie detí podľa ich rodičov

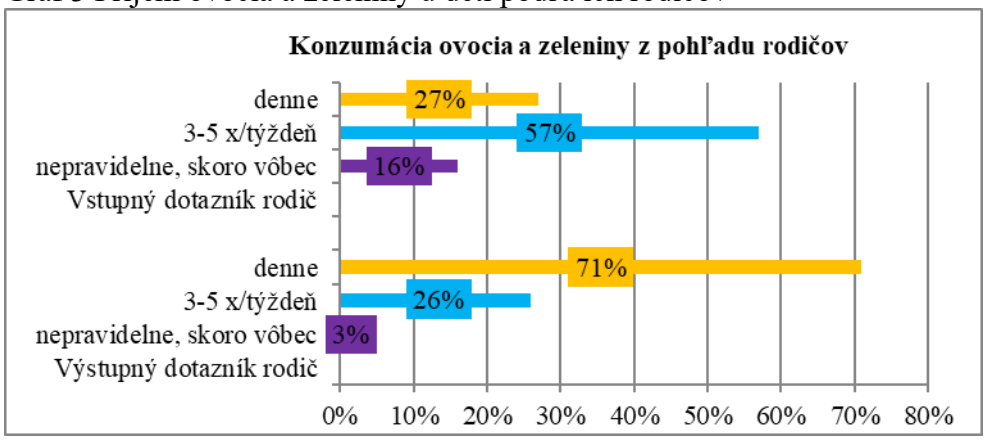


Graf 2 Stravovanie detí

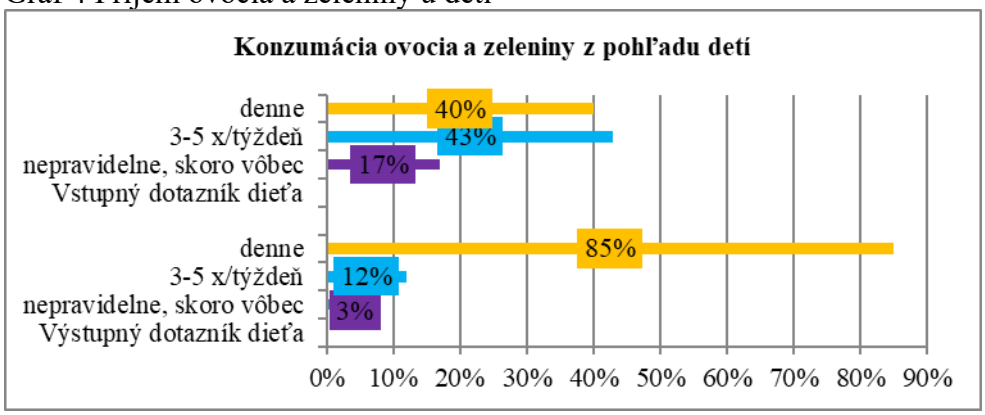


Graf 3 a graf 4 objasňujú interval konzumácie ovocia a zeleniny v našom súbore detí z pohľadu rodičov a detí samotných. Všeobecne sa odporúča aspoň 5 porcií ovocia a zeleniny denne, čo predstavuje podľa odporúčaní približne 400 g ovocia a zeleniny. Obsahujú dôležité látky, ktoré podporujú zdravý vývin dieťaťa, zlepšujú jeho kondíciu, posilňujú imunitný systém a predstavujú zdroj prírodnej energie. 27% rodičov a 40% detí vo vstupných dotazníkoch potvrdilo dennú konzumáciu ovocia a zeleniny. Vo výstupných dotazníkoch vidíme nárast odpovedí aj u rodičov aj u detí. Tento fakt odzrkadľuje vplyv získaných poznatkov a dôležitosti konzumácie ovocia a zeleniny a mnohokrát to bolo spojené aj so zmenou osobného postoja dieťaťa po príprave a ochutnávke jedál inovatívnym a kreatívnym spôsobom.

Graf 3 Príjem ovocia a zeleniny u detí podľa ich rodičov



Graf 4 Príjem ovocia a zeleniny u detí



Motivácia je kľúčový faktor úspechu. Ak dieťa alebo rodič (najmä ten, ktorý má výraznejší dosah a vplyv na dieťa) nie sú dostatočne motivovaní k liečbe, potom sú vyhliadky na úspešnú intervenciu nízke (Petrocová, Majerčák, Šlepecký, 2022). V tab. 1 prezentujeme výsledné vedomosti rodičov a detí o základných zložkách potravy (tuky, cukry, bielkoviny, vitamíny, minerály a voda). V obidvoch skupinách aj u rodičov aj u detí vidíme nárast poznatkov po absolvovanej edukácii, čo potvrdzuje benefit uskutočnených edukačných stretnutí.

Tab. 1 Pomenovanie zložiek potravy z pohľadu rodičov a detí

Odpovede	**Vstupný dotazník rodič**	**Výstupný dotazník rodič**	**N/P**	**Odpovede**	**Vstupný dotazník dieťa**	**Výstupný Dotazník dieťa**	**N/P**
Správne 3 a viac	63%	89%	+ 26%	Správne 3 a viac	41%	88%	+ 47%
Nesprávne 2 a menej	9%	5%	- 4%	Nesprávne 2 a menej	11%	12%	+ 1%
Nevyplnili	28%	6%	- 22%	Nevyplnili	48%	-	-

N – nárast v %, P – pokles v %

Pitný režim u detí mladšieho školského veku (6 - 11 rokov) sa pohybuje od 1,8 - 2 litre tekutín denne. Je odporúčaná hlavne voda, ovocné a bylinné čaje, minerálne vody. U starších školákov a adolescentov (12 – 19 rokov) je problematické dodržiavať pitný režim. Aj keď deti prijímajú dostatok tekutín, problém je v tom, akým tekutinám dávajú prednosť. Ide predovšetkým o sladké limonády, ktoré obsahujú veľa nevhodných látok ako cukor, farbivá a iné (Ondriová a kol., 2018). Otázky o pitnom režime boli tiež súčasťou dotazníka. Najfrekventovanejšia odpoveď u rodičov aj u detí bol objem 1,5 – 2 litre tekutín denne. Po edukácii nám udávali preferenciu nesladených nápojov (52%/57% výstupný dotazník rodič/dieťa) a čistej vody (42%/39% výstupný dotazník rodič/dieťa) verzus pitie sladených nápojov, čaju alebo džúsu.

Pri komparácii vstupných a výstupných dotazníkov u rodičov a detí môžeme vidieť, že rozdiel medzi celkovým skóre otázok o stravovaní a pitnom režime vo vstupných a výstupných dátach je štatisticky významný ($p < 0.001$) tak pre rodičov, ako aj pre deti (tab. 2). Potvrdila sa efektivita realizovaných edukačných intervencií, čo nás ešte viac motivuje pre angažovanosť v rámci intervenčného ambulantného programu Škola obezity.

Tab. 2 Rozdiel vo vstupných a výstupných dotazníkoch u rodičov a detí

N=58			Statistic	df	p	Mean Difference	SE Difference		Effect size
Vst. rodič	Výst. rodič	Student´s t - test	4.22	50.00	< .001		0.28	Cohen´s d	0.55
N=61			**Statistic**	**df**	**p**	**Mean Difference**	**SE Difference**		**Effect size**
Vst. dieťa	Výst. dieťa	Student´s t - test	9.74	60.00	< .001	2.43	0.25	Cohen´s d	1.25

Vst. – vstupný dotazník, Výst. – výstupný dotazník

4 ZÁVER

Miery obezity u dospelých a mladistvých sú na vzostupe a sú vyššie v porovnaní s priemerom EÚ, a to sčasti pre nesprávne stravovacie návyky a nízku úroveň fyzickej aktivity (Slovensko: Zdravotný profil krajiny 2021, 2021). Viac zdravej výživy a primeraná dávka pohybu by mali priniesť do života menej rizík. Dlhodobým zámerom intervenčného programu a spoločným úsilím všetkých členov tímu Školy obezity je dosiahnuť želanú zmenu spôsobu života u detí s nadhmotnosťou/obezitou a eliminovať tak vznik ochorení súvisiacich s obezitou v budúcnosti. Školské jedlá tvoria približne 40% denného príjmu detí, preto by sa malo na úrovni škôl dbať na obmedzenie dostupnosti nezdravých potravín a nápojov, a zároveň by sa mala zvýšiť dostupnosť zdravých potravín s nízkou energetickou hodnotou a samozrejme nezabudnúť na dostatočný príjem pitnej vody (Svetový deň obezity 2022, 2023).

Rodičia môžu efektívne znižovať riziko vzniku nadhmotnosti/obezity tým, že budú v rodine vytvárať predpoklady pre formovanie zdravého životného štýlu. Deti často preberajú návyky svojich rodičov a blízkych, preto nástroje proti vzniku a rozvoju nadhmotnosti/obezity by mali byť súčasťou dennej rutiny všetkých členov rodiny.

Zaoberať sa problematikou správnej výživy v súčasnosti, vytvárať nevnucujúce, ale o to efektívnejšie intervenčné postupy, ktoré by populáciu viedli k zamysleniu a k rozhodnutiu vykonať zmeny na vlastnej osobe podložené vedeckými podkladmi, odôvodnenými vedeckými dôkazmi, je podľa Béderovej a kol. (2018) veľmi dôležité s náležitým efektom.

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PHARMACEUTICAL CRIME

Ľuboš Cehlárik

Abstract

The article focuses on identifying the characteristic features of pharmaceutical crime, highlighting its global scope based on the analysis of significant European and American documents. The presented article provides a concise overview of specific knowledge in the field of online sales of counterfeit pharmaceutical products.

Key words: *pharmacrime, pharmaceutical crime, internet sale, online pharmacy, e-shop, counterfeit pharmaceutical products*

In 2020, a study titled Trade in Counterfeit Pharmaceutical Products[1] was published by the OECD/European Union Intellectual Property Office with the aim of better understanding the issues and challenges faced by government institutions and society in relation to the illegal trade of counterfeit pharmaceutical products. This report can be considered a comprehensive study providing a unique analytical overview of the issue of pharmaceutical crime, which has not been previously addressed to such an extent. We will outline some significant points from it.

Illegal markets for counterfeit drugs, medicines, and dietary supplements are attractive to counterfeiters primarily due to high profit margins, low risk of detection and prosecution, and low penalties. The objective of illegal activities is to create high-quality counterfeits and deceive consumers into believing that the products they are purchasing are genuine. In 2016, the profit from the trade of counterfeit pharmaceutical products was estimated at USD 4.4 billion, posing a significant risk to public health and greatly strengthening organized crime.

During the period of 2014-2016, the highest number of cases of counterfeit drugs were identified in the categories of malaria, HIV/AIDS, antibiotics, dietary supplements, painkillers, diabetes, drugs for the central nervous system and cardiovascular system, allergy medications, gastric ulcers, and local anesthetics. The main countries of origin for counterfeit drugs include India, China, the United Arab Emirates, Hong Kong (China), and Singapore. Transit countries include the United Arab Emirates, Singapore, Hong Kong, Yemen, and Iran. The targeted destinations are countries in Europe, Africa, and the USA. Out of the total number of cases recorded by customs authorities in Europe, 47% of counterfeit pharmaceutical products originated from India, 37% from China, and 8% from Hong Kong (China). Counterfeit products from the United Arab Emirates do not have a significant impact on the European market.[2]

Members of organized groups face a challenging task of ensuring the infiltration of counterfeits into tightly monitored supply chains by manufacturers and regulatory bodies. In the wholesale chain, infiltration is more demanding, indicating better control over distribution processes. However, the situation is opposite and therefore more dangerous in the case of retail chains. Detecting counterfeits is a highly complex process in terms of expertise, financial resources, and the exceptional ability of organized group members to package pharmaceutical products in a way that they are indistinguishable from the originals.

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[1] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products,* Illicit Trade, OECD Publishing, Paris, https://doi.org/10.1787/a7c7e054-en.

[2] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products,* Illicit Trade, OECD Publishing, Paris, p. 35. https://doi.org/10.1787/a7c7e054-en.

Internet pharmacies have become a significant challenge for all countries worldwide, as they offer cheap counterfeit pharmaceutical products. There is a growing trend of people being willing to take the risk of purchasing these products online, disregarding the credibility of the primary source and the potential negative consequences associated with serious health damage.

The trade in counterfeit pharmaceutical products has also been fueled by a sharp increase in the use of postal and courier services. Between 2014 and 2016, as much as 95% of the seized counterfeit pharmaceutical products were transported through postal or express courier services. These services are primarily exploited due to a lack of awareness among service providers about the contents of the shipments, significantly hampering the detection and interception of counterfeits while also raising the risk of presenting forged documentation.

The fight against pharmaceutical crime involves not only governments of countries worldwide but also the pharmaceutical industry, whose role is to adopt appropriate legislative and preventive measures. At the international level, numerous initiatives and programs are underway to address this issue in the form of various anti-pharmaceutical crime efforts, primarily coordinated by the World Health Organization[3] and organizations like Interpol[4].

The consequences of counterfeiting medicines and other pharmaceutical products have a wide-ranging impact. The report by the OECD/European Union Intellectual Property Office states the following[5]:

i. annually, up to 72,000 - 169,000 children may die from pneumonia caused by the administration of counterfeit medicines, and approximately 116,000 deaths can occur after the use of counterfeit malaria drugs,
ii. up to 38% of the seized counterfeit drugs violate the intellectual property rights of companies registered in the USA, and similarly, companies based in Switzerland, Germany, and France are heavily affected,
iii. the loss of profit due to the sale of counterfeit pharmaceutical products is estimated to reach approximately 1.7 billion euros,
iv. the costs of treating patients who suffered health damage as a result of using counterfeit medicines have disproportionately increased,
v. environmental pollution occurs in connection with criminal activities where the handling of toxic substances is not strictly regulated,
vi. organized crime leads to the loss of approximately 80,000 jobs in the pharmaceutical sector of the EU and other sectors related to the sale of related products and the provision of services.

The Pharmaceutical Security Institute[6] is a non-profit organization founded by pharmaceutical companies with the aim of actively protecting public health, sharing information about counterfeit drugs, and initiating the development of legislative and preventive measures. It currently brings together 25 pharmaceutical companies, and their collaboration is coordinated

[3] WORLD HEALTH ORGANIZATION. By entering the keyword "counterfeit" into the search field on the website "www.who.int," you can obtain the necessary information about the activities of the World Health Organization related to combating pharmaceutical crime. [online]. [Accessed June 26, 2023]. Available online: https://www.who.int/home/search?indexCatalogue=genericsearchindex1&searchQuery=counterfeit&wordsMode=AnyWord

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[5] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products,* Illicit Trade, OECD Publishing, Paris, p. 12. https://doi.org/10.1787/a7c7e054-en.

[6] PHARMACEUTICAL SECURITY INSTITUTE. Pharma Crime. [online]. [Accessed June 26, 2023]. Available online: https://www.psi-inc.org/pharma-crime.

through a secure database that enables the exchange of information on counterfeit drugs and related incidents associated with pharmaceutical crime. In 2018, a record high of 4,405 incidents of counterfeiting and misuse of drugs was reported, representing a twofold increase compared to 2014. According to the "Pharmaceutical Security Institute," a total of 2,253 individuals involved in counterfeiting, diversion, misuse, and theft of pharmaceutical products were apprehended worldwide in 2018.[7] The analyzed cases identified several categories of criminal activities carried out by the apprehended individuals in specific locations:

i. apprehension of individuals at points of sale - employees of pharmacies, hospitals, and individuals involved in online sales,
ii. apprehension of individuals during transportation - individuals detained at international borders and airports while transporting counterfeit pharmaceutical products or diverting pharmaceutical products,
iii. apprehension of distributors - wholesale entities - individuals apprehended in warehouses where counterfeits or diverted pharmaceutical products were stored,
iv. apprehension of manufacturers - locations where manufacturing lines for counterfeit drugs, packaging, and labels were found,
v. apprehension of individuals involved in thefts - in production facilities or at points of sale.

The highest number of incidents was recorded in North America (1,750) and Asia (1,426). Every region from which the institute gathers information has witnessed an increase in pharmaceutical criminal activities since 2017, affecting a total of 145 countries. It is noteworthy that this statistical fact does not apply to Europe, where this trend has not been observed.[8] In this regard, it should be emphasized that major pharmaceutical companies have their own security departments that collect evidence for criminal proceedings.
Based on the aforementioned, we can conclude that the production of counterfeit drugs is a widespread global issue with significant scope. Production ranges from industrial-scale operations to the production of counterfeit goods on a domestic or "garage" scale. It is important to note that pharmaceutical crime involves not only the counterfeiting of drugs, medicines, dietary supplements, and other pharmaceutical products but also the counterfeiting of packaging materials, which are manufactured or printed in various countries. For example, counterfeit drugs manufactured in Asia may be packaged in counterfeit containers produced in Africa. Counterfeit goods are transported to their destinations covertly or under false pretenses, with the merchandise being misrepresented as something it is not.
In light of the above, we draw attention to the growing influence of the internet in relation to various forms and manifestations of pharmaceutical crime. The internet provides ample opportunities for the distribution of both genuine and counterfeit pharmaceutical products through online pharmacies and web-based stores. Sellers can conceal their identities, withhold product information, and purposefully manipulate them to avoid criminal liability. This facilitates easier access for perpetrators of pharmaceutical crime to regulated markets. Purchasing can occur through the regular internet or the darknet.

[7] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products,* Illicit Trade, OECD Publishing, Paris, p. 35, 40. https://doi.org/10.1787/a7c7e054-en.
[8] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products,* Illicit Trade, OECD Publishing, Paris, p. 20. https://doi.org/10.1787/a7c7e054-en.

The LegitScript study (2016)[9] estimated that there are globally between 30,000 and 35,000 online pharmacies, with approximately 600 new ones launching every month. Online pharmacies are becoming increasingly popular and attracting a growing number of consumers. In the United States, the number of people purchasing through online pharmacies has risen from 19 to 26 million in the past decade, while in the Netherlands[10], it is estimated that around 10% of the population made online purchases in 2018. The most commonly purchased products include pain medications (31.8%), weight loss drugs (27%), sedatives and anxiolytics (14.2%), and sexual stimulants (14%). The main motivations for online shopping were the buyer's financial advantages, convenience, and discretion.
Considering the seriousness of the issue of selling genuine or counterfeit pharmaceutical products online, it is important to mention several findings from a survey among American consumers[11] conducted in 2017, which revealed the following[12]:

i. 27% of respondents claimed to be familiar with online pharmacies and had purchased pharmaceutical products through them,
ii. 55% of respondents reported considering the purchase of pharmaceutical products through online pharmacies, including both over-the-counter and prescription drugs (e.g., for chronic diseases, allergies, cancer treatment, cough, etc.),
iii. less than 5% of respondents were aware of available online resources such as the National Association of Boards of Pharmacy[13] and LegitScript[14], which help identify reliable online pharmacies,
iv. one-third of respondents had used online pharmacies to purchase medications for themselves, family members, or individuals under their care, with 90% of them not consulting a doctor prior to the purchase,
v. online pharmacies were most commonly used by young people with higher incomes, who frequently engage in online shopping and are willing to take more risks,
vi. 40% of respondents indicated that the price of pharmaceutical products significantly influenced their decision to purchase through online pharmacies.
vii. interestingly, a quarter of the respondents also acknowledged that purchasing pharmaceutical products through online pharmacies was not a good idea,
viii. 11% of respondents utilized Canadian online pharmacies for their purchases (presumably assuming them to be reliable sources of pharmaceutical products), while the U.S. Food and Drug Administration stated that 85% of the medications sold were not sourced from Canada.

During the study of internet sales in Europe, the European Alliance For Safe Online Pharmacy[15] found that 35-58% of respondents purchased pharmaceutical products through

[9] LEGITSCRIPT (2016), The Internet Pharmacy Market in 2016: Trends, Challenges, and Opportunities, LegitScript. [online]. [Accessed June 26, 2023]. Available online: https://safemedsonline.org/wp-content/uploads/2016/01/The-Internet-Pharmacy-Market-in-2016.pdf
[10] KOENRAADT, R.; VEN de van, K. 2018. The Internet and lifestyle drugs: an analysis of demographic characteristics, methods, and motives of online purchasers of illicit lifestyle drugs in the Netherlands. In: *Drugs: Education, Prevention, and Policy*. vol. 25, no. 4, p. 345-355.
[11] The research sample consisted of 500 individuals, with 48% being men and 52% being women, reflecting the national average of Americans living in the state of Indiana, USA, in 2017.
[12] ALLIANCE FOR SAFE ONLINE PHARMACIES (2017), Online Pharmacy Behavior and Perception Survey Results [online]. [Accessed June 26, 2023]. Available online: https://buysaferx.pharmacy/wp-content/uploďds/2017/09/us_sept2017-1.pdf?mod=article_inline.
[13] NATIONAL ASSOCIATION OF BOARDS OF PHARMACY. [online]. [Accessed June 26, 2023]. Available online: https://nabp.pharmacy/.
[14] LEGITSCRIPT. [online]. [Accessed June 26, 2023]. Available online: https://www.legitscript.com/.

online purchases, and 35-65% of respondents were unaware that the online pharmacy was illegally selling pharmaceutical products.[16]

Based on the aforementioned LegitScript study (2016)[17], it is stated that up to 97% of online pharmacies did not comply with the relevant legal requirements for service provision. What is truly alarming is that 92% of the inspected online pharmacies operated illegally. The majority of online pharmacies (82%) were in English language and primarily targeted consumers in the USA (85%). Out of the 29 purchased test shipments, it was found that all products were transported by postal services rather than courier services. The countries of origin were India, Germany, Singapore, USA, Canada, and the United Kingdom. The original source could never be identified, and none of the test purchases were labeled by customs authorities. Advertisements for illegal websites represented a small percentage of the total online ads, and those containing inappropriate content and flagged by operators were immediately removed without returning to the online space. Illegal online pharmacies, of course, avoided proper registration of their domain names. Approximately 45-52% of online pharmacies had domains registered with domain providers that inadequately enforced policies prohibiting the illegal sale of pharmaceutical products, such as prescription drugs. Major global payment networks like MasterCard, Visa, American Express, and Discover operate strict programs to suppress illegal online sales of pharmaceutical products. However, online stores and pharmacies bypass this secure banking system by registering and labeling themselves as providers of completely different types of products or services. Furthermore, a dangerous influence of sellers of counterfeit products through various social networks or direct targeting of consumers via email communication was observed. Among the most commonly advertised pharmaceutical products are so-called "lifestyle medicines."[18] It is assumed that individuals choose to make purchases through online stores for various reasons, particularly due to the absence of a medical prescription, the speed and convenience it offers, lower costs, or to avoid sensitive conversations with doctors and other individuals.

According to the largest pharmaceutical company Pfizer, between 2015 and 2018, more than 10,000 accounts or profiles focused on the sale of counterfeit drugs under the Pfizer brand were identified and reported. For example, from April to October 2018 alone, the company identified and alerted its parent company Facebook/Meta to the existence of 1,000 profiles on their social network Instagram offering counterfeit products. It is very alarming that in 2017, Pfizer recorded the production of more than 12 million counterfeit doses originating from 49 countries worldwide, and more than 5,000 sellers allowed the sale of counterfeits on the darknet. Based on these findings, Pfizer conducted an interesting and important study in

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[15] ALLIANCE FOR SAFE ONLINE PHARMACY. [online]. [Accessed June 26, 2023]. Available online: https://buysaferx.pharmacy//wp-content/uploads/2017/03/About-ASOP-EU.pdf

[16] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products*, Illicit Trade, OECD Publishing, Paris, p. 47. https://doi.org/10.1787/a7c7e054-en.

[17] OECD/EUIPO (2020), Trade in Counterfeit Pharmaceutical Products, Illicit Trade, OECD Publishing, Paris, p. 47-49. [Online]. [Accessed June 26, 2023]. Available online: https://doi.org/10.1787/a7c7e054-en. Primary source: LEGITSCRIPT (2016), The Internet Pharmacy Market in 2016: Trends, Challenges, and Opportunities, LegitScript. [Online]. [Accessed June 26, 2023]. Available online: https://safemedsonline.org/wp-content/uploads/2016/01/The-Internet-Pharmacy-Market-in-2016.pdf

[18] EUROPEAN ALLIANCE FOR ACCESS TO SAFE MEDICINES. [online]. [Accessed June 26, 2023]. Available online: [https://eaasm.eu/en-gb/]. Note: The "European Alliance for Access to Safe Medicines" is an independent organization with pan-European scope dedicated to protecting and ensuring the safety of patients by advocating for access to properly approved medicines. Its main activities include campaigns for the safe handling of unlicensed or unregistered medicines and the exclusion of counterfeit and substandard medicines from the supply chain. It also seeks to raise public awareness regarding the enforcement of effective legislation against counterfeit medicines. The website provides information on the authenticity of purchased medicines and details about counterfeit medicines occurring in Europe and worldwide.

which it, along with law enforcement agencies, purchased 138 samples of the drug Xanax sold on the darknet. The analysis revealed that only 7 samples (5%) were genuine.
Another interesting fact is that the Pharmaceutical Security Institute records 15,000 to 17,000 cases of unauthorized handling of pharmaceutical products or counterfeit drugs, for which individuals working for the pharmaceutical companies, including security directors from 35 companies, were responsible.
The World Health Organization is also involved in assessing the extent and severity of online trading in counterfeit pharmaceutical products. It estimates that more than half of the medicines purchased through the internet come from illegal activities of online stores and pharmacies, which deliberately conceal their physical address to prevent personal collection of purchased products. In this context, the World Health Organization already emphasized in 2002 the need to enhance awareness in developing countries regarding the verification of the quality and safety of medicines through a multilateral information exchange system. It also pointed out the alarming fact that adverse effects of medications rank as the fourth to sixth leading cause of death in the USA, and adverse drug effects are responsible for 15% of total hospitalizations in Europe.[19]
From the report of the European Alliance for Access to Safe Medicines in 2008[20], which focused on investigating 100 online pharmacies and over 30 commonly prescribed medicines (related to cardiovascular diseases, respiratory disorders, neurological disorders, and mental health), the following findings emerged:

i. 62% of the medications purchased online were either counterfeit or substandard,
ii. 95.6% of the examined online pharmacies were illegal,
iii. 94% of the websites did not have a responsible person with professional qualifications, such as a pharmacist or doctor,
iv. 84.5% of the online pharmacies were virtual and did not operate physical stores,
v. 90.3% of the websites provided prescription drugs without requiring a valid prescription,
vi. consumers are unable to detect counterfeit pharmaceutical products,
vii. some pharmaceutical products were sold in incorrect packaging with improperly or insufficiently copied manufacturer logos,
viii. some pharmaceutical products were delivered as loose tablets wrapped in newspaper, envelopes, clean sheets of paper, or transparent plastic bags,
ix. the ordered goods were shipped from China and the Middle East, transiting through Oceania and the Bahamas with the final destination in Europe,
x. internet pharmacies and stores created an impression of legitimacy, claiming to be based in Europe, the USA, or Canada.

In 2011, the European Alliance for Access to Safe Medicines conducted another project in collaboration with MasterCard, Visa, and Google. They established a fake online pharmacy, which attracted 360,532 visitors from 112 countries worldwide over the course of nine weeks. It was found that up to 95% of the visitors were directed to the pharmacy's website through the paid service Pay Per Click, which allows for quick and easy customer acquisition and increased product sales based on specific keywords triggering targeted advertising content.

[19] WORLD HEALTH ORGANIZATION. More Global commitment needed to monitor Safety and Quality of medicines. [online]. [Accessed June 26, 2023]. Available online: https://www.who.int/news/item/14-10-2002-more-global-commitment-needed-to-monitor-safety-and-quality-of-medicines
[20] EUROPEAN ALLIANCE FOR ACCESS TO SAFE MEDICINES. The Counterfeiting Superhighway - the growing threat of online pharmacies (June 2008) [online]. [Accessed June 26, 2023]. Available online: https://eaasm.eu/wp-content/uploads/455_EAASM_counterfeitingreport_0206081.pdf

Email advertising attracted 4% of the visitors, while banner advertising accounted for only 1%. A total of 14,395 individuals, while browsing the content of the fake online pharmacy, clicked through to the list of official online pharmacies provided on the Federal Institute For Drugs And Medical Devices website[21]. If actual transactions took place through the fake online pharmacy, the estimated annual sales revenue could reach 12 to 35 million euros.[22]

Due to the continuing seriousness of pharmaceutical crime, the World Health Organization conducted its third call for general patient protection in 2017[23], aiming to improve drug policy. The objective of this call was to reduce the number of serious harms related to medication use by 50%, achieved through counseling, developing strategies for ensuring a safe treatment process, strengthening human resource capacities, improving drug safety monitoring, promoting and supporting research, continuing regulatory efforts through agencies, participating in enhancing the quality of packaging materials and appropriate labeling of medicines, and creating mechanisms to involve and empower patients in their own treatment process.

Equally significant findings were made by the National Association of Boards of Pharmacy, which in 2019[24] identified 11,479 online pharmacies deemed inappropriate for consumer health protection. Out of the total, 10,388 were identified as selling prescription drugs without a prescription, and even more alarming, nearly a third of them facilitated or sold opioids and related substances.

In this section, we would like to highlight the complexity of detecting and investigating pharmaceutical crime from the perspective of the territorial distribution of organized groups engaged in this type of criminal activity. In 2007, American law enforcement authorities accused 18 members of the company "Affpower" of operating an extensive online pharmaceutical distribution network with both domestic and international reach. The organization focused on operating websites that enabled the purchase and sale of pharmaceutical products and promoted these activities through affiliated web pages. The organization included an economic personnel base responsible for facilitating smooth business transactions, including doctors who prescribed medications. The administrative headquarters and customer service department of the company were located in Costa Rica, while the servers hosting the websites were situated in Cyprus. "Affpower" was based in the United States, with banking connections in Panama, Cyprus, and Costa Rica. Credit card-related operations were processed in Israel, and accounting was handled by a company based in Cyprus. The company deliberately hired licensed physicians from various parts of the United States and Puerto Rico to approve prescription medication orders. Over a span of two years, the company generated more than 1 million orders for prescription drugs, resulting in profits exceeding $126 million USD. Similarly, the company "Bansal" operated in a similar manner, selling over 11 million prescription drugs to more than 60,000 buyers in the United States, earning approximately $8 million USD in one year. The "Juan Gallinal" network established fraudulent corporations that utilized servers located in Switzerland. In this case,

[21] FEDERAL INSTITUTE FOR DRUGS AND MEDICAL DEVICES. [online]. [Accessed June 26, 2023]. Available online: https://www.dimdi.de/dynamic/en/homepage/

[22] EUROPEAN ALLIANCE FOR ACCESS TO SAFE MEDICINES. Counterfeiting the Counterfeiter. [online]. [Accessed June 26, 2023]. Available online: https://eaasm.eu/wp-content/uploads/CtCreport2012.pdf

[23] WORLD HEALTH ORGANIZATION. Medication Without Harm. [online]. [Accessed June 26, 2023]. Available online: https://www.who.int/publications/i/item/WHO-HIS-SDS-2017.6

[24] NATIONAL ASSOCIATION OF BOARDS OF PHARMACY. Rogue RX Activity Report. Online. [Accessed June 26, 2023]. Available online: https://nabp.pharmacy/wp-content/uploads/2019/11/Rogue-Rx-Activity-Report-2019.pdf

the estimated illicit proceeds from illegal sales amounted to $9.8 million USD over a three-year period.[25]

In connection with the aforementioned examples of illegal activities by various organized groups, the European Alliance for Access to Safe Medicines has issued several useful recommendations for purchasing through online pharmacies or stores, as many people are unaware that a large number of them are unregulated, posing a risk of buying counterfeit pharmaceutical products.[26] The general recommendations are as follows:

i. do not purchase from websites offering the sale of prescription drugs without a prescription, or buy drugs that have not been properly approved by the European Medicines Agency,
ii. do not purchase from websites that do not have a registered pharmacist available to answer potential buyer questions,
iii. verify the URL of the website by using http://www.whois.net to check if it is registered in the respective country,
iv. use http://www.reversewhois.com to determine the number of websites operated by the same entity in different countries. The more websites there are, the greater caution should be exercised when making a purchase.
v. verify the functionality of the telephone number provided on the pharmacy or store website,
vi. exercise caution when presented with bulk discounts, samples of new pharmaceutical products, or promotions of new drugs with "amazing" results,
vii. exercise caution with "online consultations" as unlicensed online pharmacies or stores may create an illusion of decency and legitimacy,
viii. always consult a physician before using any medication,
ix. critically evaluate the results of presented research and strive to seek primary sources of information provided.

In the case that a person physically possesses a medication or other pharmaceutical product, it is necessary to focus on the appearance of the packaging and perform the following checks:

i. inspect the design of the packaging, blister packaging, and the medication itself,
ii. compare the previous packaging with the new packaging to identify even the slightest differences in print quality, colors, and seals,
iii. verify expiration dates, correct dosage information, and the presence of patient information leaflets in the appropriate language,
iv. if any discrepancies are detected, it is important to immediately inform a doctor, pharmacist, or the relevant national regulatory authority (State Institute for Drug Control).

When inspecting a medication, it is necessary to:

i. carefully examine its color and structure and compare it with previously taken medications,
ii. determine if the medication is disintegrating into small pieces,
iii. check if the medication differs in smell or taste from the commonly used medication,

[25] OECD/EUIPO (2020), *Trade in Counterfeit Pharmaceutical Products*, Illicit Trade, OECD Publishing, Paris, p. 48. https://doi.org/10.1787/a7c7e054-en

[26] EUROPEAN ALLIANCE FOR ACCESS TO SAFE MEDICINES. [online]. [Accessed June 26, 2023]. Available online: https://eaasm.eu/en-gb/information-for-patients/buying-medicines-online/

iv. regular monitoring of the medications being taken can help reduce the risk of using counterfeit drugs or other pharmaceutical products.

In Slovakia, we are currently witnessing a growing popularity of various unregistered pharmaceutical products sold through online stores, which leads to two serious phenomena characteristic of pharmaceutical crime. The first phenomenon is the nature of the illegal trade itself involving unregistered dietary supplements containing various illicit substances, and the second phenomenon is the manipulation of the quantity of illicit substances contained in individual product doses. It is important to conduct a comprehensive examination that includes verifying the authenticity of packaging, labels, blisters, printing techniques used for packaging and leaflet production, relevant pharmaceutical documentation, graphics, protective elements, and the use of non-destructive methods of document examination (such as macroscopic and microscopic examination, examination under infrared and ultraviolet radiation - without causing changes to the object), and/or destructive methods of document examination that result in alterations to the examined object.[27] These phenomena require effective responses from the respective law enforcement authorities and courts, such as through uniform and comprehensive European legislative regulation, as well as the relevant authorities responsible for prevention.

For interest's sake, the largest pharmaceutical companies include Pfizer (revenue of $45.345 billion), Novartis ($41.875 billion), Roche ($41.732 billion), Merck & Co ($35.370 billion), Johnson & Johnson ($34.397 billion), Sanofi ($34.078 billion), GlaxoSmithKline ($28.668 billion), Abbvie ($27.743 billion), Gilead Sciences ($25.662 billion), Amgen ($21.795 billion), and AstraZeneca ($19.782 billion). Pharmaceutical companies have a significant share in the global market, as evidenced by the fact that in 2017, the top 50 pharmaceutical companies reported a combined profit of $653 billion. In 2018, worldwide sales were estimated at $1.2 trillion, representing an increase of $100 billion compared to 2017.[28]

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[27] BARTA, M. 2021. Deštruktívne metódy skúmania listín a dokumentov. In: *Teória a prax dokazovania vo vyšetrovaní.* Zborník vedeckých prác. Bratislava : Akadémia Policajného zboru v Bratislave, 2021. s. 21. ISBN 978-80-8054-897-1.

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PSYCHOLOGIE, SOCIOLOGIE, PEDAGOGIKA

PSYCHOLOGY, SOCIOLOGY, PEDAGOGY

CANIS THERAPY IN SOCIAL WORK

Jana Kamanová

Abstract

The paper prepared offers the theoretical basis of the treated topic. We present an overview of the literature and research devoted to canistherapy. We supplement it with a detailed treatment of already conducted research and within them individual forms of animotherapy. The paper also deals with solution focused therapy and its connection to canistherapy.

Key words: *canistherapy, social worker, canistherapeut, social services*

1 INTRODUCTION

Canistherapy is a therapy that uses the positive effect of dogs on humans and their health. It originated in Slovakia in 1997, but it started to be used earlier in the world. Its beginnings in the world date back to 1960, when Sigmund Freud was the first to document the way in which pets can help people and he himself used his dog for therapeutic purposes in psychotherapy sessions. He introduced the concept of pet therapy, which is now known as animal-assisted therapy. (Dietzová, 2019)

1.1 The International Association of Human-Animal Interaction Organizations (IAHAIO)

IAHAIO is an international association that includes organizations that are dedicated to practice, research and/or education in the field of activity focused on human-animal interaction, animal-assisted therapy. It has more than 100 multidisciplinary member organizations and professional associations worldwide. Its mission is to provide international leadership in advancing the field of human-animal interaction. (https://iahaio.org, 2023)

The association distinguishes the following forms of work with animals:

- Animal Assisted Intervention (AAI) - an Animal Assisted Intervention is a goal oriented and structured intervention that intentionally includes or incorporates animals in health, education and human services (e.g., social work) for the purpose of therapeutic gains in humans. It involves people with knowledge of the people and animals involved. Animal assisted interventions incorporate human-animal teams in human services such as Animal Assisted Therapy (AAT), Animal Assisted Education (AAE) or Animal Assisted Activity (AAA). They also include Animal Assisted Coaching (AAC).
- Animal Assisted Therapy (AAT): Animal Assisted Therapy is a goal oriented, planned and structured therapeutic intervention directed and/or delivered by health, education or human service professionals, including e.g. psychologists and social workers. Intervention progress is measured and included in professional documentation. AAT is delivered and/or directed by a formally trained (with active licensure, degree or equivalent) professional with expertise within the scope of the professionals' practice. AAT focuses on enhancing physical, cognitive, behavioral and/or socio-emotional functioning of the particular human recipient either in the group or individual setting.
- Animal Assisted Education (or Animal Assisted Pedagogy): Animal Assisted Education (AAE) is a goal oriented, planned and structured intervention directed and/or delivered by educational and related service professionals. AAE is conducted by qualified (with degree) general and special education teachers either in the group or

individual setting. An example of AAE delivered by a regular education teacher is an educational visit that promotes responsible pet ownership. AAE, when done by special (remedial) education teachers is also considered therapeutic and a goal oriented intervention. The focus of the activities is on academic goals, pro-social skills and cognitive functioning. The student's progress is measured and documented.

- Animal Assisted Activity (AAA): AAA is a planned and goal oriented informal interaction and visitation conducted by the human-animal team for motivational, educational and recreational purposes. Human-animal teams must have received at least introductory training, preparation and assessment to participate in informal visitations. Human-animal teams who provide AAA may also work formally and directly with a healthcare, educator and/or human service provider on specific documentable goals. In this case they are participating in AAT or AAE that is conducted by a specialist in his/her profession. Examples of AAA include animal assisted crisis response that focuses on providing comfort and support for trauma, crisis and disaster survivors, and visiting companion animals for "meet and greet" activities with residents in nursing homes.
- Animal Assisted Coaching/Counselling (AAC): Animal Assisted Coaching/ Counselling is a goal oriented, planned and structured animal assisted intervention directed and/or delivered by professionals licensed as coaches or counsellors. Intervention progress is measured and included in professional documentation. AAC is delivered and/or directed by a formally trained (with active licensure, degree or equivalent) professional coach or counsellor with expertise within the scope of the professionals' practice. AAC focuses on enhancing personal growth of the recipient, on insight and enhancement of groups processes, or on social skills and/or socio-emotional functioning of the coachee(s) or client(s).

In the world, it is increasingly heard that interactions with animals positively affect people's lives. It is based on the fact that a person involves his emotions in the relationship and interactions with the animal.

Among the first official references to the use of a dog for therapeutic purposes are Sigmund Freud's biographies, but also his notes and papers, which were published approximately 15 years after his death, around 1954. These documents speak of Freud using the assistance of his dog in his therapy . He believed that by how the dog behaved towards the patients who came for therapy he could determine how nervous and in what state of psychological tension they were. He also used the dog as a facilitator in the communication process. When communicating with children and teenagers, he noticed that when the dog was in the room, they were more relaxed. (Ernst, 2014)

1.2 Canisterapy within solution-focused therapy (SFT)

Solution-oriented therapy focuses on practical problem-solving in contrast to classical psychotherapy, which is more oriented to the analysis of problems and what preceded their emergence. SFT is based on the proposition that the solution is not always necessarily connected to the problem that brought the client to therapy, and tries to motivate the client by imagining what life will be like when the problem no longer exists. It is in this approach that canistherapy and SFT are very close to each other. Common values of canistherapy and SFT include:

- respect for life and change
- respect for culture and each individual's unique way of seeing the world
- belief in listening and respecting the inner wisdom of those with whom we work
- the belief that interaction should always be meaningful and include awareness of the ultimate goal

- the belief that cooperation is the best strategy
- the belief that even small steps can lead to big final changes (Galajdová, 2011)

Pichotová a Dolanová (2003, in Galajdová, 2011) state as the basic principles of SFT:

- if something isn't broken, do not fix it
- if something doesn't work, try something else
- when something works, let's do more of it, let's focus on it
- small steps lead to big changes
- the solution is not always directly related to the problem
- no problem exists all the time, exceptions always exist
- we create the future and it can be discussed

A canine therapy dog allows the therapist to observe the client in a different light and uncover solutions that the therapist would never have considered otherwise - whether the client has had a pet in the past, owns one now, or just likes animals. (Galajdová, 2011)

2 CANISTHERAPY IN SOCIAL WORK

Canistherapy is used not only abroad, but also in Slovakia. Its effects can be applied in the work of a social worker in social service facilities for several groups of clients. According to Šoltésová (2010), "ATAP interventions (activities and/or therapy with the assistance of dogs) belong to the very implementation of social counseling and social rehabilitation, led by a social worker."

Among the first official references to the use of a dog for therapeutic purposes are the biographies of Sigmund Freud, which speak of his use of a dog in his therapy sessions.

The contribution of the American psychologist Levinson to the journal Mental Hygiene can be considered as the first manifestation of scientific interest in the significance of the interaction between humans and animals. In a 1962 article entitled The Dog as a Co-Therapist, he described the positive effects of a dog on children who live with it in the same household. He was convinced that dogs help emotionally disturbed children to communicate with their surroundings. He created the hypothesis that animals act as a social catalyst, initiating and stimulating social contact. (Galajdová, 2011)

A helping professional with an education in the field of social work can choose different directions in his job. After completing his studies, he can decide on the field that is closest to him from a professional but also a personal point of view.

Abroad, but also in Slovakia, we encounter the use of canisterapia in social service facilities. The effects of canistherapy can be used in the work of a social worker, where he can perform canistherapy as an internal employee. Abroad, it is possible to see targeted education of social workers in the field of canistherapy, Slovakia currently does not have such an institution.

Tedeschi was the first to introduce the term "social work with animal assistance". The author sees great potential in social work with therapeutic animals and in the education of future social workers about the benefits of the effects of animals on people. (Dietzová, 2019)

Canistherapy is applied to several target groups, e.g. for people with autism spectrum disorders, for clients with disabilities, clients with psychological and mental problems, for seniors, etc.

1.3 Interventions with the assistance of dogs in practice

To work with each target group, it is necessary for the therapist to have suitable education and / or training with a focus on a specific client and choose appropriate activities and techniques with the dog.

Among the canistherapeutic techniques that affect the problem areas of children with autism can be included, for example:

- Techniques for abstract thinking, fantasy, imagination: e.g. make up a story about a dog's life
- Techniques for psychosocial support: various games with a dog that accepts the child as he is
- Techniques to support emotionality: the child perceives the dog's experience and conducts a conversation on this topic
- Techniques for increasing sociability: the child is given the task of taking care of the dog, he learns to be responsible
- Techniques for better orientation in social relationships: the child leads the dog, the dog presents a topic for conversation, the child is more confident in conversation with peers
- Techniques for motivation to cooperate: group activity with the involvement of the dog

The choice of techniques when working with a client with a disability depends on the type and degree of disability, also on the client's age and other factors. The use of canistherapy can be, for example:

- Gross motor skills: e.g. a common collective game with a ball involving a dog
- Fine motor skills: various puzzles, smell work, carrying objects, dog tricks
- Positioning: in the physiotherapy of clients with severe disabilities, dogs assist in positioning, by clinging to the client they ensure warming and blood circulation of the body, relief of spasms and others.

In facilities for seniors, canistherapy is also used, which has a significantly positive effect on this target group and contributes to better mental and emotional well-being of clients. Canistherapy can be performed through visits by an external canistherapist or an internal canistherapist. Through canistherapy, clients can maintain or develop several competencies - social, cognitive, movement, communication. (Dietzová, 2019)

3 RESEARCH IN THE FIELD OF CANISTERAPHY

For a better overview of the conducted studies and researches, we prepared the following overview, which contains selected data obtained from the researched topic. The review shows that the topic of canistherapy and its use is interesting not only from a practical but also a research point of view. We believe that this area offers rich opportunities for further research.

Chart 1: Overview of research and studies focused on canistherapy

Author	Year	Focus
Sigmund Freud	1954	The first official references to the use of a dog for therapeutic purposes
Levinson	1962	Positive effects of a dog on children
Danielsson	2016	Examination of canistherapy from the point of view of psychological and psychiatric experts
Levinson	1969	Reducing stress and anxiety when communicating when working with a dog
Beck, Seraydarina, Hunter	1986	Psychiatric patients with psychotic personality disorder and their coping with the hospital environment in the presence of dogs
Katcher, Beck	1984	Therapeutic effects of dogs on humans, improvement of physical, psychological and social well-being
Barker	1999	Canisterapia as a less burdensome therapy for clients compared to regular group therapy activities
Nerandžič	2006	Positive influence on the mental and physical state of a person

		thanks to the antidepressant effect of animals
Sable	1995	Dog as a suitable substitute for missing interpersonal ties
Danielsson	2016	Lower level of stress and anxiety in children who were in the presence of dogs
Wells	2009	The effect of dogs on people with fatigue syndrome
Harris, Johnson	2009	Dog as a motivator for physical activity
Stančíková, Šabatová	2012	Canistherapy as an influencer of the emotional, cognitive, physical and communication areas
Šoltésová	2015	Mapping interventions and activities with the assistance of dogs
Čurillová Krempaská	2016	Possibilities of professional training of students in the field of intervention and activities with the assistance of animals
Čurillová Krempaská	2016	Application of intervention and activity with the assistance of animals in practice in Slovakia
Lešková, Havrillayová	2016 - 2017	Canisterapia and its use in social service facilities in Slovakia and the Czech Republic.

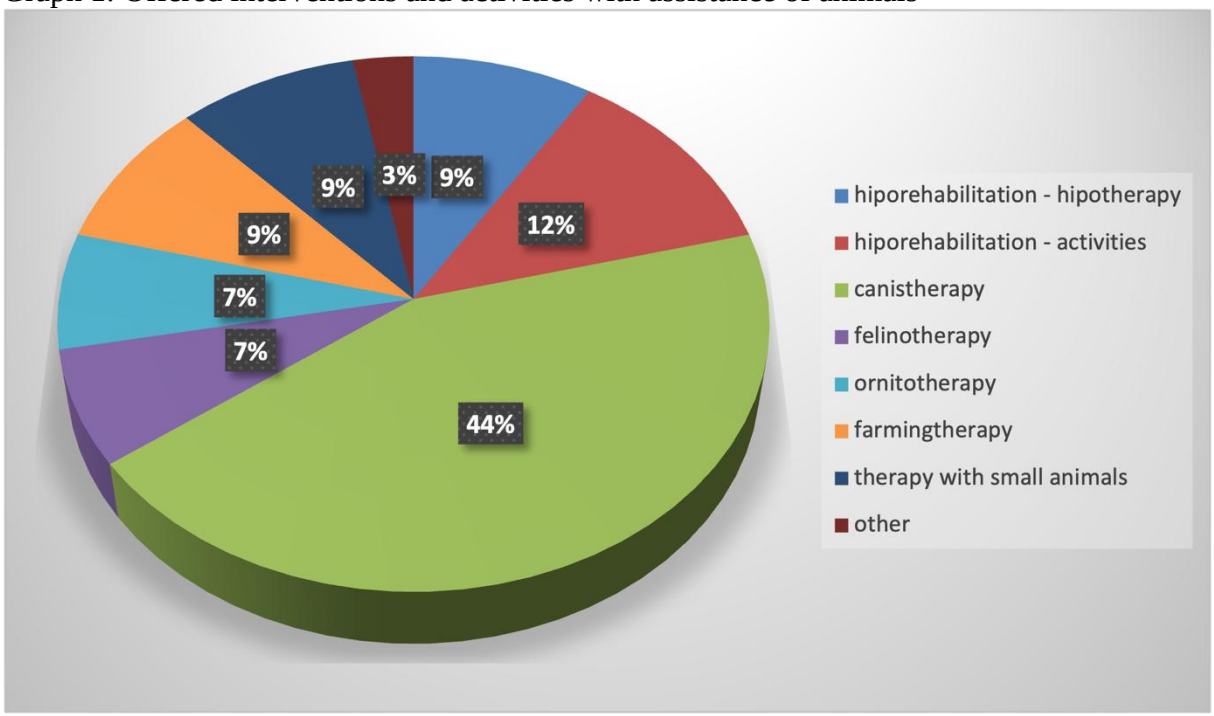
Source: author's own processing, 2023

In order to get a closer look at canistherapy, we have decided to offer a more in-depth treatment of research already carried out in Slovakia.

In 2016, Čurillová Krempaská carried out research focused on the implementation of canistherapy. (Čurillová Krempaská, 2016) The research was carried out in social service facilities. They contacted 487 social service facilities by phone, of which they managed to contact 410. Out of 410 social service facilities, 51 (10.5%) facilities provided animal-assisted intervention and activities, and 359 facilities (73.7%) did not. The author conducted the research in the form of a questionnaire. She reached out to facilities that provided animal-assisted intervention and activities. There were a total of 51 completed questionnaires. The author inquired about individual types of intervention and activity with the assistance of animals.

In the graph below, we provide an overview of the individual interventions and activities with the assistance of animals, which were mentioned by the respondents.

Graph 1: Offered interventions and activities with assistance of animals



Source: author's own processing, based on data by Čurillová Krempaská

Among the forms in which the therapy is implemented, the respondents could choose a resident program and a visiting program. 31 facilities provided a visiting program where a therapist comes to the facility with an animal. 20 facilities provided a resident program in which the animal is part of the facility.

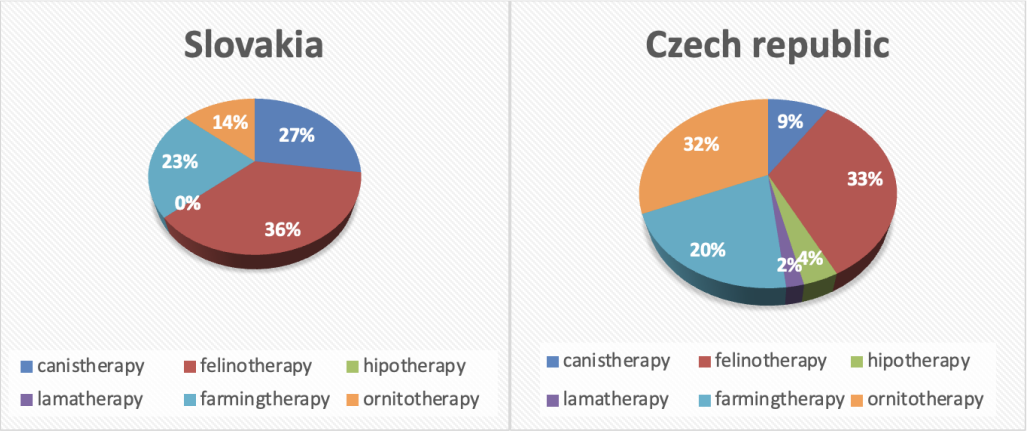
These activities are most often paid for in residential social service facilities from sponsorships, which was confirmed by 39 % of respondents, 28 % of the facilities pay for them themselves.

Lešková, Havrilová carried out their research in 2016 and 2017. They implemented it in Slovakia and the Czech Republic, sending out a total of 2,636 questionnaires. The total return was 10.75%, that is 606 questionnaires, of which 153 questionnaires were from Slovakia and 453 from the Czech Republic. Respondents in the questionnaire also answered the use of selected therapies.

Among the most used therapies in Slovakia was occupational therapy at 21.57%, followed by activity therapy at 21.96%, play therapy at 14.90%, and music therapy at 13.34%. In the Czech Republic, activity therapy had the largest representation at 32.65%, ergotherapy at 22.62%, followed by play therapy at 11.83% and psychomotor therapy at 10.28%.

Animotherapy was used in Slovakia by only 3.92 percent of respondents, in the Czech Republic by 5.14% of respondents. It follows that, according to the statements of the respondents, animotherapy is one of the least used therapies on a daily basis. The author also focused in more detail on the breakdown of animotherapy. We present these findings below in an overview graph, divided into findings for Slovakia and the Czech Republic.

Graph 2: Forms of animotherapy in Slovakia and the Czech Republic



Source: author's own processing, 2023

As part of her research, the author also investigated the frequency of use of canistherapy in facilities. 49.01% of establishments in Slovakia have never used canistherapy, 22.22% of establishments used it once, 3.92% of establishments use it every day, 7.19% of establishments use it once a week, 3.27% once a month. In the Czech Republic, 37.53% of facilities have never used it, 15.45% of facilities use it once, 1.10% every day, 15.90% of facilities once a week and 15.45% of facilities once a month.
An interesting finding was also the provision of canistherapy by internal or external canistherapists. In Slovakia, 72.9% of facilities use the services of an external canistherapist, in the Czech Republic it is even 82.9% of facilities.

The fact that dogs help with communication, reduce stress and anxiety has been confirmed by several studies, starting with the studies of Levinson (1969), but also studies by the Corsons, Katcher, Friedmann and others (Velemínský, 2007). Beck, Seraydarina, Hunter (1986) also confirmed in research that psychiatric patients with a psychotic disorder in the presence of dogs managed the hospital environment better and the presence of dogs reduces their anxiety. Through their research, Katcher and Beck (1984) proved that dogs have a therapeutic effect on humans and help improve physical, psychological and social well-being. Barker (1999) found that canistherapy is less stressful for clients than regular group therapy activities, and that physical contact such as stroking and touching brings about physiological and psychological stress reduction. Nerandžič (2006) is of the opinion that animals have an antidepressant effect, positively influencing the psychological and physical state of a person. Also, Nerandžič (2006) is of the opinion that animals have an anti-depressant effect, they positively influence the psychological and physical state of a person. (Lešková, 2019)

4 CONCLUSION

Processing the paper offered us the opportunity to look at the relationship between the dog and the client from a different perspective. Studying the available theoretical data and already conducted research brought interesting insight into the topic. From our point of view, canisterapia offers a space to enrich the lives of clients (not only) in social service facilities, but also offers therapists a space to enrich their work. The combination of an animal and a sensitive canistherapist can thus improve the quality of life of all involved. We believe that the power of this connection will be used more often in facilities, whether it is canist therapy or other forms of animotherapy.

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THE IMPACT OF A PARENT'S INCARCERATION ON A CHILD IN CARE: A QUALITATIVE RESEARCH STUDY

Alois Daněk

Abstract

Incarceration has a significant impact on many areas of the imprisoned person's life. The incarcerated person's family is also severely affected. The children of these families in particular are the ones who carry significant and profound traumas into their lives. Some children live in an institutional setting, which is also a fact that causes trauma. In this paper, we will focus specifically on the impact of a parent's incarceration on a child growing up in a children's home. Using a qualitative research design, we sought to identify the areas most affected by a parent's incarceration. We found that the social competencies of the children studied were the most affected. Based on our results, we will recommend modifications to the educational process in children's homes.

Keywords: *Imprisonment, Children's Home, Inclusion, Aftercare, Psychological Deprivation, Institutional Education*

1 INTRODUCTION

Parents are the most important people in a child's life. The imprisonment of a parent has a severe impact on his or her child. In this paper, we will focus on a specific group of children. Not only do they have the experience of a parent in prison, but they are also affected by the fact that they live in an institutional setting. The main aim of this paper will be to find out what areas of the life of the studied group of children have been affected by the incarceration of the parent. In this paper, we will first describe the theoretical background, the methodology used and introduce the researched environment. We will then present the process of the research and we will discuss the important findings. The results of the research showed that the impact of a parent's incarceration on a child is devastating. Based on the research findings, we will offer suggestions for modifying special educational practices in children's homes. We will point out the need for an interdisciplinary approach across all the departments involved.

2 THEORETICAL BACKGROUND

In modern democratic society, the question of the influence of a parent's imprisonment on a child is often raised (cf. Dadič et al. 2023; Davis et al. 2011). In the Czech Republic we must mention the important works of Jůzl (2012), who laid the foundations for the modern Czech resocialization and penitentiary science. The issue of the impact of parental incarceration on the child has recently begun to attract the attention of Czech experts. For example, we can mention the ongoing project realized by Masaryk University Brno "Parenting Behind Bars", which has produced excellent publications (cf. Punová, 2020; Horová, 2021; Navrátilová et al., 2015). The impact of a parent's incarceration on a child is a very complex issue (Cui et al., 2023), so this area must be addressed with interest by the scientific community. Regarding the issue of Czech institutional education in our research, we draw on the author's previous research. The interdisciplinary nature of the problem of incarceration is also dealt with, among others, by Stárek and Víšek (2022).

3 RESEARCH METHODS

The research design used for the presented study has proven successful in our previous research (Daněk, 2021). This research design is based on a combination of interviews, long-

term observation and analysis of pedagogical documentation. We use unstructured interviews. They allow us more freedom in asking questions depending on the actual respondent's situation (Brinkmann, 2023). The observations take place during the standard operation of the observed children's home. Of particular interest is the access to the pedagogical documentation of the children's home, which is unavailable to the ordinary researcher. The information obtained is then further processed using grounded theory and interpretative phenomenological analysis. We continuously enrich our research design with new research methods in order to avoid the research routine. We tailor the research design to the needs of the target group. Elements of narrative analysis, which can be understood as our interpretation of the stories we collect from the individuals present in the research setting, have proved useful in recent research, thus reconstructing the construction, retelling the narrative (Řiháček et al., 2013, p.75).

We benefit from the presence of the researcher in the researched setting; the author is employed in the researched children's home as an educator and prevention methodologist. The children and young adults approach the author as a member of their social structures, which proves to be quite crucial for establishing a quality research contact (Charmaz, 2006, p. 5). In several research experiments conducted, we found that children and young adults modify their responses according to the researchers' expectations (Daněk, 2022). As part of the environment under study, we have a greater opportunity to capture reality. However, we are aware of the danger of confirmation bias that could occur through a biased approach. We, therefore, submit our research results for review by experts with no connection to the research setting (Flick, 2009). While qualitative research provides deeper insight into the problem under study, the results cannot be presented as universally valid. They are valid only for the research setting, for the researched group, and for a clearly defined space-time. Qualitative research makes a significant contribution to inclusive education (Willig, 2017).

4 RESEARCED ENVIRONMENT

We are conducting a longitudinal study of a children's home in Prague, Czech Republic. A children's home is a school institution for the performance of institutional care. Institutional care is ordered by a civil court in case the child's family is unable to fulfil its responsibilities (Czech Republic, 2012, § 971). The children's home is intended for children and young adults without serious behavioural disorders (Czech Republic, 2002, § 12). This does not mean that the population of children's homes is exempt from problems. The children come exclusively from families that can be described as significantly pathological. We have documented cases of violence, neglect, alcohol, drugs, and abuse (cf. Blažek et al, 2019). This is just a cross-section of the range of negative exposures to which the children have been exposed for a long time. According to our information, the standard duration of pathological influences before the intervention of the social protection authority is approximately five years.

Furthermore, it is necessary to point out that the vast majority of the children in the research have had at least one stay in a facility for children in need of immediate assistance or another form of foster family care. Thus, institutional care was ordered only when the child welfare system failed to rehabilitate the disrupted family and no alternative family care was available for the child. It is clear that all the children came to the children's home severely emotionally deprived. In a large part of these children, we can observe manifestations of CAN syndrome. Children in the children's home can be identified as children with special educational needs. On the basis of our previous research, we can say that the greatest deficits can be observed in the area of social competences. Although the preferred narrative at present is that of the uninspiring nature of institutional care, our results from earlier research confirm the need for a state-guaranteed safe environment for such children for whom it is not possible to offer an alternative in the form of foster family care (Daněk, 2022).

5 RESEARCH RESULTS

We began working on the question of the impact of parental incarceration on a child in the children's home in January 2022 and concluded the research in April 2023. The research was conducted during the normal operation of the children's home, which allowed us to spend a massive amount of time with respondents. The structured research design proved successful. We start with a pre-survey, where we select suitable respondents based on pedagogical documentation. For this research, we selected two young girls, aged 19 and 20, who have a father in prison. The primary research question was how parental incarceration affects the respondents' bio-psycho-social ecosystem. The girls' fathers are repeat offenders with long sentences. The exact offences were not known to us. However, from in-depth interviews, we found that both fathers had been repeatedly punished for violent crimes. They should be released within two years. We monitored the girls' reactions after the phone calls and discussed the content of their correspondence with the girls. Everything was done with respect to the privacy of all participants and, of course, consent was obtained to conduct the research.

Both fathers say how much they care about their daughters' future. They often write letters, phone their daughters and take the opportunity for their daughters to visit them in prison. The girls see the prison visit as an obligation to their father. In addition, both send their fathers permission slips, which they fund from pocket money and income from part-time jobs. The girls talk about how they will live with their fathers upon release and build new families, suggesting a major problem for the future. The family is the most important social factor in which a child forms patterns of behaviour. It is the family that can become a risk factor for the development of behavioural disorders if various pathologies are present. We are talking about cases when patterns of antisocial or antisocial behaviour are present in family members (Blažek et al., 2019, p.30). The family is also traditionally considered to be the main factor that, through its failure, enables children to engage in criminal behaviour (Sychrová and Halířová, 2014, p.121). It is clear that children of incarcerated parents are at increased risk of developing undesirable behavioural patterns (Davis et al, 2011, p.177).

Furthermore, the economic sphere should also be highlighted. Incarcerated parents are unable to be economically active while accumulating fines and penalties on their debts. When they return from prison, their criminal record makes it difficult for them to re-enter the labour market (Turney and Goodsell, 2018, p. 149). When we consider that daughters will be forced to cope with their own difficulties in integrating into intact society after leaving the children's home and, in addition, the burden of caring for their fathers when they return from prison, we see a significant problem here. Respondents identified the enormous stress that their fathers' incarceration placed on their extended families (Raikes, 2016).

Although we noted efforts to relativise the incarceration of a parent, both respondents felt this to be a significant social stigma. One respondent is being monitored by a psychiatrist. She clearly identified the fact that her father is unable to fulfil his parental responsibilities as one of the causes of her psychological problems. The girl spoke of traumatic experiences of visits to prisons.

A major finding of our research concerned the social lives of the respondents. They could not establish any partner relationship during the entire period of the presented research. When interviewed on the topic of partnership, both respondents gave vague and evasive answers. Here we see the influence of disrupted parental attachment. Both respondents pointed out that it is very difficult to trust potential partners when their own fathers have disappointed them. Both respondents turn to social networks and try to satisfy their need for socialisation in the virtual world.

6 CONCLUSION

Parental incarceration has a severe impact on the child and negatively affects many areas of the life of the child (Martin, 2017). We observed an impact on the psychological well-being and on the social competence of the children studied. It is important to note that the respondents we observed are not only at risk of the negative impact of parental incarceration but also the fact that their living environment is an educational institution (Drahý et al, 2018, p.86).

A problematic issue for our research was the lack of detailed information about parents' criminal activity. An intervention in special education needs accurate information, otherwise it won't be able to achieve its goals. However, there is no statutory obligation for individual departments to share information. We believe that interdisciplinary cooperation will necessarily need to be strengthened. The ministries of justice, education, social protection, and health must join forces and start effective cooperation together. Social workers will also play an important role in the prison space (Stárek and Víšek, 2022). Inter-agency teams could be a tool to improve the effectiveness of work with children and young adults who have experience with a parent in prison. These teams should include a special pedagogue, an etoped, who has the skills to deal with challenging situations (Žolnová, 2018, p. 101). There will also be a need to enrich the curriculum preparing educators in residential care institutions with knowledge of resocialisation and penitentiary issues (Allard and Green, 2011, p. 8).

Based on our findings, a demand should be made to build a quality aftercare system that offers professional counselling and psychotherapeutic support, especially in the form of family therapy programmes. Here we see great opportunities for the involvement of the non-profit sector, which has the potential to play an important role in emergency situations (Stárek and Zpěvák, 2023). Furthermore, the possibilities of technological progress need to be exploited. We see the possibilities of integrating modern information technologies into the educational process as beneficial (Osvaldová, 2015, p. 202). Modern communication channels could facilitate more intensive contact between the incarcerated person and his/her family members. Case conferences involving the convicted person, their child in the children's home and a psychologist or social worker could be very beneficial. The advantage of such conferences should be better psychological well-being of the child in the children's home. It would also improve the convict's preparation for contact with the child after release from prison.

We are convinced that children in care with experience of parental incarceration are among the hardest hit, most vulnerable group. Society needs to realize that the issue of parental incarceration has a greater impact on these children. They require maximum support and a professional approach from the professionals involved. It is therefore essential that the education and training of educators in children's homes be enriched with knowledge of resocialisation and prison issues. In this way, it will be possible to meet the needs of children who experience the comorbidity of trauma caused by the incarceration of their parents and are also exposed to the influence of the institutional environment.

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VZDELÁVANIE A PROFESIONÁLNY RAST SESTIER V OBLASTI CHRONICKÝCH RÁN

EDUCATON AND PROFESSIONAL GROWTH OF NURSES IN THE FIELD OF CHRONIC WOUNDS

Lívia Hadašová, Terézia Fertaľová

Abstrakt

Kariéra je profesionálna dráha životom na ktorej človek získava nové skúsenosti a rozvíja svoj osobný potenciál. Z tohto hľadiska je možné profesionálnu kariéru chápať ako sled určitých fáz v profesionálnom živote, z nich každá má svoju špecifickú funkciu, svoju časovú dimenziu. Z výsledkov výskumu môžeme konštatovať, že sestry pracujúce v štátnych zdravotníckych zariadeniach majú lepšie podmienky a podporu na postup vo svojom kariérnom raste, ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. Starostlivosť o vzdelávanie a kariérny rast sestier v oblasti chornických rán zabezpečí pacientom lepšiu kvalitu starostlivosti, predchádzanie komplikáciám, zvýši odbornú erudíciu sestier, pracovnú spokojnosť a motiváciu a v neposlednom rade prispieva k zvyšovaniu konkurencieschopnosti zdravotnického zariadenia, budovaniu dobrého mena a k ekonomickej efektívnosti organizácie.

Kľúčové slová: *sestra, kariéra, odborný rast, vzdelávanie, chronické rany*

Abstract

A career is a professional path in life, on which a person gains new experiences and develops his personal potential. From this point of view, a professional career can be understood as a sequence of certain phases in a professional life, each of which has its own specific function, its own time dimension. From the results, we can conclude that nurses working in state healthcare facilities have better conditions and support for their career growth than nurses working in private hospitals. Taking care of the education and career development of wound care nurses will ensure better quality of care for patients, prevent complications, increase nurses' professional erudition, job satisfaction and motivation, and last but not least, contribute to increasing the competitiveness of the health care facility, building the reputation and economic efficiency of the organization.

Key words: *nurse, career, professional development, education, chronic wounds*

1 OSOBNOSTNÝ ROZVOJ A KARIÉRNY RAST

Kariéra je súčasť života všetkých zdravotníckych pracovníkov. Kariéra je cesta pracovným životom na ktorej ľudia získavajú skúsenosti a prehlbujú svoj potenciál. (Sojka, 2017). Kariéra je definovaná ako postup v zamestnaní u každej osoby počas pracovného života. Kariéra neznamená len povýšenie, ale hlavne súhrn úspešných krokov a postupov. Kariéru je tiež možné chápať ako výsledok činnosti, dosiahnutie cieľov a realizovanie dôležitých aktivít v pracovnom kolobehu. (Kachaňáková a kol. 2013). Kariéru môžeme vnímať ako štruktúrovaný sled významných udalostí v živote človeka, keď postupuje, zostupuje alebo zotrváva v profesionálnych pozíciách, v profesionálnom zaradení, keď mení jednu prácu za druhú. Pre efektívne zvýšenie profesionálneho rozvoja v ošetrovateľstve je dôležité porozumieť motivačným faktorom, ktoré stoja za zapojením sestier do konkrétnych typov vzdelávacích aktivít. Pri profesionálnom rozvoji ide o nadobúdanie vedomostí, zručností a

správania, ktoré zlepšujú pracovné schopnosti zamestnanca. Zistilo sa, že konkrétne motívy súvisia s účasťou na konkrétnych vzdelávacích činnostiach. Cieľ koncepcie rozvoja a vzdelávania zamestnancov v zdravotníckych zariadení má vychádzať z aktuálnych potrieb organizácie, resp. SWOT analýzy, rozboru silných, slabých stránok, rizík a príležitostí. V súčasnosti by mala byť cieľom koncepcie rozvoja a vzdelávania najmä stabilizácia kritických oddelení po odbornej a osobnostnej stránke, motivácia a stabilizácia kľúčových ľudí zameranie, ďalej posilnenie odbornosti a profesionality poskytovania zdravotnej starostlivosti a vytvorenie motivačného a podporného programu vzdelávania. Uvedené ciele vychádzajú z faktu, že v zdravotníckych zariadeniach je nedostatok lekárov a sestier, veľa zdravotníckych pracovníkov v dôchodkovom veku a pomerne veľa mladých ľudí odchádza za lepšie platenou prácou do zahraničia. Ak chce byť zdravotnícke zariadenie zaujímavým a atraktívnym zamestnávateľom vo svojej koncepcii vzdelávania má sa orientovať aj na podporné a motivačné programy študentov lekárskych fakúlt a fakúlt nelekárskych odborov (Sojka, 2017).

1.1 Sústavné vzdelávanie sestier

Sestry i ďalší zdravotnícki pracovníci musia neustále získavať nové poznatky a zručnosti, aby poskytovali, čo najkvalitnejšiu a najbezpečnejšiu starostlivosť. Pre rozvoj ošetrovateľstva je sústavne vzdelávanie veľmi dôležité. Ide o neustále opakovanie, posilňovanie, udržiavanie už nadobudnutej odbornej kvalifikácie po celý čas vykonávania povolania sestry. Sústavné vzdelávanie zabezpečuje zamestnávateľ a stavovská organizácia. Ďalším vzdelávaním je postgraduálne vzdelávanie, ktoré je výrazným zlepšovaním vlastného, kolektívneho a celospoločenského výkonu. Odborné vzdelanie umožňuje pracovníkom získavať určité poznatky, ktoré sú dôležité na výkon ich práce. V súvislosti so vzdelávaním v zdravotníckych zariadeniach je dôležité poznať základne pojmy – prehlbovanie kvalifikácie a zvyšovanie kvalifikácie. Prehlbovanie kvalifikácie je charakteristickým rozvíjaním a udržiavaním alebo obnovením už získanej odbornosti v rámci toho istého hodnotiaceho stupňa, ktorý zamestnanec dosiahol vo svojom vzdelaní. Ide o zmenu vedomosti u danej sestry alebo získania nových poznatkov v súvislosti s pracovnou zmluvou a to prostredníctvom rôznych kurzov a školení. Rozvíjanie kvalifikácie sa hodnotí, ako výkon práce a vedúci pracovník má právo prikázať pracovníkovi povinnosť účasti (Kachňáková, 2013). Eliašová a kol. (2019) uvádza, že postgraduálne vzdelávanie sestier sa začína už pri nástupe do pracovnej pozície, kde sa môže sestra rozhodovať o ďalšom vzdelávaní v odbore, konkrétne o špecializácii v špecializovanom odbore. Pre zvyšovanie úrovne poskytovania ošetrovateľskej starostlivosti i zvyšovanie odbornej úrovne a kariérneho rastu, môže sestra nadobudnúť špecializáciu v akreditovaných špecializačných študijných programoch alebo certifikačnú prípravu v akreditovaných certifikačných študijných programoch. Špecializačné štúdium prehlbuje poznatky a schopnosti sestry získané počas štúdia a odbornej praxi. Štúdium sa skladá z teoretickej a praktickej časti. Certifikačná príprava je nadobúdanie vedomosti a zručnosti, ktoré sú potrebné na vykonávanie certifikovaných výkonov. Certifikačná príprava zdravotníckeho pracovníka predstavuje ďalšie vzdelávanie zdravotníckych pracovníkov a je považovaná za zvyšovanie kvalifikácie. Odbornú spôsobilosť na výkon certifikovaných pracovných činností možno získať len v akreditovaných certifikačných študijných programoch. Počas certifikačnej prípravy môže sestra vykonávať certifikačné výkony len pod odborným dohľadom zdravotníckeho pracovníka s odbornou kvalifikáciou.

1.2 Certifikačná príprava -Starostlivosť o chronické rany

Certifikačná príprava je zameraná na prípravu sestier v oblasti ranového manažmentu za účelom podpory procesu hojenia, prevencie komplikácii, zvyšovania komfortu a kvality života pacienta a taktiež s cieľom dosiahnutia efektívnosti nákladov na liečbu v súlade s

najlepšími dostupnými dôkazmi u najčastejšie sa vyskytujúcich typov nehojacich sa rán v klinickej praxi nemocníc, domácej starostlivosti, zariadeniach sociálnych služieb a hospicoch. Certifikačná príparava nadväzuje na vysokoškolské vzdelanie druhého ale aj prvého stupňa v študijnom programe v študijnom odbore ošetrovateľstvo a ošetrovateľskú prax najmenej jeden rok, alebo na úplne stredné odborné vzdelanie a vyššie odborné vzdelanie v študijnom odbore diplomovaná všeobecná sestra a ošetrovateľskú prax najmenej jeden rok. Ošetrovateľská starostlivosť o chronické rany sa zaoberá komplexnou starostlivosťou o pacientov s chronickou ranou, ktorá vzniká následkom lokálnych porúch vyživovania kože podmienených cievnym alebo neurologickým ochorením, lokálnym pôsobením tlaku, žiarením, malignitou ale aj infekciou operačnej či traumatickej rany. Chronické (ťažko hojace, alebo nehojace sa) rany sú vážnou komplikáciou ako z hľadiska manažmentu zdravotnej starostlivosti, tak aj z hľadiska kvality života pacientov. Cieľom efektívneho ranového manažmentu je eliminácia všetkých lokálných i systémových príčin, ktoré môžu predlžovať alebo komplikovať hojenie, ďalej dosiahnutie časovo i ekonomicky výhodného zhojenia rany a pozitívne ovplyvnenie kvality života v prípade nezahojiteľných defektov. Osobitnou témou vzdelávania v uvedenej problematike je prevencia chronických a nehojacich sa rán, ktorá spočíva v aktívnej identifikácií a odstránení vyvolávajúcich príčin, v edukácii pacienta i rodinných príslušníkov.(MZ SR, 2020.) Manažment starostlivosti o pacientov s chronickými ranami má svoje nezastupiteľné miesto v rámci zdravotného systému z dôvodu významného výskytu chronických rán. Ošetrovanie rán je ovplyvnené komplexným vývojom vedy, technológií, socio- ekonomiky, demografie, ako aj chorobnosti populácie. Ošetrovateľstvo sa novým trendom musí neustále prispôsobovať. Vymedzenie rolí ošetrovateľstva v súvislosti so vzdelaním, licencovaním a certifikáciou má potenciál posilniť spoluprácu s odborníkmi v rámci tímu zameraného na manažment rán s hlavným zámerom, a to dosiahnuť čo najlepšie výsledky pre pacientov a posilniť odbornú erudíciu sestier uvedenej problematike.

2 PODPORA PROFESIONÁLNEHO RASTU V ZDRAVOTNÍCKYCH ZARIADENIACH

Zisťovali sme ako sestry ako sestry vnímajú podporu profesionálného, odborného a kariérného rastu v zdravotnických zariadeniach v ktorých pracujú. Analyzovali sme názory a postoje sestier k nastavenej koncepcii vzdelávania a osobnostného rozvoja v zdravotníckom zariadení v ktorom pracujú. Zisťovali sme, ako je v zdravotníckych zariadeniach nastavený koncept profesionálného a kariérného rozvoja. Snažili sme sa identifikovať faktory, ktoré negatívne ovplyvňujú proces odborného a kariérného rozvoja sestier. Výskum sme realizovali prostredníctvom metódy neštandardizovaného dotazníka. Na distribúciu dotazníkov sme oslovili Slovenskú komoru sestier a pôrodných asistentiek. Po schválení distribúcie SKSaPA bol dotazník zdieľaný prostredníctvom online webovej stránky elektronického časopisu Ošetrovateľstvo a pôrodná asistencia. Súbor tvorili sestry pracujúce v štátnych a neštátnych zdravotníckych zariadeniach. Konkrétne 157 respondentov - sestier, ktoré pracujú na rôznych oddeleniach a ambulanciách. Medzi základné demografické údaje sme zaradili typ zdravotníckeho zariadenia (štátne/neštátne), dĺžku odbornej praxe v zdravotníctve, dosiahnuté vzdelanie, pohlavie, pracovisko (ambulancia, oddelenie, práca na vedúcej pozícii). Na štatistické spracovanie použili program Excel a SPSS Statistics 20. Konkrétne sme použili Studentov t-test pre dva nezávislé výbery a chí-kvadrát test. Vo výskume sme používali hladinu významnosti 5% (α=0,05).

2.1 Výsledky výskumu

Náš cieľ bol zistiť, či existuje rozdiel v týchto vzdelanostných skupinách v početnosti záujmu o ďalší kariérny rast. Predpokladali sme, že existuje signifikantný rozdiel v záujme o ďalší

kariérny postup vo svojej profesií, vzhľadom na vzdelanie sestry. V prvej hypotéze sme sa zaoberali záujmom o ďalší kariérny postup sestier.

Tabuľka 1 Znázornenie záujmu sestier o ďalší kariérny rast pomocou chi-kvandrat testu

Podiel sestier, ktoré majú záujem o ďalší kariérny rast vzhľadom na vzdelanostnú skupinu		χ^2	**df**	**p**
Stredoškolské vzdelanie – všeobecná sestra	75,0%	20,134	4	**<0,001**
Vyššie odborné vzdelanie	88,9%			
Vzdelanie I. stupňa	84,3%			
Vzdelanie II. stupňa	74,1%			
Špecializačné štúdium	40,0%			

Poukazujeme, že v tomto prípade vyšla p-hodnota prakticky nulová a teda naozaj sú tieto rozdiely štatisticky významne od seba odlišné. To znamená, že sa nám podarilo potvrdiť prvú hypotézu H1 prostredníctvom chí-kvadrátovým testom. Štatistickou analýzou sme zistili, že existuje signifikantný rozdiel v záujme o ďalší kariérny postup vo svojej profesií, vzhľadom na vzdelanie sestry. Len 40% sestier so špecializačným štúdiom má záujem o ďalší kariérny rast. V porovnaní s vyšším odborným vzdelaním, kde 9 z 10 sestier túži po kariérnom raste, to je viditeľný rozdiel.

H2: Predpokladáme, že sestry pracujúce v štátnych zdravotníckych zariadeniach majú lepšie podmienky a podporu na postup vo svojom kariérnom raste ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. V tejto hypotéze sme sa zaoberali podmienkami a podporou na postup sestier. Hypotézu H2 sme overovali otázkami „Umožňuje Vám vedenie nemocnice a vedenie oddelenia napredovať v profesionálnom rozvoji a kariérnom raste?“. Odpovediam sme priradili body, aby sme ich mohli porovnať, ktorá skupina sestier má lepšie podmienky. Odpovede sme si obodovali následovne. Odpoveď áno -2 body, odpoveď- nie 0 bodov, odpoveď -neviem sa vyjadriť- 1 bod. 0 bodov značí najhoršie podmienky na postup v kariérnom raste a 4 body značí najlepšie podmienky na kariérny rast.

Tabuľka 2 Porovnávanie podmienok a podpory sestier pracujúcich v zdravotníckych zariadeniach

Zariadenie	**N**	**M**	**SD**
Štátne	88	2,49	1,59
Neštátne/ Súkromné	69	1,97	1,64
Spolu	**157**	**2,26**	**1,63**

Tabuľka 3 Porovnávanie podmienok a podpory sestier pracujúcich v zdravotníckych zariadeniach

Zariadenie	**N**	**M**	**SD**	**t**	**df**	**p**
Štátne	88	2,49	1,59	1,999	155	**0,047**
Súkromné	69	1,97	1,64			

Ako udávame v tabuľke, p-hodnota vyšla menšia ako 0,05 a teda môžeme hovoriť ako o signifikantnom rozdiele v podmienkach na postup v kariérnom raste medzi štátnymi a súkromnými zariadeniami. Hypotézu H2 sa nám podarilo potvrdiť prostredníctvom Studentovho t-testu, keďže sme štatistickou analýzou zistili, že sestry pracujúce v štátnych zdravotníckych zariadeniach majú lepšie podmienky a podporu na postup vo svojom kariérnom raste ako sestry pracujúce v neštátnych zdravotníckych zariadeniach.

H3: Predpokladáme, že sestry, ktoré pracujú v štátnych zdravotníckych zariadeniach majú lepšie možnosti/spôsoby motivácie ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. Hypotézu H3 sme overovali pomocou otázky „Aké spôsoby motivácie súviase s podporou profesionálneho rastu sa využívajú na Vašom pracovisku?“ V možnostiach otázky mohli respondenti označiť ľubovoľný počet odpovedí. Každý respondent mohol teda dosiahnuť 0 až 7 bodov, pričom platí, čím viac bodov, tým lepšie možnosti/spôsoby motivácie respondent má.

Tabuľka 4 Rozdiel motivácie v zdravotníckych zariadeniach

Zariadenie	**N**	**M**	**SD**
Štátne	88	1,22	1,06
Súkromné	69	1,03	1,08
Spolu	**157**	**1,14**	**1,07**

Tabuľka 5 Zisťovanie motivácie v zdravotníckych zariadeniach

Zariadenie	**N**	**M**	**SD**	**t**	**df**	**p**
Štátne	88	1,22	1,06	1,118	155	**0,265**
Súkromné	69	1,03	1,08			

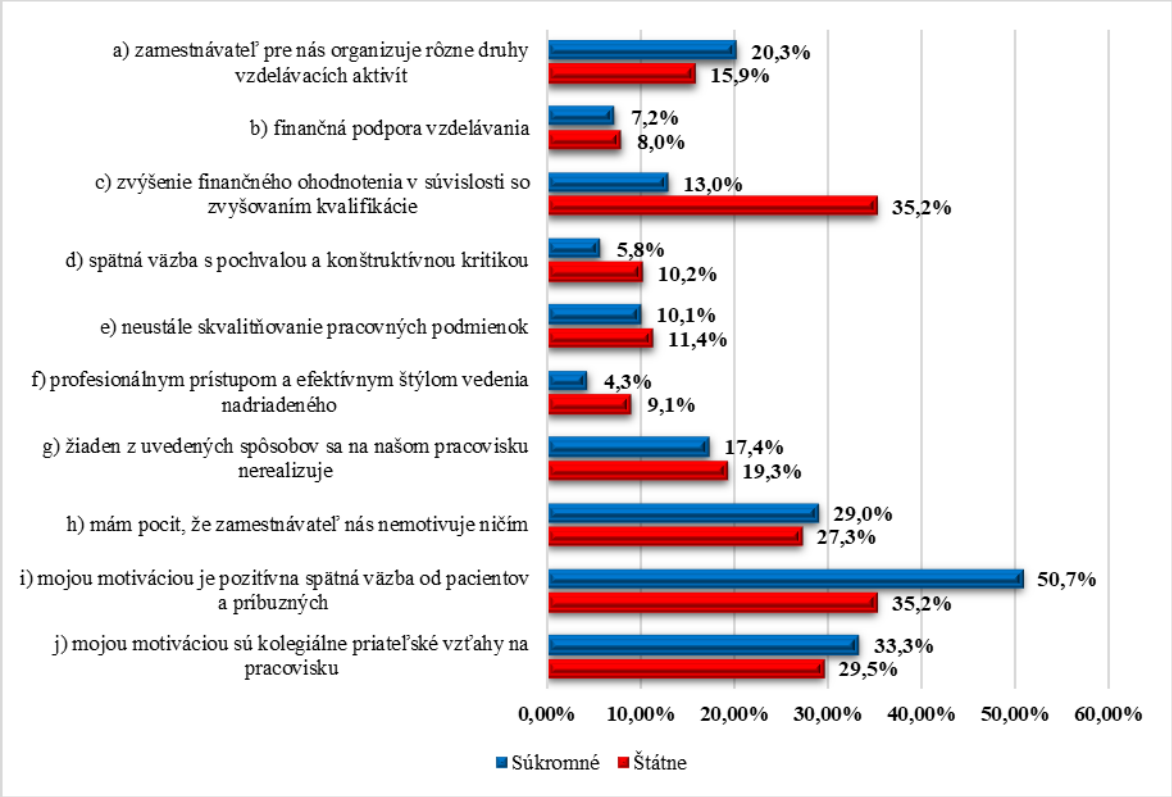
Z vyššie uvedených údajov môžeme vidieť, že, p-hodnota vyšla vysoká a teda v tomto prípade nejde o štatisticky významný rozdiel v možnostiach motivácie medzi štátnymi a súkromnými zariadeniami. Znamená to teda, že hypotézu H3 sa nám nepodarilo potvrdiť. Sestry, ktoré pracujú v neštátnych zdravotníckych zariadeniach majú približne rovnaké možnosti/spôsoby motivácie ako sestry pracujúce v štátnych zdravotníckych zariadeniach. Rozdiely v týchto možnostiach motivácie nie sú signifikantné**.** Prezentujeme deskriptívnu štatistiku, ktoré možnosti motivácie boli najviac udávané medzi sestrami súkromného a štátneho zariadenia.

Tabuľka 6 Porovnávanie motivácie početnosťou

Aké spôsoby motivácie súvisiace s podporou profesionálneho rastu sa využívajú na Vašom pracovisku?	**Spolu**	**Štátne**	**Súkromné**
a) zamestnávateľ pre nás organizuje rôzne druhy vzdelávacích aktivít	28	14	14
b) finančná podpora vzdelávania	12	7	5
c) zvýšenie finančného ohodnotenia v súvislosti so zvyšovaním kvalifikácie	40	31	9
d) spätná väzba s pochvalou a konštruktívnou kritikou	13	9	4
e) neustále skvalitňovanie pracovných podmienok	17	10	7
f) profesionálnym prístupom a efektívnym štýlom vedenia nadriadeného	11	8	3
g) žiaden z uvedených spôsobov sa na našom pracovisku nerealizuje	29	17	12
h) mám pocit, že zamestnávateľ nás nemotivuje ničím	44	24	20
i) mojou motiváciou je pozitívna spätná väzba od pacientov a príbuzných	66	31	35
j) mojou motiváciou sú kolegiálne priateľské vzťahy na pracovisku	49	26	23
Spolu	**157**	**88**	**69**

Pre lepšie porovnanie štátnych a súkromných zariadení vyjadrujeme výsledky v relatívnych číslach.

Graf 1 Spôsoby motivácie zdravotníckych zariadeniach



V grafe môžeme pozorovať napr. pri možnosti c) čo je finančné ohodnotenie v súvislosti so zvyšovaním kvalifikácie značný rozdiel a teda až 35,2% sestier zo štátnych zariadení vníma túto motiváciu a iba 13% sestier z neštátneho zariadenia. Na druhej strane, polovica sestier zo súkromných zariadení vníma ako motiváciu pozitívnu spätnú väzbu od pacientov a príbuzných a len 35% sestier zo štátneho zariadenia vníma túto motiváciu podobne.
H4: Predpokladáme, že sestry, ktoré pracujú v štátnych zdravotníckych zariadeniach, boli dôkladnejšie oboznámené so stratégiou a koncepciou rozvoja a kariérneho rastu ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. V hypotéze H4 sme sa zaoberali oboznámením sa so stratégiou a koncepciou rozvoja a kariérneho rastu. Zaujímalo nás, či sestry pracujúce v štátnych zariadeniach sa s týmto oboznámením stretávajú častejšie, oproti sestrám ktoré pracujú v neštátnych zariadeniach.

Tabuľka 7 Zisťovanie oboznámenie sestier so stratégiou a koncepciou rozvoja a kariérneho rastu

Zariadenie	Áno, bol/a som oboznámený/á	Nie, nebol/a som oboznámený/á	Spolu
Štátne	35	53	88
Súkromné	23	46	69
Spolu	**58**	**99**	**157**

Z údajov tabuliek vyplynulo, že medzi štátnymi a súkromnými zariadeniami nie je veľmi veľký rozdiel v tom, či sú ich sestry oboznámené s touto stratégiou. 4 z 10 sestier pracujúcich

v štátnom sektore boli s touto stratégiou oboznámené a približne každá tretia sestra pracujúca v súkromnom/neštátnom zariadení bola s touto stratégiou oboznámená.

Tabuľka 8 Zisťovanie oboznámenie sestier so stratégiou a koncepciou rozvoja a kariérneho rastu pomocou chí-kvadrát testu.

Podiel sestier, ktoré boli oboznámené		χ^2	df	p
Štátne	39,8%	0,688	1	**0,407**
Súkromné	33,3%			

p-hodnota vyšla vysoká a teda nejde o signifikantný rozdiel medzi týmito dvoma skupinami. *To znamená, že* nemôžeme potvrdiť túto hypotézu H4, pretože sme nedokázali preukázať, že sestry, ktoré pracujú v štátnych zdravotníckych zariadeniach, boli dôkladnejšie oboznámené so stratégiou a koncepciou rozvoja a kariérneho rastu ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. Sestry pracujúce v štátnom zariadení boli o tomto koncepte oboznámené v približne rovnakej početnosti ako sestry pracujúce v neštátnom zdravotníckom zariadení.

3 DISKUSIA

Analyzovali sme názory a postoje sestier k nastavenej koncepcii vzdelávania a osobnostného rozvoja v zdravotníckom zariadení v ktorom pracujú. Na výsledkov výskumu poukazujeme na skutočnosť, že najväčšie zastúpenie, má 42,7% respondentov/sestier, ktoré neboli oboznámené so stratégiou a koncepciou osobného rozvoja. Prekvapujúce je tiež, že 20,40% respondentov tvoria sestry, ktoré nikdy o takej koncepcii nepočuli. Účel koncepcie rozvoja a vzdelávania zamestnancov v zdravotníckych zariadení má vyplývať z aktuálnych potrieb organizácie, zdravotníckych zariadení, resp. SWOT analýzy, rozboru silných, slabých stránok, rizík a príležitostí (Sojka, 2017). V súčasnosti by mala byť zámerom koncepcie rozvoja a vzdelávania najmä stabilizácia oddelení po odbornej a osobnostnej stránke, zameranie sa na posilnenie odbornosti a profesionality poskytovania zdravotnej starostlivosti, vytvorenie motivačného a podporného programu vzdelávania , motivácia a stabilizácia kľúčových ľudí (Rusnáková a kol. 2015). Aby zdravotnícke zariadenia zotrvali v segmente trhu kde pôsobia, musia dbať na kvalifikáciu svojich zamestnancov. Okrem povinnej odbornej kvalifikácie v danom zdravotníckom odbore je pre organizáciu prínosom, ak investuje do rozvoja tzv. „soft-skills“ u zamestnancov. Štúdia American Journal of Pharmaceutical Education (2018) opisuje koncepcie ako starostlivosť o zamestnancov, ktorá je zameraná na odbornú stránku resp. vzdelávania ale aj osobnostnú stránku a to rozvoj afektívnych zručnosti. Štúdia ďalej uvádza, že chýbajúca empatia a afektívne zručnosti predstavujú negatívum v poskytovaní ošetrovateľskej starostlivosti. Je podstatné, aby všetky sestry pracujúce v zdravotníckych zariadeniach boli so stratégiou a koncepciou osobnostného rozvoja a kariérneho rastu oboznámené.

Zisťovali sme ako je v zdravotníckych zariadeniach nastavený koncept profesionálneho a kariérneho rozvoja**.** Zdravotnícke zariadenia v našej krajine poskytujú sestrám pracujúcim v štátnych ale aj v neštátnych zdravotníckych zariadeniach možnosti kariérneho rozvoja a profesionálneho rozvoja. Z výsledkov výskumu vyplýva, že sestry, ktoré pracujú v neštátnych zdravotníckych zariadeniach majú približne rovnaké možnosti/spôsoby motivácie ako sestry pracujúce v štátnych zdravotníckych zariadeniach. Rozdiely v týchto možnostiach motivácie nie sú signifikantné. Je dôležité uviesť, že 33,70% respondentov má možnosť zúčastňovať sa vzdelávacích aktivít mimo pracoviska. 21,20%, respondentov, majú možnosť zúčastňovať sa vzdelávacích aktivít na pracovisku. Proces vzdelávania a rozvoja zamestnancov je dôležitou súčasťou každej organizácie (Kachaňáková a kol. 2013). Štúdia publikovaná v Journal of the American Association of Nurse Practitioners (2020) uvádza, že rozvoj sestier po profesionálnej aj odbornej stránke sa veľmi úzko viaže z oblasťami ďalšieho kariérneho rozvoja, inšpirujúcim a vysnívaným pracovným postupom na vyššiu pozíciu.

Identifikovali sme faktory, ktoré negatívne ovplyvňujú proces odborného a kariérneho rozvoja sestier v zdravotníckych zariadeniach. Z výsledkov výskumu vyplýva, že ako prekážky vo svojom kariérnom a odbornom raste uvádza 17,20% respondentov/ sestier to, že nepociťuje podporu zo strany zamestnávateľa. Podpora zo strany nadriadeného je dôležitá vo všetkých oblastiach, aj v oblasti podpory kariérneho rozvoja eventuálne ďalšieho vzdelávania. Vzdelávanie sestier je veľmi kľúčové. Prosperita a rozvoj zamestnancov v akejkoľvek organizácii spočíva v poskytovanej možnosti k vzdelávaniu a prosperite, v realizácii školiacich aktivít (Ondruš a kol. 2017). 24,20% respondentov ako prekážku hodnotí nedostatok finančných prostriedkov. Nedostatočné finančné ohodnotíme práce spôsobuje fluktuáciu sestier. K negatívam sa tiež radi absentujúce uznanie za ich prácu. 26% sestier vníma ako prekážku zlý celkový stav zdravotníctva. Podľa štúdie International Nursing Review (2016) zlý stav zdravotníctva a prekážky, ktoré sestry uviedli si vyžaduje riešenie. Z výskumu Hadašovej a Rusnákovej (2007) vyplýva, že medzi negatívne a demotivačné faktory, patrí chýbajúca podpora vedenia zdravotníckych pracovísk v odbornom a kariérnom rozvoji, nedostatočné materiálne vybavenie a neadekvátne pracovné podmienky.

4 ZÁVER

Východiskovým cieľom výskumu bolo zistiť, ako sestry vnímajú podporu profesionálneho, odborného a kariérneho rastu v zdravotníckych zariadeniach v ktorých pracujú. Z výsledkov môžeme konštatovať, že sestry pracujúce v štátnych zdravotníckych zariadeniach majú lepšie podmienky a podporu na postup vo svojom kariérnom raste, ako sestry pracujúce v neštátnych zdravotníckych zariadeniach. Starostlivosť o vzdelávanie a kariérny rast sestier v oblasti chornických rán zabezpečí pacientom lepšiu kvalitu starostlivosti, predchádzanie komplikáciám, zvýši odbornú erudíciu sestier, ich pracovnú spokojnosť a motiváciu, a v neposlednom rade prispieva k zvyšovaniu konkurencieschopnosti zdravotnického zariadenia, budovaniu dobrého mena a ekonomickej efektívnosti organizácie.

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VÝZNAM KOMUNIKAČNÝCH ZRUČNOSTÍ SESTIER PRI OŠETROVANÍ PACIENTOV S CHRONICKÝMI RANAMI

THE SIGNIFICANCE OF NURSES COMMUNICATION SKILLS IN TREATMENT OF PATIENTS WITH CHRONIC WOUNDS

Lívia Hadašová, Terézia Fertaľová

Abstrakt

Práca v zdravotníckom sektore patrí medzi odbory, kde efektivita a úspešnosť zdravotníckeho pracovníka je priamo úmerná kvalite komunikácie. Efektívna komunikácia v zdravotníctve ovplyvňuje presnosť diagnózy, dodržiavanie liečby, výsledky liečby, kvalitu psychoterapeutického vzťahu pacienta a zdravotníckeho pracovníka i celkovú spokojnosť pacienta. Profesionálna komunikácia s pacientom je spojená s rýchlejším uzdravením, znížením obáv, čo vedie k zníženiu spotreby ďalšej diagnostiky a liečby. Výsledky prieskumu poukázali na nedostatky v komunikácii s pacientom. Až 80% respondentov/študentov ošetrovateľstva uviedlo, že zdravotníckym pracovníkom pri komunikácii s pacientom chýba empatia a 57% uviedlo, že chýba aktívny záujem o pacienta. Tréning komunikačných zručnosti u zdravotníckych pracovníkov by zlepšil prístup k pacientom a zvýšil kvalitu starostlivosti.

Kľúčové slová: *komunikácia, pacienta, ošetrovateľstvo, sestra, chronická rana*

Abstract

Working in the healthcare sector is one of the fields where the effectiveness and success of a healthcare professional is directly proportional to the quality of communication. Effective communication in healthcare affects the accuracy of diagnosis, adherence to treatment, treatment outcomes, the quality of the psychotherapeutic relationship between the patient and the healthcare professional, and overall patient satisfaction. Professional communication with the patient is associated with faster recovery, reduced worry, leading to reduced need for further diagnosis and treatment. The results of the survey highlighted deficiencies in patient communication. As many as 80% of respondents/nursing students reported that health care professionals lack empathy when communicating with the patient and 57% reported a lack of active concern for the patient. Communication skills training for health care workers would improve access to patients as well as communication.

Key words: *communication, patient, nursing, nurse, chronic wound*

1 PROFESIONÁLNA KOMUNIKÁCIA V OŠETROVATEĽSTVE

Efektívna komunikácia v zdravotníctve výrazne pozitívne ovplyvňuje presnosť diagnózy a jej previazanosť s ďalšími skutočnosťami ako dodržiavanie liečby, výsledky liečby, kvalita psychoterapeutického vzťahu pacienta a zdravotníckeho pracovníka i celkovú spokojnosť pacienta i zdravotníckeho pracovníka. Profesionálna komunikácia s pacientom je spojená s rýchlejším uzdravením, znížením obáv, čo vedie k zníženiu spotreby ďalšej diagnostiky a liečby. (Ptáček, Bartunek, 2011). Aby vedela sestra s pacientom správne komunikovať je potrebné sa naučiť ako začať, udržať, podporiť rozhovor a rozvíjať komunikáciu, pretože každý rozhovor jej prináša mnoho informácií do procesu ošetrovateľskej starostlivosti o daného pacienta/ klienta. Profesionálna komunikácia si vyžaduje zvládanie vonkajších a vnútorných faktorov. Vonkajšie faktory spočívajú najmä v príprave prostredia, kde sa bude

komunikácia odohrávať, a v rešpektovaní individuality pacienta. Vnútorne faktory v komunikácii predstavujú zvládanie samého seba, svoje správanie, prejavy a spôsob komunikácie, bez prenášania svojich pracovných a osobných nálad a problémov do kontaktu s pacientmi. (Linhartová, 2007). Kristová (2009) uvádza, že zmysluplnosť kontaktu a rozhovoru závisí do veľkej miery od toho, ako je sestra schopná uplatňovať zásady produktívnej a profesionálnej komunikácie. Schopnosť zvoliť účinnú komunikáciu v konkrétnej situácií nám napomáha neustále vzdelávanie sa v oblasti komunikácie a komunikačných zručností (Gabura, 2004).

1.1 Profesionálne komunikačné zručnosti sestier

Komunikačne zručnosti zaraďujeme k základným zložkám interpersonálneho konania, ktoré majú na jeho priebeh priaznivý vplyv. Komunikačné zručnosti sa vzájomne podmieňujú a prelínajú, nie je možne ich využívať oddelene (Morosovicsová, 2004). Komunikačne zručnosti v praxi prispievajú k nadväzovaniu lepšieho a kvalitnejšieho kontaktu s pacientom. Človek tieto zručností nenadobúda automatický, ale musí si ich osvojiť v priebehu celého života (Morosovicsová a kol. 2011). Každá komunikačná zručnosť nadobudnutá počas štúdia alebo počas praxe formuje našu úroveň komunikácie. V procese poskytovania zdravotnej starostlivosti sa zdravotnícki pracovníci stretávajú s rôznymi typmi pacientov - detský pacient, psychiatrický pacient, pacient s mentálnou poruchou, demenciou, atď. Zdravotnícki pracovníci by mali mať vedomosti o tom, aký spôsob komunikácie treba zvoliť pri konkrétnych pacientoch, čo môže napomôcť komunikácií alebo naopak čo zhoršuje komunikáciu (Hadašová, 2018). Komunikačné zručnosti sú nevyhnutné najmä na predchádzanie a zvládnutie problémového správania, aby zdravotnícky pracovník vedel sledovať a posúdiť neverbálne prejavy a využívať ukľudňujúce prvky ako pokojný spôsob reči, znížená gestikulácia, empatia, evalvačné prvky správania, odloženie nepríjemných tém na vhodnejšiu chvíľu a podobne (Tomová, Křivková, 2016). Informácie, ktoré nadobudneme neustálym sa vzdelávaním v oblasti komunikácie a komunikačných zručnosti nám pomôžu lepšie porozumieť komunikácii druhého človeka, pohotovejšie sa rozhodnúť, ľahšie dokázať odhadnúť, kedy byť otvorenejšia a kedy si , naopak udržať väčší odstup (Škvareninová, 2004). Plnohodnotná ošetrovateľská starostlivosť je nerealizovateľná bez vzájomnej efektívnej komunikácie medzi pacientom a sestrou. K špecifickým zručnostiam sestry zaraďujeme: aktívne počúvanie, asertivitu, spätnú väzbu, rešpekt, empatiu.

1.2 Posilňovanie komunikačních zručností sestier

Celoživotné vzdelávanie zdravotníckych pracovníkov je nevyhnutnosťou pre neustále zlepšovanie kvality poskytovanej zdravotnej starostlivosti. Zdravotnícki pracovníci musia zvyšovať, prehlbovať svoju odbornú spôsobilosť, priebežne ju obnovovať, tak aby udržali krok s rozvojom a modernizáciou zdravotníckeho systému. Ďalšie vzdelávanie zdravotníckych pracovníkov sa zameriava na poznatky najnovších diagnostických, terapeutických, ošetrovateľských postupov a poznatky vychádzajúce z praxe založenej na dôkazoch. Okrem klinických poznatkov je do programu sústavného vzdelávania nevyhnutnosťou zahrnúť aj oblasť psychosociálnych vedomostí, ktoré majú vplyv na kvalitu poskytovanej zdravotnej starostlivosti. Jednou z takých oblastí je vzdelávanie v problematike komunikácie a posilňovanie a rozvoj komunikačných zručností zdravotníckych pracovníkov (Hadašová, 2018). Mnoho publikovaných štúdii označilo komunikáciu zdravotníckeho pracovníka s pacientom za jeden z rozhodujúcich faktorov priamo ovplyvňujúci proces liečby i súvisiace oblasti, ako sú náklady na liečbu a výskyt súdnych sporov pacientov a zdravotníckych zariadení. (Ptáček, Bartunek 2011). Zdravotnícke zariadenia snažiace sa o neustále zvyšovanie kvality zdravotníckych služieb a spokojnosť pacienta zaraďujú do ďalšieho programu vzdelávania semináre, workshopy, supervíziu, tréningy na rozvoj

komunikačných zručností zdravotníckych pracovníkov (Hadašová, 2018). Tréning komunikačných zručností zdravotníckych pracovníkov ako uvádzajú Ptáček a Bartunek (2011) vedie k zlepšeniu identifikácie psychosociálnych problémov pacienta a k redukcii pacientovej emočnej úzkosti. Možnosť pacienta diskutovať o svojich zdravotných problémoch napomáha zníženej spotrebe analgetík po operácii a k lepšej kontrole hypertenezie. Autori ďalej uvádzajú, na podklade systematickej metaanalýzy 180 štúdii zameraných na komunikačné zručnosti v medicíne, že komunikačné zručnosti môžu byť naučené a významne ovplyvňujú celý priebeh liečby. Štúdie poukázali na skutočnosť, že tréning komunikačných zručností zdravotníckych pracovníkov vedie k významnému zlepšeniu informovanosti pacientov a k zlepšeniu rozpoznania a manažmentu psychosociálnych problémov.

1.3 Komunikácia s pacientom s chronickou ranou

Ošetrovanie pacientov s chronickými ranami predpokladá zvládnutie teoretických vedomostí, zvládnutie praktických zručností z ranového manažmentu, kterého cieľom je vytvorenia optimálního prostredia v rane za účelom podpory procesu hojenia, prevencie komplikácii a zvyšovanie komfortu a kvality života pacienta. Osobitný cieľ je aj dosiahnutie efektívnosti nákladov na liečbu v súlade s nejlepšími dôkazmi u najčastejšie sa vyskytujúcich typov nehojacich sa rán v klinickej praxi. Juřeníková (2009) uvádza, že významnou súčasťou poskytovanej ošetrovateľskej starostlivosti u pacienta s chronickou ranou je edukácia, teda proces sústavného ovplyvňovania správania a jednania jedinca s cieľom navodiť pozitívne zmeny v jeho vedomostiach, postojoch, návykoch a zručnostiach. Chronická rana predstavuje pre pacienta náročnú životnú situáciu s deficitom istých vedomostí a zručností, práve preto je edukácia u týchto pacientov považovaná za dôležitú integrálnu súčasť života. Magurová (2013) uvádza, že význam edukačných aktivít možno vnímať ako rozšírenie možnosti uspokojovať potreby, prostriedok obohacovania života, možnosť stimulovať, udržiavať potenciál, prostriedok korekcie žiaducich zmien, prostriedok zámerného ovplyvňovania vedomostí, postojov a správania. K úspešnému dosiahnutiu týchto procesov a výsledkov sú veľmi dôležité expresívne aj receptívne komunikačné zručnosti sestier. Komunikačné zručnosti sa zefektívňujú skúsenosťami, vzdelávaním aj ambíciou zvyšovať svoj profesionálny rast.

2 VÝSLEDKY PRIESKUMU A DISKUSIA

Realizovali sme prieskum prostredníctvom neštandardizovaného dotazníka, ktorý bol zameraný na zisťovanie úrovne komunikácie a využívania komunikačných zručnosti v práci sestry s pohľadu študentov ošetrovateľstva. Gabura (2004) uvádza, že práca v zdravotníckom sektore patrí medzi tie odbory, kde funkčnosť, efektivita a úspešnosť zdravotníckeho pracovníka je priamo úmerná kvalite komunikácie. Cieľom prieskumu bolo zistiť ako študenti odboru ošetrovateľstva vnímajú úroveň komunikačných zručností zdravotníckych pracovníkov. Snažili sme sa identifikovať nedostatky a dopady v profesijnej komunikácii zdravotníckych pracovníkov z pohľadu študentov odboru ošetrovateľstva, ďalej identifikovať rozdiely v úrovni komunikačných zručnostiach zdravotníckych pracovníkov v štátnych a neštátnych zdravotníckych zariadeniach z pohľadu študentov odboru ošetrovateľstva a zistiť názory študentov odboru ošetrovateľstva ku kontinuálnemu vzdelávaniu zdravotníckych pracovníkov v oblasti komunikačných techník. Respondenti, ktorí sa do prieskumu zapojili, boli študenti 2. a 3. ročníka bakalárskeho študijného programu v odbore ošetrovateľstvo v počte 181 respondentov. Hlavným cieľom prieskumu bolo zistiť, ako študenti odboru ošetrovateľstva vnímajú úroveň komunikačných zručností zdravotníckych pracovníkov v zdravotníckych zariadeniach. Hadašová (2018) uvádza, že komunikačne zručností sú neoddeliteľnou súčasťou profesionálnej výbavy zdravotníckych pracovníkov. Kvalita komunikačných zručností má významný vplyv na úspešnosť liečebného procesu. Hrubé

nedostatky v komunikácií a neznalosť komunikačných osobitosti môžu spôsobiť mnohé nedorozumenia v ošetrovateľskej praxi, ktoré vedú k strate dôvery pacienta voči zdravotníckemu systému. Cieľom bolo identifikovať nedostatky a dopady v profesionálnej komunikácií zdravotníckych pracovníkov. Ako najväčšie nedostatky v komunikácií a prístupe k pacientom považujú respondenti nedostatok empatie pri práci čo nám uviedlo až 79% . Ďalším častým nedostatkom je neosobný, nadriadený a hrubý prístup k pacientom, to si myslí 61% opýtaných a tiež, že mnohokrát chýba aktívny záujem o pacienta tento názor zastáva 57% respondentov. Tomová, Křivková (2016) uvádzajú, že nedostatky v komunikácii narušujú celkový vzťah pacienta k personálu. Vzťah medzi sestrou a pacientom je tvorený najmä prostredníctvom komunikácie. Prejavy úcty, rešpektu, vážností, uznania, nezištnej pomoci sú vlastnosti, ktoré by si mali osvojiť všetci zdravotnícky pracovníci no najmä sestry, ktoré sú v úzkom každodennom kontakte s pacientom. Komunikácia ma v zdravotníctve nezastupiteľne miesto. Je súčasťou poskytovania zdravotnej starostlivosti. Umožňuje sprostredkovanie dôležitých a nevyhnutných informácií (Morosovicsová a kol. 2011). Nedostatky a dopady neprofesionálnej komunikácie prinášajú so sebou radu problémov, ktoré mnohokrát by sme mohli zvrátiť správnym prístupom a profesionalitou pri vykonávaní svojej práce. Najviac nám viazne komunikácia a profesionálny prístup pri práci so seniormi uviedlo 25% respondentov a pri práci s umierajúcimi a s marginalizovanými skupinami, to uviedlo 22% respondentov. Ďalšou skupinou, kde komunikácia je tiež horšia zo strany sestier je pri pacientoch, ktorí sú agresívny to uviedlo 10% respondentov, takisto u pacientov, ktorí trpia demenciou uviedlo 9% študentov. S pohľadu študentov taktiež zlyháva prístup a komunikácia pri pacientoch s nejakým hendikepom. Neprehliadnuteľným prvkom súčasného moderného ošetrovateľstva je požiadavka na kvalitu komplexného profesionálneho prístupu zdravotníckeho pracovníka k pacientom. Profesionálny prístup v ošetrovateľskej starostlivosti je považovaný za samozrejmosť omnoho menej je však považovaná komunikácia a individuálny prístup k pacientom za dôležitý zo strany sestier (Tomová, Křivková, 2016). Neprofesionálny prístup a neefektívna komunikácia so sebou prináša aj následky. V prieskume sme zisťovali čo si myslia respondenti, že aké dopady ma zlá komunikácia a prístup a pacienta. Respondenti potvrdili, že neprofesionálny prístup a komunikácia prináša nespokojnosť pacienta, sťažnosti na poskytovateľom zdravotnej starostlivosti, nedisciplinovanosť a nerešpektovanie zo strany pacienta.74% študentov si myslí, že práve nespokojnosť pacienta je hlavný dopad neprofesionálnej komunikácie. S tohto pramení hneď ďalšia odpoveď kde si 72% respondentov mysli, že sťažnosti pacientov na zdravotnícky personál sú kvôli zlej komunikácii a prístupe. Ak je s pacientom zlé zaobchádzanie z jeho strany potom pramení nespolupráca, nedisciplinovanosť, myslí si to 62% opýtaných. Pri neefektívnej a neprofesionálnej komunikácii chyba pacientom dôvera vo vzťahu k personálu, ktorý mu poskytuje zdravotnú starostlivosť a to si myslí 61% študentov. Farkašová Iannaccone (2015) uvádza, že v procese poskytovania zdravotnej starostlivosti sa komunikácia podieľa na vytvorení dobrého vzťahu medzi pacientom a sestrou. Komunikácia s pacientom sa častokrát podceňuje. Samotný spôsob komunikácie sestier s pacientom v dostatočnej miere ovplyvňuje spokojnosť pacienta a dôveru pacienta voči sestre, ale má nezastupiteľný význam aj na účinnosť liečby. Ďalším cieľom bolo identifikovať rozdiely v úrovni komunikačných zručností zdravotníckych pracovníkov v štátnych a neštátnych zdravotníckych zariadeniach z pohľadu študentov odboru ošetrovateľstva. Výsledky prieskumu poukazujú na skutočnosť, že študenti odboru ošetrovateľstva sa viac stretávajú v štátnych zdravotníckych zariadeniach s nedostatkami v profesionálnej komunikácii a v prístupe k pacientom, vnímajú , že prevažuje devalvačná komunikácia v týchto zariadeniach oproti neštátnym zdravotníckym zariadeniam. Podľa výsledkov sme zistili, že až 30% respondentov sa stretáva práve v štátnych zdravotníckych zariadeniach „často“ s devalvačnou komunikáciou a len 7% uviedlo, že sa s ňou vôbec nestretáva v štátnych zdravotníckych

zariadeniach. V porovnaní s neštátnymi zariadeniami nám naopak 10% respondentov uviedlo, že sa „často“ stretáva v praxi s devalvačnou komunikáciu a takmer 30% uviedlo, že sa s ňou nestretáva vôbec v neštátnych zdravotníckych zariadeniach. V nemocničnom prostredí sa stretávame s chorým človekom. Pravdivosť, trpezlivosť, otvorenosť, zrozumiteľnosť, jasnosť, empatia, asertivita sú tými atribútmi v interakcii, ktoré pomáhajú vytvárať dôverný a pozitívny vzťah medzi sestrou a pacientom pri poskytovaní ošetrovateľskej starostlivosti, preto je dôležité stávať komunikáciu a prístup k pacientom na týchto atribútoch. (Tomová, Křivková, 2016). Ďalej sme v prieskume posudzovali rozdiely v úrovni komunikačných zručnosti, zisťovali sme akých najčastejších komunikačných chýb sa dopúšťajú zdravotnícki pracovníci pri poskytovaní ošetrovateľskej starostlivosti v štátnych a neštátnych zdravotníckych zariadeniach. V štátnych zariadeniach podľa vyjadrení respondentov najviac chýba empatia (79%) so strany personálu, často sa vyskytuje neosobný a hrubý prístup k pacientom, chýba záujem o pacienta, pacient má často nezodpovedané otázky ohľadom poskytovanej starostlivosti a jeho zdravotného stavu. V neštátnych zariadeniach nám rovnako vyšlo, že chýba empatia čo nám predstavuje (54%), ďalej personál v týchto zariadeniach využíva veľakrát pri komunikácií odbornú terminológiu alebo slangové slova, ktorým pacienti nerozumejú a takisto absentuje aktívne počúvanie pacienta. Najdôležitejšou zručnosťou, ktorú majú pri komunikácií zlepšiť zdravotnícki pracovníci je schopnosť byť viac empatický. Kováč (2021) uvádza, že v pomáhajúcich profesiách je potrebná vysoká miera empatie. Ak má pomáhajúci pracovník nízku mieru empatie, nemôže byť schopný pomôcť druhému človeku v takej miere, ako by bolo potrebné. Túto schopnosť však je možné zlepšovať prostredníctvom tréningov alebo výsledku. Vytvorenie dobrého vzťahu medzi sestrou a pacientom je nemožne bez efektívnej komunikácie. Efektívna komunikácia v tomto bode znamená aj rozprávať s pacientom podľa jeho schopnosti porozumieť zdieľanému obsahu. Dôležité je dávať si pozor na odborné výrazy a slang pri komunikácií a prispôsobiť ich vzdelaniu, veku a spoločenskému postaveniu chorého (Špatenková, Králová, 2009). V realizovanom prieskume posledným cieľom bolo zistiť názory študentov odboru ošetrovateľstva ku kontinuálnemu vzdelávaniu zdravotníckych pracovníkov v oblasti komunikačných techník . Práca v zdravotníctve je o celoživotnom vzdelávaní a práci na sebe a to nám aj potvrdili naši respondenti, keď sme zisťovali aký majú názor na vzdelávanie seba samých v oblasti komunikácie a tiež pravidelne vzdelávanie už pracujúcich zdravotníckych pracovníkov. 76% respondentov si myslí, že práve pravidelný tréning komunikačných zručnosti u zdravotníckych pracovníkov by zlepšil celkovo prístup k pacientom a zároveň aj komunikáciu. 78% respondentov uviedlo, že by samo využilo možnosť vzdelávať sa v oblasti komunikácie a v posilňovaní komunikačných zručnosti. Hadašová (2018) uvádza, že vzdelávanie zdravotníckych pracovníkov je predpokladom skvalitňovania zdravotnej starostlivosti a spokojnosti pacienta.

3 ZÁVER

Kvalitu poskytovanej ošetrovateľskej starostlivosti hodnotí pacient na základe viacerých aspektov. Medzi najdôležitejšie patria celkové zlepšenie zdravotného stavu, časová, geografická a finančná dostupnosť starostlivosti a v neposledním rade profesionálny prístup a komunikácia zdravotnického pracovníka. Aj napriek tomu, že profesionálnej komunikácii sa študenti odboru ošetrovateľstva venujú v pregraduálnom vzdelávaní, nielen v predmete komunikácia, klinická prax ale aj v klinických predmetoch, v ktorých sa vzdelávajú o osobitostiach komunikácie pri rôznych ochoreniach, nevyhnutné je aj ďalšie sústavné vzdelávanie v oblasti komunikačných zručnosti zvýši profesionálnu, odbornú, morálnu, etickú úroveň a dôveryhodnosť zdravotníckych pracovníkov a pozitívne ovplyvní zvládanie problémových situácii správania pacientov, informovanosť pacienta i jeho spoluprácu.

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ČESKÉ ODMÍTNUTÍ UPRCHLICKÝCH KVÓT Z POHLEDU TEORIÍ EVROPSKÉ INTEGRACE

CZECH REJECTION OF REFUGEE QUOTAS FROM THE VIEWPOINT OF EUROPEAN INTEGRATION THEORIES

Lucie Hrubá

Abstrakt

V roce 2015 se do Evropské unie dostalo velké množství migrantů, na něž nebyla unie připravena. Reakce členských států na příliv migrantů se lišily především podle předchozích zkušeností s migrací a geografické polohy. Evropská komise přišla s návrhem přerozdělování migrantů, s tzv. uprchlickými kvótami, ale některé státy, jako např. Česká republika, kvóty odmítly. Příspěvek zkoumá důvody České republiky k odmítnutí migračních kvót s využitím dvou teorií evropské integrace – mezivládně liberální teorie a neofunkcionalismu. Mezivládně liberální teorie ukazuje důvody odmítnutí kvót v oblasti domácích preferencí a vyjednávání mezi vládami členských států. Neofunkcionalismus se neukazuje jako velmi vhodnou teorií na vysvětlení českého odmítnutí kvót, i když některé aspekty této teorie jsou aplikovatelné (např. odmítání přijetí kvót ze strany vládních elit).

Klíčová slova: *migrační krize, liberálně mezivládní teorie, neofunkcionalismus, uprchlické kvóty, Česká republika*

Abstract

In 2015, the European Union received a large number of migrants for which it was not prepared. Member States' responses to the influx of migrants have varied, depending mainly on previous migration experiences and geographical location. The European Commission proposed redistributing migrants through the so-called refugee quotas, but some states, such as the Czech Republic, rejected the quotas. This paper examines the Czech Republic's reasons for rejecting migration quotas using two theories of European integration – liberal intergovernmentalism and neofunctionalism. Liberal intergovernmentalism shows the reasons for rejecting quotas regarding domestic preferences and bargaining between national governments. Neofunctionalism is not a suitable theory to explain the Czech rejection of quotas. However, some aspects of this theory are applicable (e.g., the rejection of quotas by government elites).

Key words: *migration crisis, liberal intergovernmentalism, neofunctionalism, refugee quotas, Czech Republic*

1 ÚVOD

V roce 2015 přišla do Evropské Unie vlna migrantů v takovém rozsahu, na který nebyla EU připravená. I přesto, že se na příchozí vlnu dalo nahlížet z mnoha různých pohledů (ekonomický, humanitární, sociální, politický), tak se dominantním pohledem v EU stal pohled bezpečnostní, kdy se na migraci nahlíželo primárně jako na hrozbu pro unii (Tazzioli, 2021, Mescoli & Roblaine, 2021, Mitzen, 2018, Ziesenis, 2017).

Členské státy Evropské Unie měly také různé představy o tom, jak příliv migrantů řešit. Reakce států se lišily podle předchozích zkušeností s migrací či podle jejich geografické polohy, kdy státy v první linii (Řecko, Itálie) chtěly krizi řešit urgentněji, než tranzitní

(Maďarsko) či přihlížející země (Česká republika) (Karacan, 2019, Schimmelfennig, 2018). Evropská komise přišla s návrhem přerozdělování migrantů, s takzvanými migračními kvótami, což některé státy přijaly, ale jiné proti tomu vystupovaly. Nejvíce zde byly slyšet hlasy Visegrádské čtyřky, a to Česka, Polska, Slovenska a Maďarska, které s kvótami nesouhlasily (Pop & Sobczyk, 2015). Zde budeme zkoumat, proč došlo k českému odmítnutí migračních kvót pomocí dvou teorií evropské integrace – liberálně mezivládní teorie a neofunkcionalismu. Nejprve se podíváme na pozadí české reakce na migrační kvóty a následně si rozebereme konkrétní reakce.

2 POZADÍ ČESKÉ REAKCE NA MIGRAČNÍ KVÓTY

Česká republika sice nebyla zemí vstupní, ani cílovou, nicméně vnitropoliticky zde měla migrační krize velký dopad. To můžeme vidět hlavně ve fungování českých médií, která prezentovala příliv migrantů jako hrozbu pro český stát a to, že by se mělo migrantům pomáhat, se v médiích téměř neobjevovalo (Tkaczyk, 2017, Vallo a kol., 2020, Jelínková, 2019). I díky zobrazení migrační krize v médiích se téma stalo velmi důležitým pro české občany,což vedlo ke zvýšení zájmu ze strany vlády i opozice. Vzhledem k prezentaci migrace jako hrozby se vymezení proti migrační krizi pojilo s populismem či euroskepticismem, který má v ČR tradičně větší úspěch u voleb. Paradox byl, že zastánci i odpůrci přílivu migrantů používaly podobné argumenty pro legitimizaci svého názoru (Krotký, 2019, Fenko a kol. 2019, Jaworský & Krotký, 2021).

Dodnes jsou v Česku migranti považováni za jednu z největších hrozeb (Centrum pro výzkum veřejného mínění, 2021) a Češi i několik let po hlavním přílivu migrantů neměli pocit dobré informovanosti o migraci a jejich následní integraci (EU: Eurobarometer 2018). České obyvatelstvo tedy mělo veskrze negativní názor na přijímání migrantů (Ministerstvo vnitra ČR, 2017) a zároveň český postoj k EU není úplně nakloněn posilování nadnárodních institucí kvůli obavám ze ztráty možnosti o sobě rozhodovat (Tabosa, 2020). Česká republika trpěla a dodnes trpí, jako celá EU, nedostatečnou koherencí mezi migrační a integrační politikou, co se následně odráží i v implementaci těchto politik (Stojanov a kol., 2017). Česká veřejnost tedy nebyla principu rozdělování kvót moc nakloněna, ekonomicky by ale ČR kvóty v tehdejší navrhované podobě zvládla (Klímová & Rosková, 2017).

Země, které jsou více kulturně rozmanité přitahují spíše migranty, než když je to naopak, přičemž Česká republika není kulturně rozmanitou zemí a zároveň její kultura není vůbec blízká kulturám migrantů (Wang a kol., 2016). V přístupu České republiky k odmítnutí migračních kvót musíme zohlednit i její homogennost a malý počet cizinců. V době migrační krize se zároveň v Evropě objevilo několik teroristických útoků, přičemž homogenní země s malým počtem cizinců si terorismus spíše spojovaly s migrací a následně vůči migraci prokazovaly negativní postoje (Nussio a kol., 2019). Propagovaný diskurz, že jsou migranti hrozba, měl vliv i na veřejnou administrativu (Bardovič & Michalík, 2019). Zajímavý pohled nabízí Squire (2020), který tvrdí, že příliv migrantů nezpůsobil krizi, ale že ji způsobil úpadek humanismu, kterému migrační krize pomáhá v opětovném zvýšení pomocí zvyšování solidarity s uprchlíky. Česká reakce na příliv migrantů byla zároveň ukázkovou, co se týče vlivu na volební chování. Pozornost se přesunula k pravicovým stranám, a to z důvodu strachu běžných občanů z ekonomických dopadů přílivu migrantů a zároveň zde byl dezinformační tlak ze strany politických skupin (Rozo & Vargas, 2021). Migrace byla celkově politickým nástrojem, který dával více prostoru extremistickým pravicovým stranám kritizující migraci kvůli strachu ze skomírání národního státu (Muydinov, 2020).

3 LIBERÁLNĚ MEZIVLÁDNÍ TEORIE

Jeden z možných způsobů vysvětlení odmítnutí uprchlických kvót Českou republikou je pomocí liberálně mezivládně teorie. V této teorii je důraz na domácí preference, následné

vyjednávání a institucionalizaci tohoto vyjednávání. Když začala migrační krize, mohli jsme vidět, že reakce EU byla z velké části řízena reakcí jejích členských států, jejichž reakce zase vycházela z domácího prostředí a politické scény. Vlády členských států by měly reprezentovat názory svých občanů. Při přílivu uprchlíků se ovšem ukázalo, že občané členských států mají různé názory na to, jak krizi řešit a jak přerozdělovat uprchlíky. Když se ale nejde dlouhodobě domluvit, vychází z toho podle teorie zablokování a rozpad politiky, takže se v podstatě nic nevyřeší (Hix, 2018).

Vlivy z domácího prostředí jsou v liberálně mezivládní teorii velmi důležité. Postavení evropských vlád ke krizi hodně záleželo i na vnímání názorů svých občanů, kdy strach vedl k podpoře protiteroristické politiky. Zároveň měla krize velký vliv na polarizaci společnosti (Alshoubaki & Harris, 2019, Roblaine & Green, 2021, Erisen a kol, 2020). Dominantní politické oblasti v období migrační krize byly ochrana hranic a azylová a imigrační politika, kde opět můžeme vidět vliv ideologických preferencí veřejné politiky, zde konkrétně spojené s národní identitou a státní suverenitou. Národní preference členských států EU se odlišovaly podle intenzity ovlivnění migrační krizí, což znamenalo logicky pro Českou republiku odporovat relokačním kvótám. Státy zde nebyly schopny sjednotit svoje preference a začaly jednat spíše sami za sebe, což se zrovna v liberálně mezivládní teorii ukazuje jako nevýhoda, protože se díky tomu neprohloubila integrace (Schimmelfenig, 2018). I přesto zde ale byla integrace očekávána, protože krize měla právě přinést další integraci v oblastech jejího řešení (Wolf & Ossewaarde, 2018).

Odpor České republiky k zavedení migračních kvót odpovídal nejen jejím národním preferencím, ale i geografické pozici. Docházelo k asymetrickému rozložení vzájemné závislosti, což opět vedlo ke snaze států najít řešení krize po vlastní ose (Tretter, 2020). Česko bylo stát, kam nesměřovalo velké množství migrantů, a tudíž ani nemělo motivaci sdílet zodpovědnost přerozdělování kvót. Navrhovaný systém pro ně totiž nebyl výhodný (Zaun, 2018). Zároveň by pro Českou republiku bylo nevýhodné přijmout kvóty kvůli kolapsu Schengenu, ke kterému by tím došlo, nicméně to se týká všech členských zemí EU (Börzel & Risse, 2018).

4 NEOFUNKCIONALISMUS

Neofunkcionalismus počítá s integrací pomocí přelévání (spillout) , kdy jedna oblast integrace vytváří potřebu pro integraci v dalších oblastech. Při migrační krizi panoval strach ze spillbacku, kdy by integrace nepostupovala dopředu, ale naopak dozadu. Strach byl podporovaný hlavně objevením slabin v oblastech klíčových pro řešení přílivu migrantů, přičemž jako slabiny se ukázaly ochrana hranic a celkově Schengenský systém, které nezvládaly takový nápor (Niemann & Speyer, 2018). Zároveň bylo předpokládáno, že nadnárodní instituce navrhnou nějaké řešení, protože jsou na to uzpůsobené a zároveň by měly ctít zájmy svých zakládajících států (Dilbaz, 2020). Tyto instituce se ovšem v migrační krizi neosvědčily, protože si navzájem blokovali svoje návrhy na řešení, díky čemuž došlo následně ke stagnaci k celkovém řešení krize (Jacobi, 2020). Pro nefunkcionalistický pohled jsou instituce velmi důležité, ale státy, které je vytvářejí, nemají po jejich vytvoření vliv na jejich další směřování, což právě může vést k tomu, že zájmy institucí jdou proti zájmům států, které je původně vytvořily (Dinan a kol., 2017). Chování států při přílivu migrantů popírá nefunkcionalistické koncepty, jelikož místo prohlubující se integrace se státy začaly obracet více na svoje domácí politiky (Grosse, 2017), což můžeme vidět i v případu České republiky. Neofunkcionalismus neumí moc najít jiné vysvětlení odmítnutí migračních kvót, jelikož spíše vidí celkový obrázek, kde sice došlo k odmítnutí migračních kvót, ale ke tvorbě nadnárodnějšího Shengenu a zkvalitnění nadnárodní spolupráce při monitorování hranic a práci s migranty (Hooghe & Marks, 2019). Politizace krize, ke které s přílivem migrantů došlo, vedla k obrácení národní identity proti nadnárodní delegaci pravomocí (Chowdhury,

2021). Česká republika tedy nemohla ignorovat strach českých občanů z přílivu migrantů a zároveň homogenní složení a kulturu země. Tím, že se obrátila na domácí politiku, tak nemohla strachy běžných občanů ignorovat a musela odmítnout migrační kvóty, které by jinak přispěly k další integraci v rámci Evropské Unie.

5 ZÁVĚR

Liberálně mezivládní teorie nabízí poměrně uspokojivé vysvětlení odmítnutí migračních kvót Českou republikou dle svých základních stavebních kamenů. Klíčovou roli zde hrají domácí preference a následné vyjednávání mezi vládami členských států. U přílivu migrantů v roce 2015 se ukázala rozdílnost názorů běžných občanů členských zemí Evropské unie na to, jak krizi řešit a jak přerozdělovat uprchlíky, což vedlo k blokaci a rozpadu politiky. Krize byla zároveň velkým faktorem vedoucí k polarizaci společnosti a také k dominanci témat ochrany hranic a azylové a imigrační politiky v politických oblastech. Česká republika se rozhodla k odmítnutí migračních kvót na základě své geografické pozice, kvůli obavám z kolapsu Schengenu a hlavně kvůli národním preferencím, kdy ze strany běžných českých občanů byl silný odpor kvóty přijmout.

Neofunkcionalismus není tak dobrou teorií pro vysvětlení českého odmítnutí migračních kvót. Předpokládá, že bude docházet k neustálé integraci pomocí mechanismu přelévání, kdy integrace v jedné oblasti povede k integraci v dalších oblastech. V období migrační krize se ovšem nepovedlo tento mechanismus úplně zapojit díky ukázání slabin v různých možných oblastech integrace. Nadnárodní instituce se zde příliš neosvědčily, jelikož se místo pomoci spíše vzájemně blokovaly. Politizace krize vedla k tomu, že došlo k obrácení národní identity proti nadnárodní delegaci pravomocí. U České republiky můžeme vidět odmítnutí migračních kvót jako obranu českých zájmů proti nadnárodní delegaci pravomocí z důvodu udržení české národní identity. Česká národní identita souvisí s tím, že je ČR velmi homogenní zemí, a to jak složením, tak kulturou. Zároveň se politické strany snažily získat podporu voličů a věděly, že podporou odmítání kvót ji získají, takže ze stran vládních elit zde nebyla snaha kvóty přijmout.

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KOMPARÁCIA VZDELÁVACÍCH VÝSLEDKOV ŽIAKOV MLADŠIEHO ŠKOLSKÉHO VEKU Z BEŽNÝCH ŠKÔL A ŽIAKOV V DOMÁCOM VZDELÁVANÍ NA SLOVENSKU

COMPARISON OF EDUCATIONAL OUTCOMES OF YOUNGER PRIMARY SCHOOL STUDENTS FROM REGULAR SCHOOLS AND STUDENTS IN HOMESCHOOL BASED EDUCATION IN SLOVAKIA

Zuzana Šingliarová

Abstrakt

Vzdelávacie výsledky žiakov mladšieho školského veku sa líšia v závislosti od rôznych faktorov, ako je pedagogický prístup, učebné prostredie, rodinné podmienky a individuálne schopnosti žiakov. Príspevok sa zameriava na porovnanie výsledkov vstupných a výstupných testov žiakov mladšieho školského veku zo základných škôl a žiakov v domácom vzdelávaní na Slovensku. Pomocou štatistických metód boli zaznamenané rozdiely v testových výsledkoch žiakov navštevujúcich školu na dennej báze a domácich školákov, vzdelávajúcich sa neinštitucionálne. Zistili sme, že rozdiel vo výsledkoch testov žiakov je štatisticky významný. Tieto zistenia majú dôležité posolstvo pre vzdelávací systém a upriamujú pozornosť na individuálne potreby a prístupy k vzdelávaniu žiakov v škole i v domácom prostredí.

Kľúčové slová: *žiaci mladšieho školského veku, test, vzdelávacie metódy, štatistické metódy*

Abstract

Education outcomes of younger primary school students vary depending on various factors such as pedagogical approach, learning environment, family conditions, and individual abilities of students. This paper focuses on comparing the results of entrance and exit tests of younger primary school students from regular schools and homeschooled students in Slovakia. Using statistical methods, differences in test results were recorded between students attending regular daily schools and those being homeschooled. We found that the difference in test results of students is statistically significant. These findings have an important message for the education system and highlight the need for an individualized approach to education and further investigation of the differences in the quality of education for younger primary school students.

Key words: *younger primary school students, test, educational methods, statistical methods*

1 ÚVOD

Požiadavky na výsledky vzdelávania, ale aj na nové možnosti získavania vedomostí spôsobujú, že učitelia, a aj rodičia školopovinných detí sú čoraz menej spokojní. Ten, kto sa zaoberá edukáciou vie, že škola ako taká neustále hľadá a snaží sa skvalitňovať edukačné procesy tak, aby žiakov a študentov čo najlepšie pripravila na zaradenie sa do spoločnosti (Petlák, 2022, s.148 - 149). Problematika edukácie, v kontexte požívania vzdelávacích metód, ktoré sú jedným z ovplyvňujúcich faktorov vzdelávacích výsledkov žiakov, sa líšia aj v závislosti od pedagogického prístupu, učebného prostredia a v prípade doma-vzdelávaných žiakov aj rodinných podmienok. Mnohým pedagógom však chýbajú odborné pedagogické kompetencie pre zmysluplné, participatívne vyučovanie a facilitatívne vedenie triedy v škole

(Rovňanová, 2015, s.5). Aj rodičia reagujú na súčasný stav vzdelávania a potreby svojich detí a hľadajú cestu k zmysluplnému vzdelávaniu. Niektorí z rodičov si volia v takom to prípade cestu individuálneho, domáceho vzdelávania, ktoré je na Slovensku realizovateľné na základe Zákona 245/2008 Z.z. o výchove a vzdelávaní a o zmene a doplnení niektorých zákonov (ďalej len Školský zákon). Z prieskumných zistení (Majdišová, 2021, s.37-50) sa dozvedáme, že ako hlavné dôvody nastúpenia na cestu domáceho vzdelávania uvádzajú rodičia to, že chcú predovšetkým hodnotnejšie využívať čas, vzdelávať sa podľa záujmov dieťaťa, hodnotového rebríčka rodiny a až potom nasledujú dôvody, ktoré sú v kategórii zdravotných obmedzení. Z odpovedí rodičov, ktorí sa prieskumu zúčastnili, vyplýva, že chcú svojim deťom poskytnúť kvalitné vzdelanie, ktoré je založené na budovaní bezpečného, podnetného prostredia, vzájomných vzťahov, zmysluplnej činnosti, podporovaní ich nadania, talentu a osobného rozvoja (Majdišová, 2021, s. 49)

Existuje mnoho rôznych edukačných prístupov (Skalková, 2008, s. 181-205). Tradičná výučba v triede , skupinová práca, projektová metóda, inovatívne technológie, online vzdelávanie, vysokoefektívne vyučovanie atď. Každá metóda má svoje výhody a obmedzenia a môže mať rôzny vplyv na výsledky žiakov. Výber správnej metódy je kľúčovým faktorom zvládnutia edukačných cieľov. Súčasné výskumy a inovácie v oblasti vzdelávania (NÚCEM, 2019, MŠVVŠ SR, 2021) sa snažia zlepšiť výsledky žiakov a zabezpečiť inkluzívne a kvalitné vzdelávanie pre všetkých.

Z hľadiska zamerania tohto príspevku sa nebudeme venovať klasifikáciám metód. Ich všeobecné vymedzenie môžeme nájsť v každej monografii, ktorá sa orientuje na didaktiku, metodiku vyučovania (Petlák, 2012, s. 73-74). Niektoré sú modifikáciou rôznych iných metód, alebo sú ponímané ako koncepcia vyučovania (napr. kooperatívne vyučovanie, alebo problémové vyučovanie). V príspevku sa zameriavame na štatistické spracovanie a následné porovnanie dát získaných zo vstupných a výstupných testov žiakov chodiacich do školy na dennej báze a žiakov s individuálnym plánom, teda žiakov v domácom vzdelávaní. Cieľom analýzy bolo zistiť, či existuje štatisticky významný rozdiel v používaní vzdelávacích metód žiakov v individuálnom, domácom vzdelávaní v porovnaní s používanými metódami vzdelávania žiakov v bežných školách.

1.1 Metodológia a cieľ výskumu

Cieľom výskumu bolo porovnať vzdelávacie výsledky žiakov mladšieho školského veku navštevujúcich školu na dennej báze a žiakov vzdelávajúcich sa individuálne v domácom prostredí, v závislosti od používaných vzdelávacích metód. Konkrétne sme sa zamerali na porovnanie výsledkov vstupných a výstupných testov žiakov druhého ročníka základnej školy. Vzhľadom na to, že sme chceli postaviť do komparácie výsledky žiakov z domáceho vzdelávania a žiakov navštevujúcich školu na dennej báze, pracovali sme s dvoma výskumnými vzorkami. Výskumná vzorka A – žiaci domáceho vzdelávania (počet 24, lokalita: Žilinský kraj), Výskumná vzorka B – žiaci navštevujúci školu na dennej báze (počet 24, lokalita: Žilinský kraj). Objektom pedagogického výskumu bol žiak základnej školy (žiak ZŠ) a žiak v domácom vzdelávaní (žiak DV). Predmetom pedagogického výskumu boli výsledky vstupných a výstupných testov. Test bol zostavený špeciálne na tento účel a obsahoval 12 úloh. 4 úlohy zo slovenského jazyka, 4 úlohy z matematiky, 3 z prvouky a jedna bonusová úloha z anglického jazyka. Plný počet bodov bol pri vstupnom aj výstupnom teste rovnaký, 61. Výskum bol realizovaný v školskom roku 2021/2022 a vstupné testy boli žiakmi písané na začiatku školského roku v posledný septembrový týždeň. Realizácia výstupných testov prebiehala v mesiaci jún.

Pozorovanými štatistickými znakmi bol dosiahnutý počet bodov zo vstupných a výstupných testov, udelená známka, používané metódy vzdelávania žiakov ZŠ a DV. Získané dáta sme

spracovali pomocou štatistických metód pedagogického výskumu, popisnej štatistiky, Histogramu a kontingenčných tabuliek (spracovanie podľa Kohútovej, Jurečkovej, 2022).
Výskumná vzorka A – žiaci domáceho vzdelávania
(reprezentatívny, stratifikovaný, zámerný výber)
K dispozícii sme mali zoznam všetkých 25 jednotiek základného súboru doma-vzdelávaných žiakov druhého ročníka a okrem jedného všetci vybraní respondenti súhlasili s účasťou na danom výskume zameraného na metódy používané vo vzdelávacom procese žiakov s individuálnym vzdelávacím plánom. Jednalo sa konkrétne o žiakov navštevujúcich komunitnú vzdelávaciu skupinu v Žilinskom kraji.
Výskumnú vzorku teda tvorilo 24 žiakov mladšieho školského veku z komunitnej školy. Títo žiaci boli v evidencii školy ako žiaci s individuálnym plánom. Medzi verejnosťou je zaužívané pomenovanie „domškoláci“, žiaci (deti) v domácom vzdelávaní.
Údaje zo vstupnej a výstupnej práce boli zaznamenané a spracované v programe Excel s pridaným doplnkom Data Analysis. Výstupné grafy a kontingenčné tabuľky uvádzame nižšie.
Výskumná vzorka B – žiaci navštevujúci školu na dennej báze
(reprezentatívny, stratifikovaný, dostupný výber)
Vzorku B tvorilo 24 jednotiek základného súboru žiakov druhého ročníka základnej školy. Žiakmi boli vyplnené vstupné a výstupné testy tak ako vo vzorke A na začiatku a na konci školského roka. Pre zber dát a následné spracovanie výsledkov merania sme použili rovnaký test a program Excel s doplnkom Data Analysis. Následne boli údaje analyzované a postavené do komparácie s výsledkami testov výskumnej vzorky A.

1.2 Testovanie štatistických hypotéz a vizualizácia získaných dát

Pri prvostupňovom triedení dát bol sledovaný výskyt iba jedného znaku premennej. Sledovaná premenná: výsledky vstupného testu, výsledky výstupného testu, používané metódy vzdelávania žiakov základnej školy a žiakov v domácom vzdelávaní.
Vo výskume bol sledovaný dosiahnutý počet bodov zo vstupných a výstupných testov a pomocou kontingenčných tabuliek sme zapísali ich hodnoty ako aj prevažne používané metódy vzdelávania žiakov v školskom prostredí a žiakov v domácom vzdelávaní.

Tabuľka 1 Metódy vzdelávania žiakov ZŠ v kontexte dosiahnutých bodov_kontingenčná tab.

Označenia riadkov	Počet z Poradové čísl	Súčet z vstupné ZŠ	Súčet z výstupné ZŠ
montessori	3	112	123
tradičná	21	983	1035
Celkový súčet	**24**	**1095**	**1158**

Zdroj: vlastné spracovanie

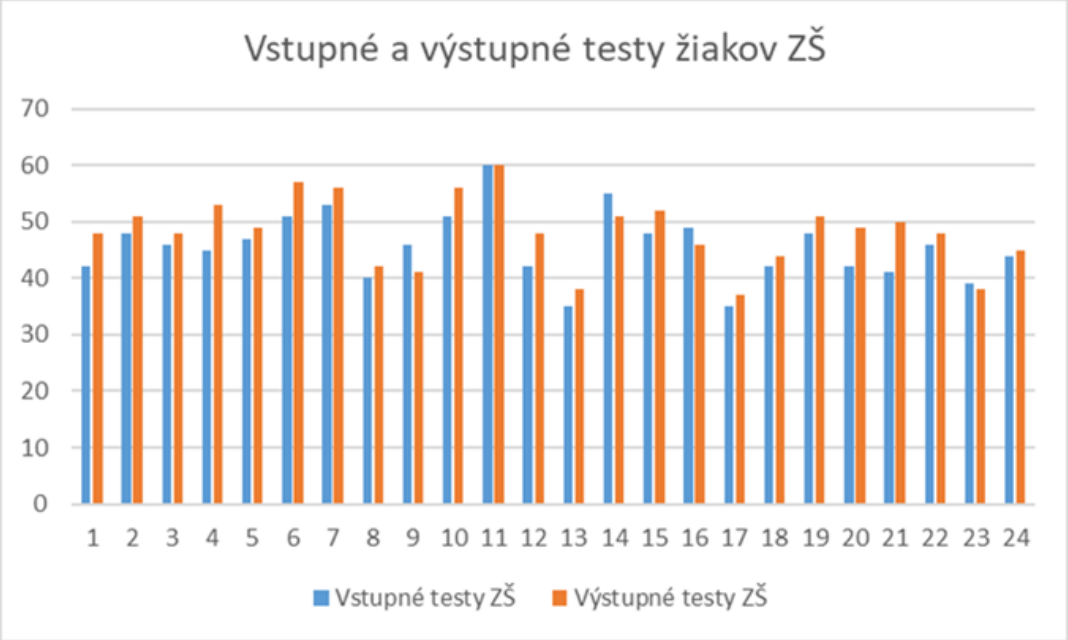
Tabuľka 2 Metódy vzdelávania žiakov DV v kontexte dosiahnutých bodov_kontingenčná tab.

Označenia riadkov	Počet z Poradové čísl	Súčet z vstupné DV	Súčet z výstupné DV
hejného	6	290	344
montessori	7	328	399
tradičná	3	140	158
unsch.	3	112	136
waldorf	1	41	49
wordsch	4	204	234
Celkový súčet	**24**	**1115**	**1320**

Zdroj: vlastné spracovanie

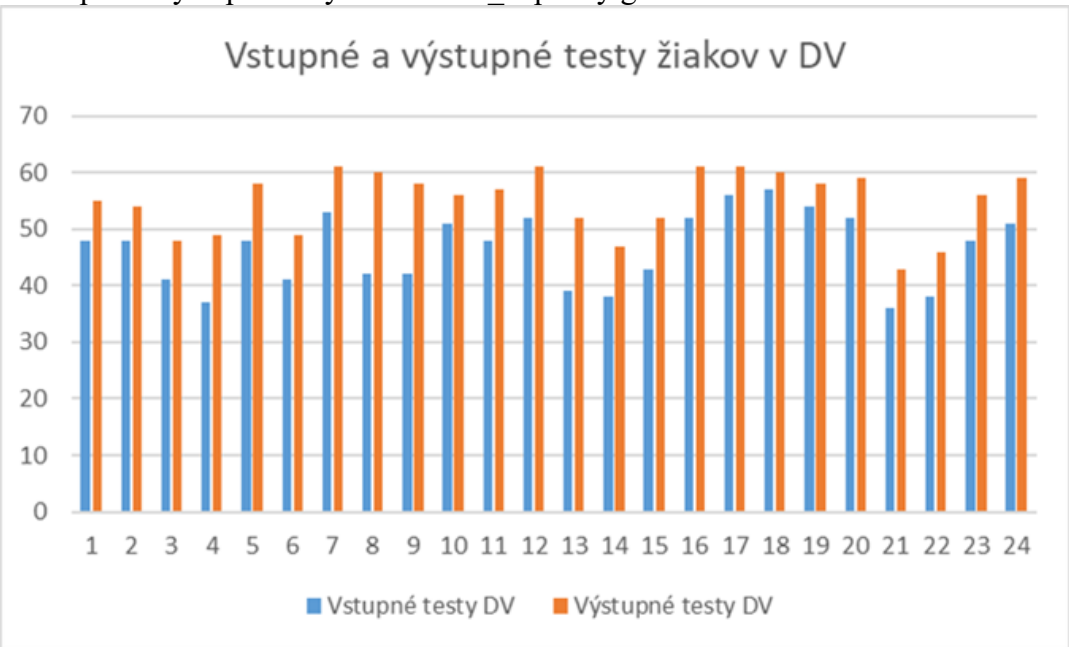
Vizualizáciu dát zo vstupných a výstupných testov sme realizovali prostredníctvom stĺpcového grafu (Graf 1, Graf 2) a doplnku Data Analysis (Tab 3, Tab 4). Prehľad výsledkov testov žiakov zo základnej školy a žiakov z domáceho vzdelávania sme následne postavili do komparácie, realizovali test rozptylov (Tab 5), test normality (Tab 6) a parametrický test Anova (Tab 7), ktorý nám potvrdil stanovenú hypotézu o štatistickej významnosti rozdielu vo výsledkoch testov žiakov ZŠ a žiakov DV.

Graf 1 Vstupné a výstupné testy žiakov ZŠ_stĺpcový graf



Zdroj: vlastné spracovanie

Graf 2 Vstupné a výstupné testy žiakov DV_stĺpcový graf



Zdroj: vlastné spracovanie

Hypotézy

H_{01} – Vo výsledkoch výstupných testov žiakov mladšieho školského veku nie je vzhľadom na formu vzdelávania štatisticky významný rozdiel.

H_{11} – Vo výsledkoch výstupných testov žiakov mladšieho školského veku je vzhľadom na formu vzdelávania štatisticky významný rozdiel.

Výberový súbor: výsledky výstupného testu, ktorý bol zostavený pedagógom na základe Štátneho vzdelávacieho programu ISCED 1 (+ obsahový, výkonový štandard)).

Test bol realizovaný na hladine významnosti alfa = 0,05, čo znamená, že pripúšťame 5% chybu v prípade, zamietnutia správnej nulovej H0. V prípade parametrického testu sme overovali, či oba výberové súbory pochádzajú zo súborov s normálnym rozdelením. (použili sme Jarque-Bera test normality: hodnoty Jarque-Bera (JB) testu pri žiakoch zo základnej školy boli nasledovné: JB vstupné testy = 0,55080787, JB výstupné testy = 1,627956157). Ak by súbory pochádzali zo súboru s normálnym rozdelením, použili by sme neparametrický test.

Testovanie priemerov dvoch nezávislých základných súborov prebehlo aj z dôvodov, aby sme vedeli, ktorý z T-testov na testovanie normality je vhodné urobiť. Realizovali sme test rozptylov.

Tabuľka 3 Vstupné a výstupné testy žiakov ZŠ_Data Analysis

Vstupný test ZŠ		*Výstupný test ZŠ*	
Mean	45,625	Mean	48,25
Standard Error	1,215558111	Standard Error	1,248549884
Median	46	Median	48,5
Mode	42	Mode	48
Standard Deviation	5,95499425	Standard Deviati	6,116620266
Sample Variance	35,46195652	Sample Variance	37,41304348
Kurtosis	0,374924787	Kurtosis	-0,374353128
Skewness	0,320249619	Skewness	-0,181097876
Range	25	Range	23
Minimum	35	Minimum	37
Maximum	60	Maximum	60
Sum	1095	Sum	1158
Count	24	Count	24
Confidence Level(95,0	2,514573538	Confidence Leve	2,582822218

Zdroj: vlastné spracovanie

Tabuľka 4 Vstupné a výstupné testy žiakov DV_Data Analysis

Vstupný test DV		*Výstupný test DV*	
Mean	46,45833	Mean	55
Standard Error	1,315982	Standard Error	1,11641247
Median	48	Median	56,5
Mode	48	Mode	61
Standard Deviation	6,446969	Standard Deviation	5,46928181
Sample Variance	41,56341	Sample Variance	29,9130435
Kurtosis	-1,29679	Kurtosis	-0,673865
Skewness	-0,1228	Skewness	-0,714929
Range	21	Range	18
Minimum	36	Minimum	43
Maximum	57	Maximum	61
Sum	1115	Sum	1320
Count	24	Count	24
Confidence Level(95,0%)	2,722316	Confidence Level(95,0%)	2,30947516

Zdroj: vlastné spracovanie

Poznámka: T-test Two Sample Assuming Equal Variances (testovanie normality dvoch nezávislých súborov predpokladá rovnosť rozptylov) a T-test Two Sample Unequal Variances (rozptyly v základných súboroch sú rozdielne). Na testovanie rozptylov základných súborov sme použili F-test Two Samples for Variances.

Stanovili sme si nasledovné hypotézy.

H_{02} – Súbory pochádzajú zo základných súborov s rovnakým rozptylom.

H_{12} – Súbory pochádzajú zo základných súborov s rôznym rozptylom.

Tabuľka 5 Výstupné testy žiakov ZŠ a DV_Testovanie rozptylov F-test

F-test Two Samples for Variances		
	ZŠ	*DV*
Mean	48,25	55
Variance	37,41304	29,91304
Observations	24	24
df	23	23
F	1,250727	
P(F<=f) one-tail	0,298011	0,596022
F Critical one-tail	2,014425	

Zdroj: vlastné spracovanie

Tabuľka s údajmi výberových súborov o priemere (Mean) výsledkov výstupných testov žiakov ZŠ a žiakov DV, o rozptyloch (Variance), počte účastníkov (Observations) obsahuje aj dôležitý údaj P-hodnotu testu . Táto P-hodnota je však pre jednostranný test. P-hodnotu pre obojstranný F-test sme získali vynásobením P-hodnoty jednostranného testu, dvoma (x2). Táto hodnota je pre nás kľúčová. Vzhľadom na to, že je vyššia ako nami zvolená hladina významnosti alfa = 0,05, znamená to teda, že nie je dôvod zamietnuť nulovú hypotézu H_0 a rozptyly oboch súborov pochádzajú zo súboru s rovnakým rozptylom. Predpokladáme teda, že rozptyly v oboch základných súboroch sú rovnaké, rsp. Porovnateľné. Následne sme pristúpili k realizácii testu o porovnaní priemerov základných súborov.

Porovnanie priemerov základných súborov

Zo štatistických procedúr si preto vyberieme test, ktorý predpokladá rovnosť rozptylov: T-test Two Sample Assuming Equal Variances. Hypotetický rozdiel stredných hodnôt sme si zvolili 0, vzhľadom na voľbu našej nulovej hypotézy.

Tabuľka 6 Výstupné testy žiakov ZŠ a DV_Testovanie normality T-test

T-Test: Two-Sample Assuming Equal Variances		
	ZŠ	*DV*
Mean	48,25	55
Variance	37,41304348	29,91304
Observations	24	24
Pooled Variance	33,66304348	
Hypothesized Mean	0	
df	46	
t Stat	-4,030117486	
P(T<=t) one-tail	0,000103679	
t Critical one-tail	1,678660414	
P(T<=t) two-tail	0,000207358	
t Critical two-tail	2,012895599	

Zdroj: vlastné spracovanie

Výstupná tabuľka obsahuje údaje tak ako F-test, ale my sme sa zamerali na P- hodnotu, tohto konkrétneho obojstranného testu. Vidíme, že P-hodnota je menšia ako 0,05, čo znamená, že máme dôvod zamietnuť nulovú hypotézu H_0 a priklonit' sa k alternatívnej H_1 a môžeme tvrdiť, že rozdiel vo výsledkoch testov žiakov ZŠ a žiakov DV je štatisticky významný.

V našom prípade sú tieto predpoklady splnené, preto použijeme parametrický test Anova.

Tabuľka 7 Výstupné testy žiakov ZŠ a DV_Anova Single Factor

Anova: Single Factor				
SUMMARY				
Groups	*Count*	*Sum*	*Average*	*Variance*
ZŠ	24	1158	48,25	37,41304
DV	24	1320	55	29,91304

Zdroj: vlastné spracovanie

Tabuľka 8 Výstupné testy ZŠ a DV_P-value_Anova test

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	546,75	1	546,75	16,24185	0,000207	4,051749
Within Groups	1548,5	46	33,66304			
Total	2095,25	47				

Zdroj: vlastné spracovanie

V tabuľke sa nachádzajú informácie o základných parametroch ako je počet (count), priemerná hodnota (average) a rozptyl (variance). Všímali sme si priemernú hodnotu testov, ktorá je pre žiakov základnej školy 48,25 bodov a pre žiakov v domácom vzdelávaní 55 bodov. P-hodnota (P-value) nám poskytla informáciu o tom, či je štatisticky rozdiel v našich súboroch. To znamená, či môžeme zovšeobecniť tvrdenie o rozdiele nadobudnutom v záverečnom teste. Vidíme, že hodnota p tohto testu je menšia ako 0,05 a preto máme dôvod zamietnuť nulovú hypotézu a prijímame alternatívnu H_1 - Rozdiel vo výsledkoch testov žiakov ZŠ a žiakov DV je štatisticky významný. (Test Anova to potvrdil)
Záver: Prijímam H_1 – Rozdiel vo výsledkoch testov žiakov ZŠ a žiakov DV je štatisticky významný.

1.3 Interpretácia výsledkov

Údaje zo vstupných a výstupných testov žiakov ZŠ a DV, ich variabilite a celkovej úrovni výkonu týchto vzoriek nám poskytli informácie o tom, ako sa zlepšili, alebo zhoršili počas školského roka. Z porovnania vidíme, že priemer skóre žiakov vo výstupných testoch (55) je vyšší ako priemer vo vstupných testoch (46,46). To znamená zlepšenie vedomostí a schopností žiakov. Medián bol tiež vyšší a rozsah skóre sa zmenšil. To naznačuje pokrok žiakov v ich výkone. Zaznamenané údaje poukazujú na isté rozdiely medzi výkonmi doma vzdelávaných žiakov a žiakov zo základnej školy. Je však dôležité zohľadniť, že tieto numerické údaje samy osebe neposkytujú kompletný obraz o výkone žiakov, či vzdelávacom procese v škole, alebo doma. Treba mať na pamäti, že vzdelávanie je komplexný proces, ktorý zahŕňa nielen testovanie, ale aj iné aspekty, ako sú kreativita, kritické myslenie, problémové riešenie a komunikácia (Skalková, 2008, s. 27-28).
Štatistickými metódami sme overili, že výberové súbory výsledkov testov žiakov ZŠ a DV, pochádzali zo súborov s normálnym rozdelením. Prijali sme H0 - Výsledky vstupných a výstupných testov doma vzdelávaných žiakov mladšieho školského veku majú normálne rozdelenie. Testovanie dát sme realizovali na parametrických testoch. Informácie o základných parametroch sa ako je počet (count), priemerná hodnota (average) a rozptyl (variance) uvádzame v tabuľkách. Parametrický test Anova nám potvrdil, že vzhľadom na to, že P-hodnota je menšia ako 0,05, máme dôvod zamietnuť nulovú hypotézu H0 a prikloniť sa k alternatívnej H1 a môžeme teda tvrdiť, že rozdiel vo výsledkoch testov žiakov ZŠ a žiakov DV je štatisticky významný. Na základe testovania rozptylov základných súborov, kde sme

použili F-test Two Samples for Variances, sme prijali nulovú hypotézu H0, ktorá vyjadruje, že rozptyly oboch súborov pochádzajú zo súboru s rovnakým rozptylom.

2 ZÁVER

Komparácia vzdelávacích výsledkov žiakov mladšieho školského veku z bežných škôl a žiakov v domácom vzdelávaní na Slovensku ukazuje zaujímavé rozdiely a podobnosti medzi týmito dvoma formami vzdelávania. Na základe našich analýz sme dospeli k záveru, že výsledky vstupných a výstupných testov žiakov základnej školy a domácich školákov, vzdelávajúcich sa neinštitucionálne, sú štatisticky signifikantne odlišné. To naznačuje, že existuje významný rozdiel medzi týmito dvomi skupinami žiakov vo výkonoch testov. Tieto zistenia majú dôležité implikácie pre vzdelávací systém a upriamujú pozornosť na individuálne potreby a prístupy k vzdelávaniu žiakov základnej školy i doma vzdelávaných žiakov.

Bežné školy poskytujú štandardizované vzdelávanie, kde žiaci navštevujú triedy a majú vyučovanie s učiteľmi. Tieto školy majú výhodu v tom, že ponúkajú široké spektrum predmetov a študijných materiálov, ako aj učiteľov, ktorí sú kvalifikovaní na vyučovanie konkrétneho predmetu. Žiaci majú možnosť komunikovať s rovesníkmi a budovať sociálne interakcie, čo je dôležité pre ich osobnostný a sociálny vývoj. Taktiež majú pravidelný harmonogram a štruktúru, čo môže pomôcť pri organizácii ich času a štúdia. Na druhej strane, žiaci v domácom vzdelávaní majú príležitosť individuálne sa venovať svojmu vzdelávaniu. Ich rodičia alebo externý vzdelávatelia preberajú rolu učiteľov a snažia sa im poskytnúť školský obsah a výučbu doma. Tento prístup môže byť prispôsobiteľnejší potrebám jednotlivého žiaka a umožňuje viac flexibility v učebnom programe. Žiaci v domácom vzdelávaní majú tiež viac možností na individuálne tempo učenia a hlbšie zameranie sa na svoje záujmy. Vzdelávacie výsledky sa tak medzi týmito dvoma skupinami žiakov môžu líšiť. Žiaci z bežných škôl majú prístup k širšiemu spektru odborných učiteľov a zdrojov, čo môže prispievať k ich akademickému úspechu. Okrem toho, spoločná interakcia so spolužiakmi môže podporovať učenie a rozvoj komunikačných zručností. Na druhej strane, žiaci v domácom vzdelávaní majú možnosť individuálneho prístupu a väčšej flexibilite, čo môže podporiť ich motiváciu a samostatnosť pri vzdelávaní.

Každý žiak je jedinečný, môže preferovať iné vzdelávacie prostredie. Niektorí žiaci môžu v bežných školách dosahovať vynikajúce výsledky vďaka štruktúrovanému prostrediu a interakcii so spolužiakmi, zatiaľ čo iní žiaci môžu mať prirodzenú afinitu k samostatnému učeniu a prosperovať v domácom vzdelávaní. Významný vplyv na výsledky žiakov môže mať aj angažovanosť a zapojenie rodičov do edukačného procesu. Rozhodnutie medzi bežným školstvom a domácim vzdelávaním je individuálna voľba, ktorá by mala byť založená na potrebách a preferenciách konkrétneho žiaka a jeho rodiny. Dôležité je zabezpečiť kvalitné vzdelávanie a podporu, či už prostredníctvom tradičného vzdelávacieho systému, alebo formou domáceho vzdelávania.

V konečnom zhrnutí je porovnávanie vzdelávacích výsledkov žiakov mladšieho školského veku z bežných škôl a žiakov v domácom vzdelávaní na Slovensku zložitým procesom. Obe formy vzdelávania majú svoje výhody a obmedzenia a výsledky sa môžu líšiť v závislosti od individuálnych faktorov a kontextu. Dôležité je vytvárať podporné vzdelávacie prostredie, kde sa žiaci môžu rozvíjať a dosahovať svoj potenciál bez ohľadu na zvolenú formu vzdelávania. Vzhľadom na rastúci záujem o alternatívne vzdelávacie metódy, ako je domáce vzdelávanie, výsledky tejto štúdie môžu prispieť k diskusii o rôznych možnostiach vzdelávania a ich vplyve na vzdelávacie výsledky žiakov. Tieto zistenia môžu slúžiť ako podklad pre rozhodovanie rodičov i pedagogických pracovníkov, pri výbere a implementácii vzdelávacích metód.

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VZŤAH VÝKONU V TESTE DAP : IQ (DRAW A PERSON : INTELLECTUAL ABILITY TEST FOR CHILDREN, ADOLESCENTS AND ADULTS) A VYBRANÝCH OSOBNOSTNÝCH PARAMETROV

THE RELATIONSHIP OF PERFORMANCE IN THE DAP TEST: IQ (DRAW A PERSON : INTELLECTUAL ABILITY TEST FOR CHILDREN, ADOLESCENTS AND ADULTS) AND SELECTED PERSONALITY PARAMETERS

Peter Jurovatý, Slávka Démuthová

Abstract

Cieľom práce bolo overiť vzťah osobnostných faktorova výkonu v teste DAP : IQ. Na vzorke 688 participantoch výskumu (362 mužov a 326 žien, vo veku 20 – 65) rokov sme sledovali faktor emocionálnej lability (EM) a sebaistoty (P1) dotazníka IHAVEZ a faktorov neurotizmus (N) a psychotizmus (P) dotazníka DOPEN a výkon v teste DAP : IQ. Na základe analýzy dát sme nezistili žiadny štatisticky signifikantný vzťah medzi dosiahnutým skóre v DAP : IQ a niektorým z vybraných osobnostných charakteristík.

Kľúčové slová: *Kresba ľudskej postavy, osobnostné parametre, výkon*

Abstract

The aim of the work was to verify the relationship between personality factors and performance in the DAP: IQ test. On a sample of 688 research participants (362 men and 326 women, aged 20-65), we monitored the emotional lability factor (EM) and self-confidence (P1) of the IHAVEZ questionnaire and the neuroticism (N) and psychoticism (P) factors of the DOPEN questionnaire and performance in DAP test: IQ. Based on the data analysis, we did not find any statistically significant relationship between the achieved score in DAP : IQ and any of the selected personality characteristics.

Keywords: *Human figure drawing, personality parameters, performance*

1 ÚVOD

Existuje viacero prístupov ku kresbe ľudskej postavy. Azda najznámejší a pre psychológov najatraktívnejší je projektívny prístup Machoverovej, ktorý vychádza z prideľovania konkrétnych významov jednotlivým znakom kresby (Machover, 1949), pričom sa využívajú psychoanalytické pojmy a interpretácie. Atraktivita vychádza z predpokladu možnosti vhľadu do osobnosti autora kresby na základe jeho vlastného a pomerne „jednoduchého“ výtvoru. Machoverovej prístup je neustále podrobovaný tvrdej kritike (napr. Kahil, 1984; Roback, 1986; Lilienfeld, 2000; Démuthová, 2010; Badošek, 2011 a iní) a výskumníci neprichádzajú k podporným zisteniam. Druhý najznámejší a aj „perspektívnejší“ je výkonový prístup (v zmysle Goodenoughovej, 1926, neskôr Harris, 1963, alebo Naglieri, 1988), kde sa na základe spôsobu prevedenia kresby a jej jednotlivých častí usudzuje na intelektové schopnosti autora (za prevedené prvky sa prideľujú body podľa hodnotiacej schémy a získané hrubé skóre sa prevádza na inteligenčný kvocient). Existujú aj iné uchopenia kresieb ľudskej postavy prichádzajúce k diametrálne odlišným interpretáciám a využitiu (napr. Hárdi, 1992, Koppitzová, 1968; Gigi, 2016). Avšak faktom je, že kresba ľudskej postavy sa používa vyše 100 rokov patri k jedným z najčastejšie používaných metód či už v klinickej, tak aj

poradenskej, školskej, ako aj pracovno-organizačnej psychológii (pozri prehľad Piotrowski, 2015). Jednoznačnými argumentami pre sú jednoduchosť, nenáročnosť časová, materiálna, priestorová, individuálne, párové aj skupinové použitie. Vo svete neutícha realizácia výskumov ohľadom kresby ľudskej postavy (napr. Kuttner, Kuttner & Chromeková, 2013, Troncone, 2014, Gigi, 2016, Khasu & Williams, 2016; Rehring & Stromswold, 2017, Maserati et al. 2018; Troncone, Chianese, Di Leva, Grasso & Cascella, 2020, Papangelo et al. 2020), pričom sa hľadajú nové spôsoby použitia, alebo sa overujú existujúce. U nás je oblasť výskumu menej rozvinutá pokiaľ ide o kresbu ľudskej postavy, čo je vzhľadom na jej široké používanie u nás neakceptovateľné (okrem prác Jurovatý, 2011, Badošek, 2011, Démuthová, 2010, Jurovatý & Démuthová, 2021, 2022, 2023). Širší výskum ale chýba.
Jeden z najnovších príspevkov DAP : IQ (Reynolds & Hickman, 2004), ktorý sa používa práve ako výkonový test, sa snažil odstrániť mnohé nedostatky – vniesť nové normy, pracovať aj s premennými ako vek až do dospelosti, vzdelanie, to všetko so snahou lepšie, praktickejšie, presnejšie využiť kresbu ľudskej postavy. Túžba odstrániť nedostatky bola zrejmá so snahou exaktnejšie stanoviť jasné hodnotiace parametre, ktoré sú nositeľom informácie o kognitívnych schopnostiach normálnej populácie s cieľom systém viac zobjektivizovať. Napriek snahe o exaktnosť sa nepovažuje za náhradu inteligenčných testov (túto ambíciu podľa autorov nemá), ale ako doplnok, ako integrálna súčasť vyhodnotenia inteligencie, ktorá môže poskytnúť doplňujúce informácie. Výskumy reflektujúce zapracované zmeny a ich overovanie, vrátane preverovania psychometrických kvalít, však nie sú veľmi časté a ak zoberieme do úvahy „normálnu“ dospelú populáciu, tak sú skôr zriedkavé (s výnimkou Imuta, Scarf, Pharo & Hayne, 2013 alebo Khasu & Williams, 2016; Williams, Fall, Eaves & Woods-Grooves, 2006). Väčšina výskumov sa tak stále realizuje na deťoch, alebo jedincov s určitým „narušením“ kognitívnych schopností (napr. Kuttner, Kuttner & Chromeková, 2013).

2 PROBLÉM

K možnostiam diagnostiky osobnostných parametrov prostredníctvom kresby ľudskej postavy sa neprikláňali len zástupcovia tzv. projektívneho chápania kresby (napr. Machoverová, 1926; Baltrusch, 1953; Ogdon, 1978...), ale aj samotní predstavitelia výkonového prístupu. Už Goodenoughová (1926) poukazuje na to, že jedinci s vyššou mierou psychopatológie vynechávajú základné znaky kresieb. Menej detailov podľa nej vykazujú aj jedinci s vyššou mierou anxiety a s emocionálnou nestabilitou a to by sa malo preukázať v celkovom nižšom skóre. Poukázala na odlišnosti kresieb detí normálnych a tých s psychopatologickými a neurotickými tendenciami, čiže aj na možnosť zachytiť určité osobnostné parametre priamo kresbou (rovnako si to všimla aj Machoverová, 1949 v rámci svojho projektívneho prístupu a neskôr prezentovali Hiler & Neswig, 1965, pričom práve oni zdôrazňovali najmä schopnosť kresby ľudskej postavy diagnostikovať osobnostné parametre). Výskumne sa však takémuto spracovaniu seriózne nevenovala. Harris (1963), ako nasledovník výkonového prístupu nadviazal na domnienky Goodenoughovej - možnosť diagnostiky ľudskej postavy pokiaľ ide o niektoré osobnostné parametre, no využíval k tomu najmä kresbu tretej postavy seba, ktorá vypovedá o samotnom jedincovi, ako sa vníma, jeho sebaobraz. Kresby emocionálne maladjustovaných, neurotických, anxióznych detí sú jednoduchšie, podobajúce sa kresbám detí so zníženými úrovňami intelektových schopností (podobne aj zistenia McElwee, 1934; Spoerl, 1940), opäť danú problematiku štatisticky nepodporil. Až Koppitzová (1968) k štúdiu kresby ľudskej postavy pristupuje z dvoch diametrálne odlišných prístupov – tú istú kresbu vyhodnocuje najprv výkonovo a následne z pohľadu štúdia varovných emocionálych indikátorov. Už tu teda uvažuje nad tým, že emocionálne faktory môžu mať vplyv na prevedenie kresby a ovplyvniť tak práve výkon v teste, a to najmä v negatívnom smere (podobne aj Brill, 1935) avšak nie tradične z hľadiska charakteru výkonového prístupu. Určila

tie prvky kresby, ktorých výskyt alebo neprítomnosť môže poukazovať na možnú maladjustáciu. Neoverila zníženie alebo zvýšenia detailov kresby v prípade neurotizmu, emocionálnej lability alebo psychotizmu. Možné podhodnotenie intelektovej úrovne získanej na základe výkonu v kresbe ľudskej postavy priznávajú aj Reynolds & Hickman (2004) a to u detí, ktoré sú emocionálne narušené, neurotické, anxiózne (podobne aj Abell, Heiberger & Jonhson, 1994; Aikman, Belter & Finch, 1992, alebo aj Hjorth & Harway, 1981; Handler, 1996). Avšak, sú aj názory poukazujúce na vplyv osobnostných parametrov na kresbu v pozitívnom smere, zvýšením detailov, a to u jedincov extrovertných, viac socializovaných, sebaistých (Eisman & Johnson, 1969). Už od počiatku vzniku kresby ľudskej postavy ako výkonového testu sa teda objavujú úvahy, náznaky, ale aj výskumné spracovania o súvise výkonu s určitými osobnostnými parametrami, ktoré môžu výkon ovplyvňovať. Tieto úvahy sú regulérne, umožňujú vyhnúť sa chybám, skresleniam pri vyhodnocovaní kresby.
Autori najnovšieho vyhodnocovacieho systému DAP : IQ (Reynolds, Hickman o vplyve osobnostných faktorov uvažujú, ale iba v rovine teoretickej. Praktické výskumy v danej oblasti nerealizovali, no v rámci svojho manuálu na ne upozorňujú. Je preto až prekvapujúce, že štúdií, ktoré by regulérne overovali súvis výkonu v kresbe ľudskej postavy (pri výkonovom poňatí) a osobnostných faktorov nie je veľa, respektíve žiadna dostupná. K naplneniu potenciálu DAP: IQ vo všeobecnosti chýba dostatok výskumov aj vo svete (možno spomenúť tie, ktoré sa zamerali na reliabilitu a validitu - Williams et al., 2006; Honores & Merino, 2011; Imuta, Scarf, Pharo & Hayne, 2013; Khasu & Williams, 2016). To vytvára priestor pre overenie DAP : IQ s ohľadom na vplyv nekognitívnych, osobnostných parametrov na výsledný produkt, kresbu (emocionálna labilita, psychopatológia, neurotizmus, sebaistota).

3 METÓDY

3.1 Výskumná vzorka

Výskum sa realizoval na vzorke 688 probandov. Osoby boli vybrané náhodným výberom (losovaním) z celkového počtu 1380 probandov, ktorí sa v rokoch 2018 – 2022 zúčastnili výberových konaní na široké spektrum civilných pozícií z rôznych oblastí SR (administratíva, technika, oblasť informačných technológií, údržba, obsluha a iné), študentov VŠ, ako aj uchádzačov o zamestnanie v rámci silových rezortov. Podmienkou pre zaradenie probanda do vzorky bola účasť na výberovom konaní, pri ktorom absolvoval testy – DAP : IQ, vek nad 20 rokov. Absolvovanie osobnostných dotazníkov bolo nepovinné, pričom sa následne výskumná vzorka redukovala. Vylúčené boli tie osoby, ktorých kresba nezodpovedala stanoveným kritériám (bola schematická, paličková, bizarná, kreslená z bočného profilu alebo zozadu, neúplná alebo iba obrysová), prípadne ktorých testy nebolo možné vyhodnotiť. Z počtu 688 probandov bolo 362 mužov (52,6 %) a 326 žien (47,4 %). Priemerný vek celej výskumnej vzorky bol 37,5 roka, u mužov 38,2, u žien 36,7.

3.2 Inštrumenty

Pre adekvátne realizovanie výskumu boli za hlavné metódy zvolené dostupné, štandardizované psychodiagnostické a štatistické metódy. Išlo o osobnostné dotazníky na postihnutie nekognitívnych parametrov osobnosti a špecifický test kresby ľudskej postavy:
DAP : IQ (Reynolds & Hickman, 2004) – kresba ľudskej postavy použiteľná od 4 rokov až 79 rokov, 11 mesiacov a 30 dní, pri ktorej sa postava posudzuje v rámci 23 stanovených základných kritérií (častí postavy - hlava, vlasy, oči, obočie, mihalnice, nos, ústa, brada, uši, krk, ramená, ruky, dlane, telo, pás, boky, nohy, kolená, členky, chodidlá, oblečenie a doplnky), ktoré sa hodnotia bodovo podľa manuálu na základe kvality prevedenia – čím viac bodov, tým zrelšie a lepšie prevedenie danej časti tela (hodnoty 0 – 4 body v závislosti od detailu). Celkové skóre sa následne prevádza podľa vekových tabuliek na inteligenčný

kvocient. Osobe bola daná inštrukcia v zmysle manuálu nakresliť postavu seba najlepšie ako vie na čistý papier formátu A5 na výšku s ceruzkou s možnosťou použiť gumu.
DOPEN (Ruisel & Müllner, 1991) – pôvodný slovenský test osobnosti, ktorý vychádza z teórie Eysencka špecificky konštruovaný na slovenskú populáciu. Prostredníctvom odpovedí na 86 položiek (formou áno – nie) zisťuje mieru psychotizmu, neurotizmu, extraverzie – introverzie a obsahuje aj lži škálu. Pre výskumné účely boli v zmysle východísk v literatúre vybrané iba faktory neurotizmus (N) a psychotizmus (P).
IHAVEZ (Mikšík, 1991) – pôvodný test osobnosti českej proveniencie, ktorý zachytáva 14 základných a 23 prídavných škál. Obsahuje 300 uzatvorených položiek, na ktoré osoba odpovedá áno – nie. V našom výskume bol konkrétne vybraný iba faktor EM (v zmysle východísk v literatúre).
EM - emocionálna variabilnosť - týka sa prežívania interakcií s prostredím a situačných zmien, dynamiky emócií a jej dôsledky v oblasti kognitívnej a konatívnej. Vysoké skóre poukazuje na vysokú emocionálnu vzrušivosť, sklon prežívať situačné napätie, eufórie, tenzie.
P1 - *sebaistota (sebadôvera, sebavedomie)* – dôvera v seba samého, vo svoje sily, schopnosti.
PSS – Statistical Package for Social Sciences (IBM) – štatistický a analytický software použitý na vykonanie všetkých potrebných štatistických výpočtov.

3.3 Procedúra a analýza dát

Testy boli zadávané psychológom, individuálne alebo skupinovo na základe štandardnej inštrukcie a vyhodnocovali podľa šablón, čím sa získalo hrubé skóre pre DAP : IQ, ako aj pre jednotlivé škály dotazníka IHAVEZ – EM a P1 a dotazníka DOPEN – P a N. Vyhodnocovanie sa realizovalo anonymne na základe prideľovania jedinečných číselných kódov participantom. Získané hrubé skóre boli použité pre ďalšie štatistické spracovanie, pričom sa využila deskriptívna štatistika (priemerné hodnoty, medián, minimálne a maximálne hodnoty, štandardná odchýlka) a inaferenčná štatistika (Spearmanov korelačný koeficient, Kruskal-Wallisov test, Mann-Whitheyho test, Kolmogorov-smirnov test).

4 VÝSLEDKY

Test DAP : IQ umožňuje získať skóre 0 – 49 bodov. Základné deskriptívne dáta o celkovom skóre v DAP : IQ sú uvedené v Tabuľke 1.

Tabuľka 1. Deskriptívna štatistika pre DAP : IQ

		DAP : IQ	**DAP : IQ muži**	**DAP : IQ ženy**
N	**platné**	688	362	326
	chýbajúce	0	0	0
Priemer		33,36	32,69	34,11
Medián		34,00	33	35
Modus		35,00	31	33
SD		5,79	5,54	5,98
Šikmosť		-,679	-,221	-1,168
Strmosť		1,276	-,330	3,163
Minimum		0,00	16	26
Maximum		47,00	47	46

Na základe veľkosti vzorky (N > 50) bol na testovanie normality celého súboru a výberov v dosiahnutom skóre v DAP : IQ zvolený Kolmogorov-Smirnov test (Tabuľka 2). Následne

bol, vzhľadom k tomu, že rozloženie vzorky nie je normálne, zvolený neparametrický Spearmanov test, na zistenie vzájomných korelácií a komparácií.

Tabuľka 2. Kolmogorov-Smirnov test pre celkové skóre, vekovú kategóriu a pohlavie v dosiahnutom skóre v DAP : IQ

	Kolmogorov-Smirnov test			
	Statistic	**Medián**	**N**	**Sig.**
DAP : IQ	0,078	34,00	688	0,000
Muži DAP : IQ	0,062	33,00	362	0,002
Ženy DAP : IQ	0,110	35,00	326	0,000

Výkony mužov a žien sú v dosiahnutom skóre v DAP : IQ odlišné a rozdiel medzi nimi je štatisticky významný - použitím neparametrického Mann-Whitneyho U testu na komparáciu dvoch súborov (Tabuľka 3). V ďalšom výskume tak budeme operovať aj s pohlavím ako premennou ovplyvňujúcou výkon v DAP : IQ.

Tabuľka 3. Rozdiely medzi mužmi a ženami v DAP : IQ

pohlavie	**DAP : IQ**		**Mann Whitney U Test**	
	N	**Priemerné poradie**	**U**	**Asymp. sig.**
muži	362	316,02	48698,000	0,000
ženy	326	376,12		

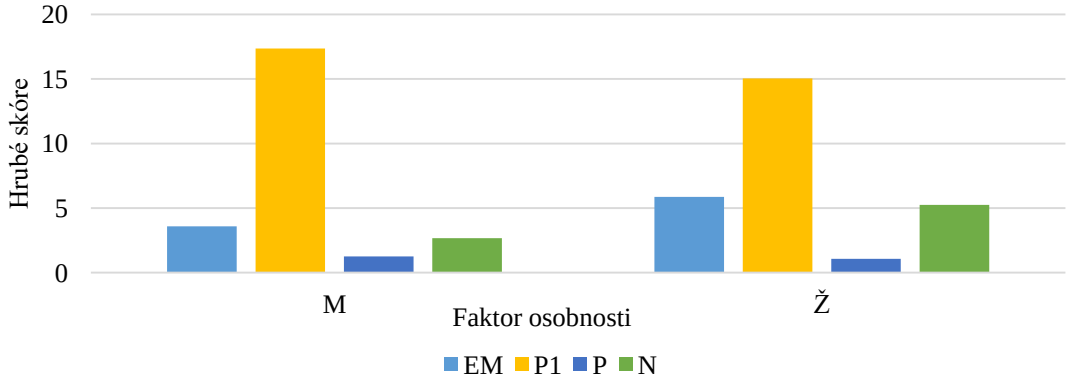
V rámci osobnostných parametrov boli použité iba vybrané faktory z dotazníka IHAVEZ (faktor EM – emocionálna variabilnosť a P1 – sebaistota) a DOPEN (faktor N – neurotizmus a faktor P – psychotizmus), ktoré podľa autorov hodnotiacich systémov (Machoverová, 1926; Harris, 1963; Kopittzová, 1968; Naglieri, 1988; Reynolds & Hickman, 2004) ovplyvňujú výkon v kresbe ľudskej postavy (výskumne však svoje tvrdenia nepotvrdili.). Základné dáta o vybraných osobnostných faktorov sú uvedené v Tabuľke 4.

Tabuľka 4. Deskriptívna štatistika pre vybrané osobnostné faktory testov IHAVEZ a DOPEN

		EM (IHAVEZ)	**P1 (IHAVEZ)**	**P (DOPEN)**	**N (DOPEN)**
N	**platné**	678	605	586	586
	chýbajúce	10	0	0102	102
Priemer		4,66	15,91	1,17	3,96
Medián		4,00	17,00	1,00	3,00
Modus		1,00	18,00	1,00	1,00
SD		4,08	3,18	1,22	4,03
Šikmosť		1,057	-1,013	1,590	1,445
Strmosť		,611	0,747	4,022	1,994
Minimum		0,00	0,00	0,00	0,00
Maximum		19,00	20,00	8,00	20,00

Muži a ženy nášho výskumného súboru dosiahli odlišné skóre pokiaľ ide o jednotlivé osobnostné faktory (Graf 1).

Graf 1. Dosiahnuté hrubé skóre v jednotlivých osobnostných parametroch u mužov a žien



Na základe Spearmanovho korelačného koeficientu nebol zistený štatisticky významný vzťah medzi výkonom v DAP : IQ a niektorým osobnostným faktorom – pre faktor N sledovaný prostredníctvom dotazníka DOPEN (ρ = -0,63, p = 0,125, u mužov ρ = 0,50, p = 0,396, u žien ρ = -0,111, p = 0,57), ani pre faktor P ((ρ = - 0,65 p = 0,114, u mužov ρ = -0,84, p = 0,150, u žien ρ = -0,103, p = 0,077), ani pre faktory sledované prostredníctvom dotazníka IHAVEZ - EM (ρ = -0,51, p = 0,181u mužov ρ = -0,44, p = 0,413, u žien ρ = -0,35, p = 0,530) , ani pre faktor P1 (ρ = -0,046, p = 0,262, u mužov ρ = 0,022 , p = 0,708, u žien ρ = 0,041 p = 0,473).

5 DISKUSIA

Najnovšie vzniknutý systém DAP : IQ (Reynolds & Hickman, 2004) ma vysoké ambície postihnúť úroveň inteligenčného kvocientu od detstva až po 89 rok života, pričom autori rovnako operujú s vysokou mierou reliability a validity. DAP : IQ sa snaží byť maximálne jednoduchý, zrozumiteľný, bez zásadných diskusií ohľadom hodnotenia jednotlivých elementov kresby s minimalizáciou priestoru pre kultúrne a socioekonomické vplyvy. Doteraz však v dostupnej literatúre intenzívnejšie výskumne overovaný nebol (s výnimkou Williams, Fall, Eaves & Woods-Grooves, 2006; Willcock, Imuta & Hayne, 2011; Khasu & Williams, 2016; Honores & Merino, 2011; Rehrig & Stromswold, 2017; Imuta, Scarf & Pharo, 2013; u nás Jurovatý & Démuthová, 2021; Jurovatý & Démuthová, 2023). Vďaka svojej aplikovateľnosti ako jediného aj na dospelú populáciu je to prekvapivé. Stále sa intenzívnejšie používajú staršie systémy (samozrejme s pôvodnými normami) a v psychologickej obci u nás prevláda názor nepoužiteľnosti kresby ľudskej postavy ako nástroja vhodného na diagnostikovanie kognitívnych schopností (skúsenosť autora), maximálne jeho použitie u detí ako orientačného nástroja. Treba však poznamenať, že toto odmietanie vychádza práve z neuspokojivých výsledkov výskumov s kresbou ľudskej postavy ako projektívneho testu, prípadne práve z nedostatočne presvedčivých výsledkov výkonového poňatia, kedy sa prenášajú zistenia staré niekoľko desiatok rokov na dnešnú populáciu. To už samo evokuje predpoklad neúspechu.

V rámci nášho výskumu sme sa nezamerali na samotné overenie reliability a variability, ale na overenie v literatúre prezentovaných informácií o vplyve niektorých osobnostných parametrov na výkon v kresbe. V rámci praxe sa nám javí neodôvodnené používať vekové normy prezentované autormi DAP : IQ. Staršia generácia môže viac čerpať zo svojich skúseností pri kresbe ľudskej postavy, čo by pokles výkonu v DAP : IQ zmiernilo. Samozrejme je možno uvažovať nad špecifikom výberovej situácie ako silného motivačného nástroja, ktorý pri overovaní DAP : IQ na populácii napr. VŠ študentov môže chýbať a tým výsledky skresľovať.

Avšak zistili sme rozdiely medzi mužmi a ženami vo výkone v DAP : IQ (prostredníctvom komparácie dvoch skupín, U = 48698,000, Z = - 3,966, p = 0,000). Na interpohlavné rozdiely vo výkone pri kresbe ľudskej postavy upozorňovali viacerí autori. Aj samotná

Goodenoughová (1926), ktorá preverovala vplyv pohlavia aj výskumne, uvažovala o príčinách prečo dievčatá dosahovali lepšie skóre oproti chlapcom, no do finálnych noriem tieto zistenia nepretavila a jej hodnotiaci systém používa normy pre obe pohlavia spoločne. Serióznejšie k tomu pristúpil Harris (1963), ktorý vypracoval samostatne normy pre chlapcov a dievčatá, pričom vypracoval aj mierne odlišné hodnotiace schémy pre chlapcov a dievčatá zvlášť. Rovnako postupovala aj Koppitzová (1968), ktorá vytvorila odlišné frekvenčné tabuľky pre chlapcov a dievčatá, čiže sa takisto seriózne zaoberala rozdielmi medzi pohlaviami. Neskôr sa autori zamerali na výber takých hodnotiacich kritérií, ktoré by boli univerzálnejšie a vplyv pohlavia tak maximálne eliminovali (napr. Naglieri, 1988; Reynolds & Hickman, 2004). Naše zistenia sú v rozpore s dátami prezentovanými autormi (Reynolds & Hickman, 2004), ktorí vo svojom výskume nezistili rozdiely medzi mužmi a ženami pokiaľ ide o prevedenie DAP : IQ. Viacero porovnávacích výskumov na dospelej populácii nie je dostupných. Avšak Rehrig (2017) zistil rozdiel medzi chlapcami a dievčatami (išlo o štvor a päť-ročné deti), pričom dievčatá dosahovali lepšie skóre v porovnaní s chlapcami o 8,2 boda pri štandardnom skóre (pri $p < 0,001$), avšak lepšie skóre v DAP : IQ spája s lepšou jemnou motorikou u dievčat, nie s kognitívnymi schopnosťami. Pri rozdiele medzi mužmi a ženami je možné uvažovať v intenciách vyššej miery estetického cítenia u žien, väčšieho zmyslu pre detail, čo im umožní zrealizovať lepšie nakreslenú postavu. Je tak možné uvažovať nad vytvorením samostatných noriem pre mužov a ženy (aj keď v absolútnych číslach, pokiaľ ide o HS v DAP : IQ, sa rozdiely nezdajú byť zásadné – priemerné HS u mužov je 32,69, u žien 34,11, čiže rozdiel je 1,42 bodu).

Hlavným cieľom výskumu bolo zistiť vplyv osobnostných faktorov, konkrétne emocionálnej variability (EM) a sebaistoty (P) (z dotazníka IHAVEZ) a neurotizmu a psychotizmu (z dotazníka DOPEN). V nami realizovanom výskume sme nezistili, že by bol výkon v DAP : IQ ovplyvnený vybranými osobnostnými faktormi (psychotizmus, neurotizmus, emocionálna variabilita, sebaistota), či už v pozitívnom alebo negatívnom smerom. Zameranie na vplyv osobnostných faktorov podieľajúcich sa na výkone v kresbe ľudskej postavy vychádza z informácií prezentovaných v literatúre - v manuáloch pre hodnotenie kresby ľudskej postavy, no nepodložených štatisticky.

Na základe kresby ľudskej postavy hodnotenej prostredníctvom DAP : IQ (čiže dosiahnutie hrubého skóre) nemožno usudzovať na vybrané osobnostné faktory. Ich vplyv na výkon tak zostáva štatisticky nevýznamná. Pri praktickom použití, ak osoba zlyhá pri DAP : IQ, nemožno uvažovať nad ich vplyvmi. V minulosti výskumne zistené nižšie skóre vo výkonových testoch autorov bizarných kresieb (Jurovatý, 2011) nebolo aktuálne overené a mohlo by byť prínosné (bizarné kresby strácajú body za neúplnosť prevedenia, nezmyselnosť umiestnenia detailov a tak nenaplnenia hodnotiacich kritérií).

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DISTRIBÚCIA A PRODUKCIA PRODUKTOV INTERNETOM DISTRIBUOVANEJ TELEVÍZIE NETFLIX

DISTRIBUTION AND PRODUCTION OF PRODUCTS ON INTERNET DISTRIBUTED TELEVISION NETFLIX

Lucia Magalová, Bianka Francistyová

Abstrakt

Vznik a rozmach internetom distribuovanej televízie zmenil nie len sledovanie audiovizuálnych produktov, ale aj ich produkciu a distribúciu. Tomuto trendu sa musel prispôsobiť každý, kto chcel zostať relevantný. K bežným spôsobom distribúcie sa pridalo streamovanie obsahov prostredníctvom internetu. K streamovaniu obsahov prostredníctvom internetu potrebovali jednotlivé spoločnosti vymyslieť nové stratégie a spôsoby fungovania – vytvorenie webovej platformy, formy predplatného, vytvorenie knižníc s audiovizuálnym obsahom, a pod. S vytváraním knižníc, sa spája samotná produkcia, ktorá sa musela novým trendom prispôsobiť ešte rýchlejšie. Na to, aby jednotlivé platformy zostali zaujímavé pre svojich predplatiteľov, museli začať produkovať kvalitné a zaujímavé tituly ešte častejšie ako predtým.

Kľúčová slova: *audiovizuálne produkty, distribúcia, internetom distribuovaná televízia, Netflix, produkcia*

Abstract

The emergence and expansion of Internet-distributed television has changed not only the ways of viewing audiovisual products, but also their production and distribution. Streaming content via the Internet has been added to the usual types of distribution. Therefore, individual companies needed to come up with new strategies and ways of functioning – e.g. creating your own web platform, determining the form of subscription, creating libraries with audiovisual content, etc. Production had to adapt to new trends even faster. In order for individual platforms to remain interesting to their subscribers, they had to start producing quality and interesting original titles. The aim of the paper is to discuss the production and distribution strategies of the media company Netflix, which is one of the leading global providers of Internet-distributed television.

Key words: *audiovisual products, distribution, internet distributed television, Netflix, production*

1 ÚVOD: TELEVÍZNA DISTRIBÚCIA V 21. STOROČÍ

Diskusia o tom, či kontrola distribúcie alebo obsahu poskytuje producentovi väčšiu konkurenčnú výhodu, sa v rámci televíznych a filmových štúdií vedie už dlho.[1] Cunningham a Silver zdôrazňujú silu a ziskovosť vychádzajúce z kontroly nad distribúciou, ktorá môže byť v súčasných „obrazovkových odvetviach“ v skutočnosti dôležitejšia ako samotný obsah. Zastávajú názor, že aj keď televíznej produkcii zdanlivo dominuje obsah, v skutočnosti o miere jej úspechu vždy rozhoduje (ne)efektívna distribúcia. Ziskovosť a sila „priemyslu

[1] JOHNSON, C.: *Online TV*. [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.

obrazoviek“ vždy spočívali v distribúcii.[2] V priemysle internetom distribuovanej televízie je inde nedostupný obsah istotne cennou komoditou, kľúčovou zložkou, ktorá láka divákov. Tento fakt odlišuje danú skupinu služieb od platformy *YouTube*. Tá vytvára infraštruktúru, pomocou ktorej môžu používatelia nahrávať svoj vlastný obsah. Internetom distribuované televízie sa spoliehajú na to, že produkciou alebo licencovaním najžiadanejšieho obsahu – od fantazijných epizodických diel až po komerčne najzaujímavejšie športy – sa dokážu odlíšiť od konkurencie a prilákať viac divákov v rámci konkurenčnej ekonomiky. Práva na poskytovanie obsahu sú cenným majetkom, ktorý môže byť licencovaný tretím stranám. Popredné platformy internetom distribuovanej televízie si cieľavedome budujú rozsiahle katalógy poskytovaného obsahu, aby si udržali stabilnú pozornosť existujúcich používateľov a zároveň prilákali nových predplatiteľov, najmä z radov dospievajúcich. Predaj licencií tretím stranám môže vlastníkom obsahov priniesť značné príjmy.[3]

Vnímajúc problematiku z iného uhla pohľadu, Landau tvrdí, že vlastníctvo obsahu má oveľa väčšiu hodnotu ako distribúcia.[4] Získať si diváka je v tomto období veľmi náročné. Na trhu existuje väčšie množstvo internetom distribuovaných televízií, ktoré pôsobia buď globálne, alebo na nadregionálnej či regionálnej úrovni. *Netflix* zďaleka nie je jedinou službou hodnou zreteľa. Postupné rozrastanie sa tohto odvetvia komplikuje nielen získanie si nového predplatiteľa, ale aj udržanie si toho starého. Máloktorý používateľ si predpláca niekoľko internetom distribuovaných televízií súčasne alebo všetky dostupné služby naraz. Rozhoduje sa vždy na základe obsahu, ktorý ponúkajú jednotlivé platformy. Nejde však len o licencovaný obsah, ale predovšetkým o originálny obsah, ktorý vytvárajú samotní prevádzkovatelia internetom distribuovaných televíznych služieb. Ako sa nazdávame, bežný používateľ sa nerozhoduje podľa rozdielov v cene mesačného predplatného, ak služba poskytuje dostatočne kvalitné a zaujímavé tituly. Pri výbere služby hrá rolu aj frekvencia zverejňovania nových titulov a harmonogram vytvárania pokračovaní už existujúcich ziskových produktov. Na druhej strane sa v aktuálnom období stretávame s novým konceptom predplatného. Používateľ má totiž možnosť priplatiť si za špeciálny obsah, ktorý nie je prístupný na základe bežného mesačného poplatku za službu. V tomto kontexte nazývame „špeciálnym obsahom“ filmové diela, ktoré majú práve premiéru v kinách. Pandémia ochorenia COVID-19 spôsobila nielen hromadné zatváranie kín, ale aj čiastočné či úplné zastavenie produkcie a distribúcie filmových noviniek. Spoločnosť *Disney+* v septembri 2020 vďaka premiére snímky *Mulan* (réžia Niki Carová) rozšírila svoju službu o možnosť zakúpenia konkrétnych titulov, ktoré mali v danom čase premiéru v kinách. Prístup k takýmto titulom, tzv. *Disney Plus Premiere Access,* je vyňatý z bežného predplatného a spoplatnený sumou 21,99 €. Ide o pomerne vysoký poplatok, aj vzhľadom na fakt, že doplnková služba umožňuje prístup iba k jednému filmu podľa výberu používateľa. V tomto smere je však dôležité poznamenať, že všetky takéto tituly budú neskôr dostupné aj pre radových predplatiteľov *Disney+*. Služba je tak zameraná na divákov, ktorí chcú vidieť filmové novinky čo najskôr.[5] Vzhľadom na cenu o uvedený nadštandardný prístup zrejme prejavujú záujem predovšetkým rodiny s deťmi, ktoré by za normálnych okolností spoločne navštívili predstavenie v kine. Uvedená projekcia by pre štvorčlennú rodinu bola finančne náročnejšia než služba *Disney Plus Premiere Access.*

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[2] CUNNINGHAM, S. – SILVER, J.: *Screen Distribution and the New King Kong of the Online World.* Basingstoke : Palgrave Macmillan, 2013, s. 4.

[3] JOHNSON, C.: *Online TV.* [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.

[4] LANDAU, N.: *TV Outside the Box: Trailblazing in the Digital Television Revolution*. New York : Focal Press, 2016, s. 133.

[5] *Disney Plus Premiere Access: Lets Subscribers Buy New Movies While They’re Still in Theaters.* [online]. [2023-04-05]. Dostupné na: <https://www.businessinsider.com/guides/streaming/disney-plus-premiere-access>.

V januári 2021 spoločnosť *Warner Bros.* oznámila, že všetky filmové tituly, ktoré budú uvedené v danom roku, budú sprístupnené na *HBO MAX* v deň kinopremiéry. Preto sa spoločnosť *HBO MAX* rozhodla rozšíriť svoju službu o novú kategóriu, *Same-Day Premieres*. Táto „služba“ však nie je zvlášť spoplatnená, funguje v cene bežného mesačného predplatného služieb *HBO MAX*, ktorého hodnota je 14,99 dolára. Dané tituly sú pre predplatiteľov dostupné tridsať dní od premiéry. Následne nie sú dostupné, kým sa nezavŕši ich premietanie v kinách. Ukončenie premietania plynule prechádza do digitálnej distribúcie kópií snímky a predaja fyzických nosičov (diskov DVD, Blu-Ray a UHD Blu-Ray). Následne, po niekoľkých mesiacoch, sa dané tituly vracajú na platformu *HBO MAX* na dlhší čas alebo natrvalo.[6] V tomto roku však *Warner Bros.* rozhodlo v danej stratégii viac nepokračovať. Filmy danej spoločnosti budú na *HBO MAX* dostupné 45 dní po premiére v kinách.[7] Z tohto dôvodu je samozrejmé, že kategória *Same-Day Premieres* už na tejto platforme nefiguruje.

Uvedené rozhodnutie je pomerne prekvapujúce. V prípade spoločnosti *HBO MAX* by totiž kategória *Same-Day Premieres* mohla, paradoxne, potenciálne prilákať nových predplatiteľov. Mohla by totiž vyhovovať tým používateľom, ktorí neobľubujú kiná alebo sa im z akéhokoľvek dôvodu vyhýbajú, napríklad v súvislosti s pandemickou situáciou. Na rozdiel od služby *Disney+* by divák platil relatívne primeranú sumu za dostatok obsahu. Čo sa týka budúcnosti služby *Disney Plus Premiere Access*, nepredpokladáme, že by ju spoločnosť zrušila, avšak je veľmi otázne, či bude mať zásadnejší vplyv na rast počtu predplatiteľov. Cena takto dostupného jedného titulu na platforme *Disney+* je (aspoň na pomery divákov v stredoeurópskom priestore) príliš vysoká, hlavne ak zvážime cenu bežnej vstupenky do kina.

Koordinovanie vzťahov a väzieb medzi vlastníkmi obsahu a distribúciou je komplikované z viacerých dôvodov. Prvým z nich je dlhodobé prehliadanie rozsahu konsolidácie potrebnej v rámci odvetvia. Vlastníctvo obsahu a distribúcia často prislúchajú jedinej spoločnosti, keďže väčšina poskytovateľov internetom distribuovanej televízie obsah nielen distribuuje, ale aj produkuje. Druhým problémom je fakt, že často nie je jasné, čo znamená „distribúcia“ a ako sa tento proces prelína s tvorbou obsahu.[8] V akademickom diskurze sa pojem „distribúcia“ často používa na označenie dvoch samostatných priemyselných praktík, a to poskytovania obsahu divákom a predaja práv na poskytovanie obsahu tretím stranám.[9] Na trhu internetovej televízie väčšina vlastníkov platforiem internetom distribuovanej televízie produkuje originálny obsah, pričom, samozrejme, vlastnia práva na tento obsah a plne kontrolujú jednotlivé prostriedky na poskytovanie obsahu a jeho distribúciu.[10]

2 PRODUKCIA V KONTEXTE INTERNETOM DISTRIBUOVANEJ TELEVÍZIE

Televízny priemysel vo všeobecnosti funguje na základe dvoch modelov produkcie audiovizuálneho obsahu: prvý z nich sa nazýva *in-house*, tzn. interný, vlastný, nezávislý. Vlastná produkcia sa vzťahuje na vytváranie obsahu prostredníctvom výrobných zariadení, ktoré sú vo vlastníctve televíznych služieb. Tento spôsob výroby je najbežnejší medzi voľne vysielanými terestriálnymi kanálmi, ktoré zároveň vlastnia štúdiové zariadenia. Postupom

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[6] *HBO MAX Same Day Premieres: What Are They and How Do They Work?* [online]. [2023-04-05]. Dostupné na: <https://www.makeuseof.com/hbo-max-same-day-premieres-explained/>.

[7] *Warner Bros. Won't Do Same-Day Releases on HBO MAX in 2022.* [online]. [2023-04-05]. Dostupné na: <https://screencrush.com/warner-bros-hbo-max-release-change-2022/>.

[8] JOHNSON, C.: *Online TV.* [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.

[9] LOTZ, A. D.: *The Television Will Be Revolutionized.* Druhé vydanie. New York : New York University Press, 2014, s. 113.

[10] JOHNSON, C.: *Online TV.* [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.

času však v mnohých krajinách nastal odklon od vlastnej výroby. Dôsledkom toho mnohí vysielatelia voľne šíriteľného televízneho obsahu predali veľkú časť svojich produkčných priestorov a rozhodli sa prenajať výrobné zariadenia alebo objednať audiovizuálny obsah priamo od externých produkčných spoločností. Preto je bežné, že poskytovatelia internetom distribuovaných televízií financujú obsah, ktorý produkujú nezávislé štúdiá. Poskytovatelia internetom distribuovanej televízie investujú do produkcie obsahu prostredníctvom dvoch hlavných modelov: sú nimi deficitné financovanie a dohoda o náhrade vynaložených nákladov plus podiel na zisku (angl. *cost plus*).[11]
Deficitné financovanie je postup, v rámci ktorého produkčné spoločnosti obdržia menší obnos financií než sú náklady, ktoré sú potrebné na vytvorenie diela. Produkčná spoločnosť si v takomto prípade ponecháva niektoré alebo všetky sekundárne práva na dokončený obsah. Vďaka tomu môže získať späť náklady na výrobu titulu neskorším predajom práv na jeho distribúciu po prvom odvysielaní.[12] Deficitné financovanie umožňuje poskytovateľom televíznych služieb a nezávislým produkčným spoločnostiam rozložiť finančné riziká televíznej produkcie.[13] Výhodou pre produkčné spoločnosti je, že zachovaním práv na obsah majú potenciál generovať značné zisky pomocou licencovania obsahu na národných a medzinárodných trhoch.[14] *Cost plus* je forma platenia vopred. Producentom sa platí vopred celá suma predstavujúca výrobné náklady a k tomu malý produkčný poplatok alebo zisk.[15] V modeli *cost plus* si poskytovateľ televíznych služieb ponecháva všetky práva nielen na počiatočný prenos, ale aj na zabezpečenie distribúcie diela na sekundárne trhy. Poskytovateľ televíznych služieb preberá zvýšené riziko vyplývajúce z produkcie, no zároveň si nárokuje aj na finančnú odmenu za úspešný program.[16] Pre menšie výrobné spoločnosti môže model *cost plus* odstrániť potrebu zabezpečiť dodatočné kapitálové investície, aby tak vyrovnal finančný výpadok pri deficitnom financovaní.[17]
Poskytovatelia onlinových televíznych služieb si zvyčajne nemôžu dovoliť financovať všetky náklady na tvorbu originálneho obsahu; či už je produkovaný deficitným alebo *cost plus* financovaním. Z toho dôvodu je bežné, že poskytovatelia podobných televíznych služieb uzatvárajú koprodukčné zmluvy. Koprodukcia predstavuje cenný spôsob zdieľania nákladov na vznik diela. Všeobecne zahŕňa zdieľanie ziskov a/alebo práv na vytvorený obsah.[18]

Internetová éra prináša osobitné výzvy pre zavedené postupy produkcie obsahu v televíznom priemysle. Poznáme tri kľúčové aspekty, ktoré sú rozhodujúce pre pochopenie vplyvu internetu na televíznu produkciu. Internet:

- je geograficky neobmedzený, čo uľahčuje pohyb obsahu naprieč hranicami národných štátov a kontinentmi;

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[11] Poznámka autorky: „Cost-plus contract“ alebo „cost plus“ je dohoda o náhrade vynaložených nákladov spoločnosti, plus špecifická výška zisku, zvyčajne vyjadrená ako percento z plnej ceny zmluvy. Podľa: *Cost-Plus Contract.* [online]. [2023-04-05]. Dostupné na: <https://www.investopedia.com/terms/c/cost-plus-contract.asp>.
[12] JOHNSON, C.: *Online TV*. [Elektronická verzia publikácie určená pre digitálne zariadenia]. London, New York : Routledge, 2019. Čísla strán neuvedené.
[13] DOYLE, G.: Television Production, Funding Models and Exploitation of Content. In: *Icono 14*, 2016, roč. 14, č. 2, s. 83.
[14] JOHNSON, C.: *Online TV*. [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.
[15] DOYLE, G.: Television Production, Funding Models and Exploitation of Content. In: *Icono 14*, 2016, roč. 14, č. 2, s. 83.
[16] JOHNSON, C.: *Online TV*. [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.
[17] DOYLE, G.: Television Production, Funding Models and Exploitation of Content. In: *Icono 14*, 2016, roč. 14, č. 2, s. 83.
[18] JOHNSON, C.: *Online TV*. [Elektronická verzia publikácie určená pre digitálne zariadenia]. Londýn, New York : Routledge, 2019. Čísla strán neuvedené.

- výrazne zvýšil kapacitu archivácie obsahu v porovnaní s lineárnou televíziou, čo umožňuje ukladanie veľkého množstva obsahu, ktoré nie je časovo obmedzené ako archivácia televíznych programov jednotlivých televíznych kanálov;
- je prepojený a participatívny, čo publiku ponúka väčšiu kontrolu nad sledovaním a šírením obsahu.[19]

Internetom distribuovaná televízia *Netflix* presadzuje stratégie produkcie a distribúcie obsahu, ktoré neboli nikdy predtým uskutočniteľné. Uplatňuje obchodný model financovania predplatiteľmi a zvýšila technologická dostupnosť doručovania obsahu na požiadanie. Podstatným rozdielom medzi internetovou televíziou *Netflix* a klasickou televíziou je spôsob poskytovania (streamovania) titulov. Kým v bežnej televízii divák môže sledovať jeden kanál, jeden program v danom čase (prípadne mať k dispozícii iný program v menšom okne vďaka službe „obraz v obraze"), internetom distribuovaná televízia umožňuje v rovnakom čase sledovanie viacerých titulov na rozličných zariadeniach.[20] Divák tak nie je odkázaný na pevný televízny program. Ako príklad uvedieme štvorčlennú rodinu, ktorá si predpláca službu *Netflix*. Kým deti vo svojej izbe sledujú animovanú rozprávku *Legendárna partia* (*Rise of the Guardians,* 2012, réžia Peter Ramsey) prostredníctvom tabletu, ich matka môže sledovať v kuchyni na prenosnom počítači romantický seriál *Bridgerton* (od 2020) a otec, v rovnakom čase, môže v obývacej izbe sledovať dokumentárnu drámu *14 Peaks: Nothing Is Impossible* (2021, réžia Torquil Jones) pomocou inteligentného televízneho prijímača. Poukazujeme tak nielen na rôznorodosť poskytovaného obsahu, ktorý je možné sledovať v rovnakom čase na viacerých zariadeniach naraz, ale aj na samotnú možnosť využívania rozličných zariadení, ktoré sú pripojené na internet.

3 KNIŽNICA S MNOHÝMI SEKCIAMI

Netflix nefunguje ako „divadlo s jedným hľadiskom" typické pre lineárne televízne služby, ktoré tak vytvárajú početnejšie publikum pre jeden konkrétny titul. Funguje ako knižnica s mnohými miestnosťami. Takúto stratégiu umožňuje jeho distribučná technológia. Divák nie je obmedzovaný pevnou programovou štruktúrou vo vopred naplánovanom čase. Predplatitelia si zabezpečujú vstup do knižnice ako celku a z nej si môžu vybrať konkrétnu „knihu". Knižnice jednotlivých predplatiteľov sú obsahovo a tematicky rôznorodé.[21] Každý profil na *Netflixe* obsahuje jedinečnú knižnicu prioritizovaných a odporúčaných titulov, ktorá prezentuje a ponúka obsahy „na mieru". Knižnica iných používateľov je úplne odlišná a ponúka tituly, ktoré sú vhodné pre nich. Internetom distribuovaná televízia pracuje so špecifickým súborom algoritmov, ktorý zobrazuje jednotlivým predplatiteľom špecifický obsah na základe toho, čo vyhľadávajú v knižnici a reálne sledujú.

Tematizácia produktov internetom distribuovanej televízie *Netflix* v podstate nie je radikálne odlišná od obsahu vysielania bežnej televízie. Lotzová tvrdí, že je v skutočnosti celkom obyčajná, no zároveň sa jemne a účelovo odlišuje od hlavného prúdu lineárnej televízie. Vysvetliť tento fakt na konkrétnych príkladoch je veľmi náročné, pretože televízia v rôznych častiach sveta nadobúda rôzne podoby, variácie a konvencie. Vkusové vzorce divákov v Spojených štátoch amerických sú radikálne odlišné od tých, ktoré sú zaužívané napríklad v Brazílii, Spojenom kráľovstve, Číne či európskych krajinách. Istý segment tvorby *Netflixu* sa môže zásadne líšiť od „lineárnych" od programov vysielaných v USA, no ten istý obsah môže byť významovo a tematicky blízky európskej televíznej produkcii. Lotzová sa vo svojej

[19] LOTZ, A. D.: *Portals*: *A Treatise on Internet-Distributed Television.* Michigan : Michigan Publishing, 2017, s. 24.
[20] LOTZ, A. D.: *Q13: How Does Developing Content for a Library, Rather Than a Schedule, Allow Netflix Different Strategies Than Broadcast or Cable Channels?* Publikované dňa 16. 7. 2020. [online]. [2023-04-05]. Dostupné na: <https://www.amandalotz.com/netflix-30-qa/2020/7/16/q13-how-does-developing-content-for-a-library-rather-than-a-schedule-allow-netflix-different-strategies-than-broadcast-or-cable-channels>.
[21] Tamtiež.

štúdii venovala hlavne obsahu *Netflixu* na americkom trhu. Autorka tvrdí, že produkty, ktoré vytvára *Netflix,* sú vyspelejšie a otvorenejšie kontroverzným témam, ktorým sa venujú konkrétne produkty, na rozdiel od produktov vytvorených lineárnou televíziou. Poukazuje najmä na prácu *Netflixu* s citlivou či bežne urážlivou a tabuizovanou tematikou v rámci epizodickej produkcie. Podľa nej však nejde o zámer byť dráždivý, ale o snahu neobmedzovať sa, nevyhýbať sa témam, ktoré niektoré skupiny ľudí považujú za urážlivé. Podľa nej mnoho týchto produktov, či už epizodických alebo filmových, pracuje s „európskou citlivosťou" napríklad vo vzťahu k sexuálnym témam. Príkladom je britská dramatická komédia *Sexuálna výchova* (*Sex Education,* od 2019), ktorá sa európskym divákom nezdá ani urážlivá, ani poburujúca. Naopak, divákom v iných krajinách, napríklad v Strednej Amerike, sa môže javiť ako kontroverzná.[22] V niektorých krajinách sú isté tituly zakázané alebo cenzurované. Väčšinou ide o kultúrny „problém", v ktorom sa spoločnosť na niektoré témy pozerá inak ako napríklad spoločnosť v európskych krajinách.

Ďalším rozdielom medzi *Netflixom* a lineárnou televíziou je obsah knižnice, ktorú ponúka internetom distribuovaná televízia. „Bežná" súkromná televízia si potrebuje vybudovať široké publikum, od ktorého očakáva „masový postoj" k produkovanému obsahu. Výsledkom je, že lineárna televízia sa zameriava na obsah, ktorý je založený na univerzálne populárnych témach a zaujme väčšinu cieľového publika. Naopak, vyhýba sa titulom, ktoré obsahujú kontroverznejšie či tabuizované témy, aby predišla strate divákov. Rovnako zvyčajne opomína „kontroverznejšie" postavy v rámci hlavného deja a nekladie ich do centra diváckej pozornosti. Takéto postavy sú väčšinou sekundárne až terciárne alebo sa skôr vyskytujú v komediálnych tituloch, kde neraz podliehajú hlbokej stereotypizácii. Využívanie „neobvyklých postáv" v komédiách slúži najmä na to, aby sa divák zasmial nad „inakosťou" danej postavy než aby sa pohoršoval v súvislosti s jej životnými postojmi. *Netflix* však z takýchto „neobvyklých postáv" vytvára hlavné postavy, okolo ktorých sa točí celý príbeh diela alebo dej celej jeho sezóny.[23] Knižnica platformy obsahuje veľké množstvo titulov, ktoré sa venujú tabuizovaným témam. *Netflix* sa takýmito titulmi snaží narušiť bariéry a dlhodobo používané mediálne stereotypy, ktoré vznikli s nemalým pričinením lineárnej televízie. Už spomínaný seriál *Sexuálna výchova* rozoberá citlivú problematiku sexuálnej edukácie tínedžerov. Seriál sa venuje rôznym problémom, s ktorými sa v reálnom živote môžu stretávať nielen samotní tínedžeri, ale aj ich rodičia a blízki. Titul je veľmi obľúbený, dosahuje vysoké čísla sledovanosti. Prvá sezóna bola dostupná od 11. januára 2019, mesiac nato spoločnosť verejne ohlásila jej obrovský úspech. Počas prvého mesiaca od vydania si seriál pozrelo viac ako 40 miliónov predplatiteľov.[24] Tretia sezóna seriálu mala premiéru 17. septembra 2021 a niekoľko dní nato bola oznámená aj štvrtá sezóna.[25]

Sledovanie *Netflixu* nefunguje ako sledovanej bežnej televízie, ktorú si divák zapne v momente, keď vojde do obývacej izby. Pri sledovaní lineárnej televízie divák väčšinou vykonáva aj inú činnosť, ktorej neraz venuje väčšiu pozornosť. V takomto prípade je sledovanie televízie iba sekundárne. Toto však pri sledovaní *Netflixu* nie je možné, keďže má tendenciu vyžadovať si od divákov viac pozornosti a sústredenia. Mnoho titulov, ktoré má vo svojej knižnici, je náročných na pozornosť a pochopenie naratívnej štruktúry.[26] Môžeme sa stretnúť aj s častým striedaním dvoch, prípadne viacerých príbehových línií v jednom diele,

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[22] LOTZ, A. D.: *Q16: What Content Strategies Drive Netflix's Title Selection*. [online]. [2023-04-05]. Dostupné na: <https://www.amandalotz.com/netflix-30-qa/2020/7/27/q16-what-content-strategies-drive-netflixs-title-selection>.

[23] Tamtiež.

[24] GEMMILL, A.: *You & Sex Education Expected to Reach 40 Milion Viewers, Says Netflix*. Publikované dňa 17. 1. 2019. [online]. [2023-04-05]. Dostupné na: <https://screenrant.com/netflix-you-sex-education-40-million-viewers/>.

[25] *No Context Sex Education,* [online]. [2023-04-05]. Dostupné na: <https://twitter.com/sexeducation/status/1441805208888164353/photo/1>.

[26] LOTZ, A. D.: *Q16: What Content Strategies Drive Netflix's Title Selection*. [online]. [2023-04-05]. Dostupné na: <https://www.amandalotz.com/netflix-30-qa/2020/7/27/q16-what-content-strategies-drive-netflixs-title-selection>.

čo v prípade menšej nepozornosti môže diváka zaskočiť a následné udalosti a situácie v diele mu nemusia dávať zmysel.

Internetová televízia *Netflix* však neobsahuje iba tituly, ktoré sú výrazné a vynikajú nad inými. V jej knižnici nájdeme mnoho tematicky konvenčných filmov od populárnych hollywoodskych tvorcov, napríklad akčný triler *6 Underground* (2019, réžia Michael Bay), akčný film *Triple Frontier* (2019, réžia J. C. Chandor) alebo mysterióznu komédiu *Murder Mystery* (2019, réžia Kyle Newacheck). Všetky tri snímky majú veľmi podobnú naratívnu skladbu, zároveň však boli v roku 2019 najsledovanejšie v mnohých krajinách po celom svete.[27] V tomto smere je *Netflix* dvojtvárny. Na jeden strane ponúka príbehy typické pre hollywoodske filmy, na strane druhej prináša jedinečné tituly, ktoré nemajú konkurenciu nikde na trhu. Väčšinou ide o tituly, ktoré sú svojím obsahom kontroverznejšie. Uvedené kombinovanie tém a prístupov umožňuje hlbšiu segmentáciu cieľových skupín divákov a vytváranie menších skupín používateľov so špecifickými preferenciami.

Netflix má vo svojej podstate množstvo rozličných knižníc, pretože každá krajina má sprístupnenú rozdielnu kolekciu titulov. Niektoré diela nie sú dostupné v každej krajine, či už z licenčných alebo kultúrnych dôvodov. Knižnica pre trh v Spojených štátoch amerických je aktuálne najväčšou knižnicou *Netflixu*. Obsahuje viac ako 5 800 titulov.[28] Rozdiely však existujú nielen v rámci obsahu, ale aj v rámci ceny. Knižnica vo Švajčiarsku obsahuje približne 4 400 titulov. Predplatiteľ z tejto krajiny so štandardným predplatným zaplatí za jeden titul 0,00218 dolára (0,0019 eur). Keďže knižnica v Argentíne obsahuje viac ako 4 800 titulov, predplatiteľ so štandardným predplatným zaplatí za jeden titul 0,00056 dolára (0,00049 eur).[29] Mesačné predplatné v jednotlivých krajinách môže byť preto odlišné.

Tabuľka 13: Výška mesačného predplatného internetovej televízie *Netflix* v jednotlivých krajinách[30]

Krajina	**Cena predplatného**			
	Základné s reklamami	**Základné**	**Štandardné**	**Prémiové**
Austrália	AU 6,99 (4,24 €)	AU 10,99 (6,67 €)	AU 16,99 (10,31€)	AU 22,99 (13,95€)
Brazília	R 18,90 (3,40 €)	R 25,90 (4,66 €)	R 39,90 (7,18 €)	R 55,90 (10,05 €)
Česko	-	199 Kč (8,46 €)	259 Kč (11,02 €)	319 Kč (13,57 €)
Francúzsko	5,99 €	8,99 €	13,49 €	17,99 €
India*	-	₹199 INR (2,21 €)	₹499 INR (5,54 €)	₹649 INR (7,21 €)
Južná Afrika*	-	99 ZAR (4,98 €)	159 ZAR (8 €)	199 ZAR (10,01 €)
Slovensko	-	7,99 €	9,99 €	11,99 €
Spojené arabské emiráty		29 AED (7,18 €)	39 AED (9,66 €)	56 AED (13,87 €)
Spojené kráľovstvo	£4,99 (5,64 €)	£6,99 (7,90 €)	£10,99 (12,31 €)	£15,99 (18,06 €)

[27] Tamtiež.

[28] COOK, S.: *50+ Netflix Statistics & Facts That Define the Company's Dominance in 2021.* Publikované dňa 9. 12. 2021. [online]. [2023-04-05]. Dostupné na: <https://www.comparitech.com/blog/vpn-privacy/netflix-statistics-facts-figures/>. Poznámka autorky: Počet titulov k februáru 2021.

[29] Tamtiež.

[30] Poznámka autorky: Ceny za predplatné sú uvedené v pôvodnej mene, ktorú uvádza webová stránka. V zátvorkách je uvedená suma v eurách. Prevod z pôvodnej meny na eurá bol uskutočnený podľa kurzu z dňa 08. 04. 2023, prostredníctvom *Google Finance*.

* Predplatné v Indii, Južnej Afrike obsahuje aj špeciálne „mobilné" predplatné, ktoré je dostupné iba v niektorých krajinách. Cena tohto predplatného v Indii: ₹149 INR (1,66 €), v Južnej Afrike: 49 ZAR (2,47 €), Podľa: *Plans and Pricing.* [online]. [2023-04-05]. Dostupné na: <https://help.netflix.com/en/node/24926/>.

Turecko	-	63,99 TRY (3,02 €)	97,99 TRY (4,63 €)	130,99 TRY (6,17 €)
USA	$6,99 (6,36 €)	$9,99 (9,08 €)	$15,49 (14,09 €)	$19,99 (18,18 €)

Zdroj: Vlastné spracovanie podľa: *Plans and Pricing.* [online]. [2023-04-05]. Dostupné na: <https://help.netflix.com/en/node/24926/>.

Tabuľka 14: Druhy predplatného internetovej televízie *Netflix* na Slovensku

Forma predplatného	Cena predplatného	Bezplatné predplatné	Počet streamov na jeden účet	Počet zariadení na offlinové sledovanie	Počet profilov na jeden účet
Basic (obyčajné)	7,99 €	nie je	1	1	5
Standard (štandardné)	9,99 €	nie je	2	2	5
Premium (prémiové)	11,99 €	nie je	4	4	5

Zdroj: Vlastné spracovanie podľa: *Plan and Pricing.* [online]. [2023-04-05]. Dostupné na: <https://help.netflix.com/en/node/24926>.

Basic (základné) predplatné na Slovensku stojí mesačne 7,99 €. Divák môže naraz sledovať iba jednu obrazovku, tzn. prostredníctvom tohto účtu nemôže sledovať v danom čase iný program ďalšia osoba. Rovnako môže využívať sťahovanie titulov do tabletu alebo smartfónu (tzv. offlinové sledovanie) iba na jednom zariadení. Táto forma predplatného poskytuje všetky filmové či epizodické tituly, rovnako aj digitálne hry, podporuje sledovanie služby prostredníctvom notebooku, inteligentnej televízie, smartfónu alebo tabletu. Nepodporuje streamovanie vo vysokom (HD) ani extrémne vysokom rozlíšení (UHD). Forma predplatného Standard (štandardné) mesačne stojí 9,99 €. Podporuje sledovanie na dvoch zariadeniach v rovnakom čase a umožňuje sťahovanie obsahu do smartfónu alebo tabletu na dvoch zariadeniach. Divák môže využívať nelimitovaný obsah filmovej a seriálovej knižnice, rovnako je možné sledovať službu prostredníctvom notebooku alebo počítača, inteligentnej televízie, smartfónu či tabletu. Štandardné predplatné, na rozdiel od základného, umožňuje streamovanie obsahu vo vysokom, avšak nie v extrémne vysokom rozlíšení. Najdrahšia forma mesačného predplatného je Premium v hodnote 11,99 € mesačne. Predplatiteľ má možnosť sledovať rozličný obsah v rovnakom čase až na štyroch zariadeniach. Offlinové sledovanie je možné využívať na štyroch rôznych zariadeniach v tom istom čase. Podobne ako dve predchádzajúce formy predplatného, aj toto poskytuje nelimitovaný obsah filmovej, seriálovej a hernej knižnice, rovnako podporuje sledovanie obsahov cez všetky dostupné zariadenia. Prémiové predplatné podporuje streamovanie vo vysokom aj extrémne vysokom rozlíšení. Vo všetkých formách predplatného je možné sledovať služby internetovej televízie aj na herných konzolách *Playstation* alebo *Xbox*, prostredníctvom príslušnej aplikácie. *Netflix* dlhodobo ponúkal možnosť bezplatného vyskúšania si služby na tridsať dní. Avšak od 20. októbra 2020 túto možnosť zrušil najprv na americkom trhu a neskôr pristúpil k rovnakému opatreniu aj v iných štátoch.[31] Aktuálne tak internetová televízia neposkytuje možnosť bezplatného vyskúšania služby.

ZÁVER

Od svojho vzniku zažívajú internetom distribuované televízie obrovský rozmach. Mladá generácia inklinuje k produktom šíreným prostredníctvom internetu, pretože sú ľahšie a

[31] SPENCER, S.: *Why Netflix No Longer Offers a Free Trial to New Subscribers*. Publikované dňa 19. 1. 2021. [online]. [2023-04-05]. Dostupné na: <https://www.newsweek.com/netflix-free-trial-30-days-ended-1562623>.

rýchlejšie dostupné. Stačí im iba zariadenie pripojené na internet a predplatné niektorej z internetom distribuovaných televízií. Trh s internetom distribuovanými televíziami sa postupne rozrastá a diváci majú tak viac možností. Avšak, máloktorý divák je ochotný platiť za viacero internetových televízií naraz. Je tak nútený vybrať si niektorú z nich. Dôležitú, ak nie najdôležitejšiu, úlohu v tomto smere zohrávajú jednotlivé produkty, ktoré dané televízie ponúkajú a samotná výška predplatného. Preto sa jednotlivé internetom distribuované televízie snažia prilákať predplatiteľov na čo najviac zaujímavý obsah. Okrem obsahu produkovaného inými spoločnosťami, ponúkajú online televízie aj originálny obsah z produkcie samotných internetom distribuovaných televízií. Tento exkluzívny obsah je preto možné sledovať iba prostredníctvom konkrétnej online televízie. Čím viac exkluzívneho a kvalitného obsahu ponúkajú jednotlivé televízie, tým je väčšia šanca, že si divák predplatí práve danú televíziu. S rozširujúcou sa konkurenciou internetových televízií je produkcia, pre jednotlivé online televízie, dôležitejšia ako kedykoľvek pred tým.
Nové internetové televízie ponúkajú rôzne akcie, výhodné formy predplatného a exkluzívny obsah. Na tieto kroky sa však snažia staršie online televízie reagovať či už vytvorením iných foriem predplatného, alebo tvorbou exkluzívnych nových titulov alebo pokračovaní už úspešných titulov, či ich spin-offov. Stále má však posledné slovo divák, ktorý si na konci svojho rozhodovania vyberie niektorú z nich.

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EDUCATION OF TEACHERS WITH A FOCUS ON ELECTRICAL ENGINEERING AND MICROCONTROLLERS

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Abstract

In the post, we pay attention to the innovative course for primary and secondary school teachers, as an important aspect of education. If we consider the current situation in the development of new technologies, we can conclude that elementary knowledge of electrical engineering is now necessary even in such fields, or areas of life where they were not needed until now. In the contribution, we address the issue of innovative education of primary and secondary school teachers with a focus on electrical engineering and the evaluation of the quality of an innovative course in the field of electrical engineering for teachers at the mentioned schools. The education is primarily oriented towards the development of knowledge and skills through a course involving the micro:bit microcontroller.

Key words: *Innovative education. Education of teachers. Distance Education. Electrical engineering. Microcontroller.*

1 THE TEACHER AND HIS PROFESSIONAL DEVELOPMENT

According to Stebila, the teaching profession is a subject of scientific, political and public interest. Therefore, it holds a very important position in the education of the growing youth. However, the question is whether the teaching profession is ready to cope with this task according to the ideas of today's society and whether it can respond flexibly to the updated social needs and the needs of students and their legal representatives. The adoption of the new school law in 2008 and the system of the bureau-level curriculum, but also new theories of education, new educational needs of students, innovative methods and strategies of education brought a new direction in which global and regional education is developing, subject contents, new tasks and demands on the teacher. According to Stebil, the reform of regional and global education has always directly depended on the quality of its teachers. Higher education of teachers accredited according to the existing descriptions of teaching fields of study must be adequately prepared for these changes with foresight and sufficiently flexible to react to them. Already during undergraduate training, teacher students must be adequately prepared for the diversity that they will often encounter in active school practice. Therefore, due to reform changes and changes in education, new demands are always placed on teachers. (Stebila et al., 2020)

According to the High-Quality Teaching Profession and OECD Building (2011), from the teacher's point of view, it is mainly about creating a new school curriculum, developing pupils' competences, using information and communication technologies, using new educational technologies, focusing on cross-cutting subjects, etc. In addition to their graduated specializations in teaching subjects, teachers should increasingly focus on cross-cutting topics, inter-subject relationships and other educational areas. Educators are required to use innovative procedures and strategies that are suitable for students in relation to their specific educational needs. School pupils and their social situation are also changing at an enormous speed. As a result of changes in society and the rapid development of information and communication technologies, completely new needs and demands are created for students, which also bring significant changes to education and training (Stebila et al., 2020).

The development and penetration of scientific knowledge into the lives of ordinary people always brought the need to learn something new, to think in new dimensions and to learn to use the achievements of science practically. Due to the above, the demands on teachers are getting higher and higher. Therefore, educators should constantly update their knowledge and innovate their skills in every scientific field. However, it should be noted that teachers of technical fields with a focus on electrical engineering have a difficult time if they want to "advance with the current trend". Informatics is very young and was formed only in the second half of the 20th century and is closely linked to the development of technical means that enable the preservation, selection, and processing of information. The practice forced the automation of work with information because the information explosion was unmanageable without the help of technology. Although the first (punched) machines for information processing were created at the end of the 19th century, people began to think more deeply about the general principles of information processing only after the emergence of computers. However, as soon as computer science became a part of life, its teaching became a necessity. Although computer science is not identical with computing technology, it was the rapid development of computing technology that enabled the development of informatics in the last decades. However, there is also an opposite process - the principles that were originally developed for informatics and computer technology penetrate into areas of life far from them. This brings us to the next area, which is called information technology. Information technologies are work procedures in which computing technology is deeply integrated into the essence of the solution. Computer technology is not only a tool for solving a task, but also a solution method. Algorithm is an elementary concept of informatics. Therefore, it is not possible to define it using the terms of simpler terms, we can only describe it. An algorithm is a prescription, an instruction, by implementing which we obtain the desired results from the entered input data. As you can see, the algorithm describes the process of processing one quality of information into a new one. Thus, a specific process is linked to a specific algorithm. At the same time, the algorithm is only a potential option that will result in a specific process only when a specific implementer begins to implement the instructions described by the algorithm with specific objects. For example no one has yet eaten the recipe in the cookbook. Only when the cook starts manipulating the food according to these instructions will the result - food.

Algorithmization is a process. in which we try to express a certain plot, activity, procedure in the form of an algorithm,

- to understand him better
- to be able to entrust the processor with its implementation.

By algorithmization we understand the propaedeutics of programming, i.e. its preparatory phase, not necessarily connected with solving tasks on a computer. Algorithmization is not only the ability to create programs for a computer. Mastering algorithmization does not mean only getting to know the means of the algorithmic language, the capabilities of the processor and being able to apply them in the creation of algorithms. Algorithmization is at the same time a general method of thinking, the ability to formulate solutions to problems in such a way that they are understandable to those who have to implement the solution.

Even though the creation of computer programs is not part of algorithmization. it is necessary that the proposed solutions be precise enough to conduct an objective discussion about their correctness and completeness. Due to the higher motivation of pupils, the so-called "real life tasks". Their selection is often random and depends on the teacher's current inspiration.

2 RESEARCH OBJECTIVE AND METHODOLOGY

The goal is to diagnose relevant and current problems based on the implemented course for teachers from May 2022.

Research questions
Q: Do teachers lack elementary knowledge in the field of electrical engineering?
Q1: Is the level of individual knowledge of the participating teachers of the pilot course the same or diametrically opposed?
A research problem
Educators do not have sufficient knowledge and skills in the field of electrical engineering to fully work with the micro:bit microcontroller.
The research sample
The research sample consists of participants in the course for teachers in the field of electrical engineering. The total number of participating teachers was 30 at the beginning of the course. However, 19 teachers completed the course.
Data collection methods
Data collection will be carried out based on the analysis of feedback from the participants of the pilot training course.

2.1 ANALYSIS OF COLLECTED DATA

We organized a pilot training course in cooperation with the SPy o.z. association, which presented the course as part of its training courses in the We Learn with Hardware project.
We teach with Hardware brings an innovative way of teaching computer science in primary and secondary schools using the BBC micro:bit microcontroller. The aim of the project is to introduce practical tasks into the teaching of informatics at primary and secondary schools, which will show pupils interesting possibilities of using informatics and thanks to which the pupils themselves will become interested in developing their informatics skills. Feedback from the last meeting consisted of filling out a form in the Google app. This form contained both open and closed questions and is universal for all courses that SPy o.z. organize. The pilot training course was implemented in the form of five online meetings with a length of 60 minutes.

Question 1: Would you recommend this course to a fellow computer science teacher?

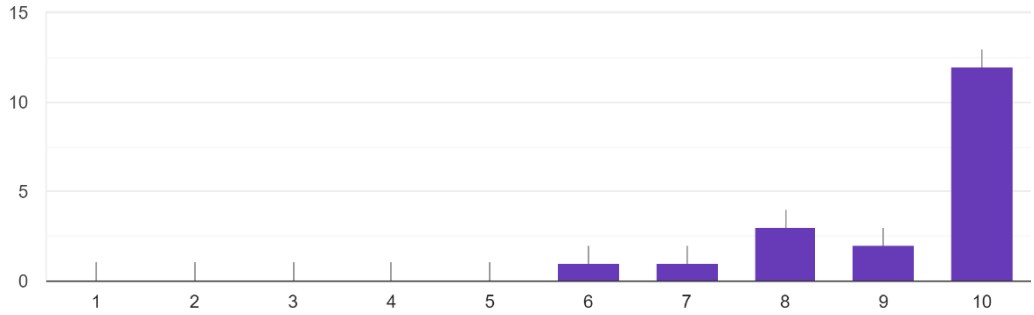
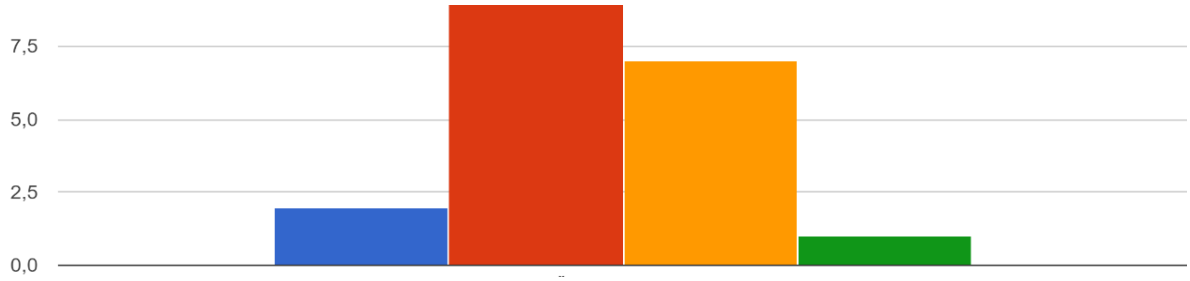


Chart 1 Graphic representation of the answers to the first question

The answers to the question whether the course participants would recommend the course to a computer science colleague show that the majority of participants would recommend the course. However, it should also be noted that the number of participants was 30 at the beginning. Thus, 63.35% of the participants completed the course.
Question 2: How do you rate the difficulty of the course?



Graph 2: Graphic representation of the answers to the third question

As can be seen from the presented graph, the majority of respondents indicated the middle values of the difficulty of the course. One respondent marked the course as demanding, and two respondents marked it as easy.

Question 3: How do you rate the skills of the lecturer at online ZOOM sessions?

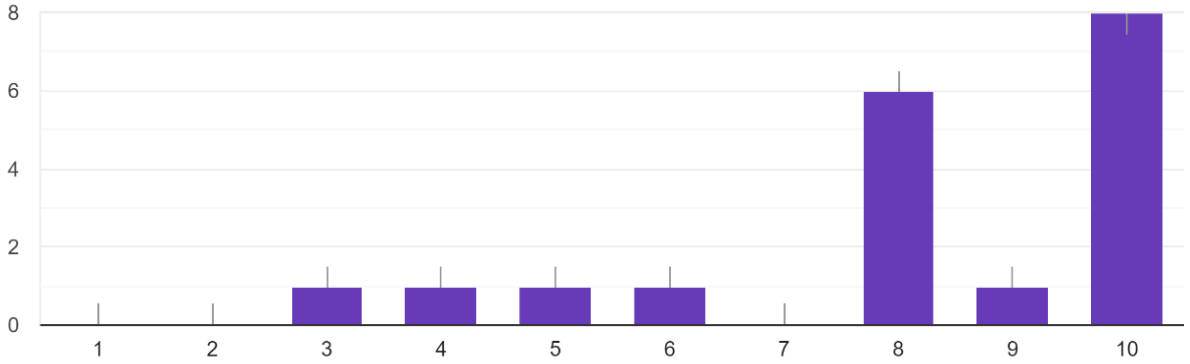
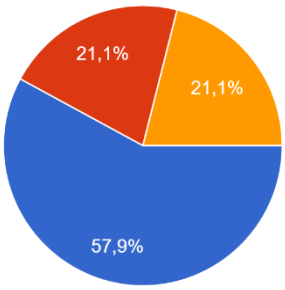


Chart 3: Graphic representation of the answers to the sixth question

The resulting answers to question no 3, show us that seventeen course participants rated the lecturer's skills as above average, three rated them as average and one participant rated them as below average. However, from the previous feedback and the number of participants at the last meeting, we have to conclude that the skills of the lecturer did not meet the requirements.
Question 4: How do you rate the quality of the course (online ZOOM lessons, topics for homework, help with problems)?



Graph 4: Graphic representation of the answers to the eighth question

From the given data, it follows that the majority of participants of the educational course would prefer offline education to online education. Many reasons were mentioned in the feedback, but some were only heard during private conversations, such as: anonymity of participants, misunderstanding of the lecturer, pace of education, duplicate repetition, etc. Off-line education in the form of pre-recorded videos would eliminate these problems. However, we must be aware of the cost of preparing, implementing and administering such a course.

2.2 RECOMMENDATIONS

Based on the analysis of the data obtained from the feedback of the pilot training course for primary and secondary school teachers, which we implemented in the field of electrical engineering, we can conclude that the data we obtained can contribute to a certain extent to the improvement of quality and the solution of the given issue. Through a detailed analysis, we obtained the following findings:

- The combined distance form of innovative education is preferred by educators in terms of organization of education time.
- Educators will appreciate the worksheets, which they could use immediately during classes.
- Before starting the innovative education, individual participants must be divided into two groups using an educational test. The first group is beginners. The second group of advanced. The groups must be divided based on the results of the entrance knowledge test.
- Treat the recording so that there is no error with the recording and make all recordings available.
- Based on feedback, update the topics of the innovation course in individual groups.
- It is necessary to add more practical activities to innovative education.
- When creating an advertisement, it should be noted that the innovation course is intended for non-electrical technicians.
- To complete the education, we recommend taking the exit knowledge test.
- According to our opinion and analysis of feedback, offline form is needed only in the first group of beginners. The education of the second group - advanced students - can continue to take place online.

The results of the research of the pilot innovation course for elementary and secondary school teachers in the field of electrical engineering showed us the initial mistakes and supplemented the missing information such as: the necessary scope of education, topics of training, forms of training and others.

3 CONCLUSIONS

In the work, we paid attention to the course for primary and secondary school teachers with a focus on electrical engineering with a closer connection to microcontroller programming. We conducted this research in two phases. In the first part, it was necessary to create a pilot course. This course was developed based on expert consultation with BBC micro:bit microcontroller programming education experts. In this part of the work, we focused on the individual components and looked for their connections in order to increase the quality and effectiveness of the innovative education of teachers in the field of electrical engineering. Electrical engineering is an independent scientific discipline, which is one of the fastest developing and growing sciences. Its advances are so tremendously fast that it is impossible to follow them all without IT technologies. The pedagogue of this scientific discipline must therefore constantly monitor its development and incorporate the acquired knowledge with all didactic and methodological elements into education. In the empirical part of the work, we

pay attention to the analysis of the pilot innovation course for teachers implemented as part of the national ENTER project. When analyzing data from the pilot course, we mainly focus on content and form. Secondly, we focus on the personality of the lecturer and his pedagogical skills. Based on the evaluated analysis, in the last part of the thesis, we present a proposal for an updated and supplemented innovative education for primary and secondary school teachers with a focus on electrical engineering. An important step in the creation of the empirical part was the cabinet survey of pedagogical documents from the content point of view of the subjects of technology, computer science, physics and chemistry. Based on the analysis of the data obtained from the feedback of the pilot course for primary and secondary school teachers, which we implemented in the field of electrical engineering, we can conclude that the data obtained by us can contribute to a certain extent to improving the quality and solving the given problem. Through a detailed analysis, we found that teachers prefer the combined form of distance education of innovative teaching in terms of the organization of class time, and they also appreciate worksheets that they can immediately use during class.

Before the start of the innovative training, there was a significant error, when it was necessary to divide the individual participants into two groups using a training test. The first group is beginners. The second group of advanced. The groups are divided according to the results of the entrance knowledge test. In the next step, based on feedback, we found out that it is necessary to update the topics of the innovation course in individual groups and to include more practical activities in the innovation training. Furthermore, it is necessary to realize when creating media recruitment of applicants that the innovation course is intended for non-electrical engineers and for successful completion it is necessary to pass the final test. According to our opinion and feedback analysis, the offline form is needed only in the first group of beginners. The training of the second group – advanced – can continue to take place online. The research results of the pilot innovation course for elementary and secondary school teachers in the field of electrical engineering showed us the initial mistakes and supplemented the missing information such as: the necessary scope of training, topics of training, forms of training and others.

In the last part of the work, we present a proposal for an innovative training together with individual exercises, tasks and theoretical information. These documents do not serve as comprehensive preparation for the implementation of the innovation course. They serve as a basis for processing and implementing the course. Their goal is to provide information and forms of education, not methods. We believe that the course implemented on the basis of our research will be successful and will help to enrich the knowledge of educators.

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ANALÝZA VIZUÁLNEJ PODOBY DETSKÝCH NAIVNÝCH TEÓRIÍ O POJMOCH MÚZEUM A GALÉRIA

ANALYSIS OF THE VISUAL FORM OF CHILDREN'S NAIVE THEORIES ABOUT THE CONCEPTS OF MUSEUM AND GALLERY

Daniela Valachová, Hana Juhász Muchová

Abstrakt

Vizuálna podoba expresívnych vyjadrení poskytuje množstvo informácií nielen o kognitívnej úrovni detí a mládeže, ale zároveň vypovedá o vnútornom živote a nazeraní na svet. Spôsoby analýzy vychádzajú z vizuálnych koncepcií a interpretácií expresívnych vyjadrení. Prekoncepty, detské naivné teórie predstavujú zdroj poznávania dieťaťa a súvisia s vynárajúcou sa gramotnosťou. Vplyvy utvárajúce predstavy detí môžu byť školského, ale aj mimoškolského charakteru, pričom miera ich pôsobenia závisí od vekovej úrovne dieťaťa a na jeho schopnostiach spracovať všetky predchádzajúce skúsenosti. Analýza výskumných zistení je konštituovaná do tematiky detských prekonceptov o pojmoch múzea a galérie. Našim cieľom je analýza vizuálnych expresívnych prekonceptov o týchto pojmoch. Výsledky výskumu poukazujú na dôležitosť sprostredkovania správnych informácií deťom a rozvíjania ich poznania a povedomia o kultúre a umení. Výsledky prezentované v príspevku sú súčasťou širšieho sledovania prekonceptov a konceptov o vybraných pojmoch v rôznych vekových kategóriách.

Kľúčové slová: *prekoncepty, múzeum, galéria, vizuálna podoba, deti, analýza, interpretácia*

Abstract

The visual form of expressive expressions not only provides a lot of information about the cognitive level of children and youth, but also tells about the inner life and world view. Methods of analysis are based on visual conceptions and interpretations of expressive expressions. Preconceptions, children's naive theories represent the source of a child's cognition and are related to emergent literacy. The influences shaping children's conceptions can be both in-school and out-of-school, and the degree to which they operate depends on the age level of the child and on his or her ability to process all previous experiences. The analysis of the research findings is constructed into the themes of children's preconceptions about museum and gallery concepts. Our aim is to analyze visual expressive preconcepts about these concepts. The research results show the importance of conveying the right information to children and developing their knowledge and awareness of culture and art. The results presented in the paper are part of a broader investigation of preconceptions and concepts about the selected concepts at different ages.

Key words: *preconceptions, museum, gallery, visual form, children, analysis, interpretation*

1 VÝCHODISKÁ TEORETICKÝCH KONCEPTOV

Rozvoj detského poznania a interpretácie sveta predstavuje zložitý proces, na ktorom sa podieľa viacero faktorov a vplyvov. Proces poznávania odráža činnostné, mentálne a personálne operácie jedinca, ktoré majú v ontogenetickom vývine psychiky významnú úlohu. Výsledkom tohto procesu je vznik individuálne špecifických charakteristík, kognitívnych štruktúr, ktoré sú relatívne stabilné, subjektívne silne fixované a emocionálne podfarbené.

Tieto individuálne charakteristiky dieťaťa sa prejavujú v naivných teóriách, prekoncepciách o svete, ktoré odrážajú spôsob detského poznania a rôzne diferencovanú kvalitu a kvantitu informácií a skúseností.
V podmienkach slovenskej a českej pedagogiky po prvý krát upozornili na problematiku detských prekoncepcií viacerí autori (Gavora, 1992). Avšak vymedzenie konkrétnych termínov danej problematiky je veľmi nejednoznačné. Medzi najčastejšie používané termíny patria prekoncepcie, miskoncepcie, alternatívne koncepcie, naivné teórie, mylné predstavy (Mareš, Ouhrabka, 2007).
Prekoncept môže byť popisovaný pomocou rôznych charakteristických čŕt (Wenham. 2005). Prekoncept vychádza zo skúseností a zahŕňa nedostatok informácií, čím znemožňuje vytvoriť komplexnú predstavu, a nie je možné ho aplikovať na inú skúsenosť ako na tú, na ktorú sa viaže.
Detské naivné teórie sa charakterizujú ako interpretácie javov, s ktorými sa dieťa stretáva okolo seba. Tieto teórie nie sú v súlade s vedeckým poznaním sveta, pre deti sú však zmysluplné a tvoria nástroj, pomocou ktorého sa dieťa pohybuje vo svete.
Predstavy detí sú vytvárané všetkými dovtedy pôsobiacimi vplyvmi a skúsenosťami, ktoré na žiaka pôsobili po celý jeho predchádzajúci život.
Rôznorodosť jednotlivých termínov ktoré pomenúvajú obsahové štruktúry detského poznania a vzniku myslenia detí, môžu vyvolávať dojem, že jednotlivé termíny môžeme považovať za synonymá a významové ekvivalenty. V rámci nášho prístupu sme pristupovali k téme v kontexte charakteristiky (Gavora, 2001).
Detské poznávanie a interpretovanie sveta sa v niektorých aspektoch odlišuje od poznávania a interpretovania sveta dospelými ľuďmi, v iných aspektoch môžeme medzi detským a dospelým myslením nájsť istú analógiu. Vplyvy utvárajúce predstavy detí môžu byť školského, ale aj mimoškolského charakteru, pričom miera ich pôsobenia závisí od vekovej úrovne dieťaťa a na jeho schopnostiach spracovať všetky predchádzajúce skúsenosti. Obvykle sú pevne fixované v mysli dieťaťa a v rámci vyučovacieho procesu musia byť prehodnotené, aby vznikol priestor pre nové poznávanie. Detské predstavy sú charakterizované nasledovne:

- vychádzajú z uvedomenia si skúseností a nikdy nie len z predstavy alebo fantázie,
- sú často viazané na skutočnosť, na základe ktorej boli vytvorené, sú málo aplikovateľné na iné situácie, avšak často ich neprimerane využívajú ako analógie pre vysvetlenie úplne odlišných fenoménov,
- obsahujú nedostatočné množstvo informácií potrebných pre tvorbu komplexnejších vysvetlení,
- sú spojené so špecifickou situáciou (na základe ktorej boli vytvorené) a často nie sú aplikovateľné na podobné situácie,
- bývajú ovplyvnené aj inými informáciami, nielen tými, ktoré vychádzajú z evidentnej skutočnosti, vlastnej skúsenosti (napr. médiami, vlastnou predstavivosťou),
- dočasne existujú v mysli dieťaťa vedľa seba, aj keď si koncepčne odporujú,
- často bývajú vyjadrené spôsobom, ktorý sa zdá byť vedecký, ale ich zmysel je nepresný, až nesprávny (Wenham. 2005).

1.1 Zložky predstáv detí

Predstavy detí majú:

- zložku poznávaciu, kognitívnu (porozumenie javu),
- zložku afektívnu (vzťah k javu, jeho prežívanie a hodnotenie)
- zložku konatívnu, snahovú (čo s tým ja môžem urobiť, čo s tým urobia ostatné deti, čo s tým urobia dospelí) (Gavora, 1992).

Zložkami detských predstáv sa zaoberajú aj ďalší autori, ktorí ich ale nenazývajú zložkami, ale dimenziami. Uvádzajú kognitívnu a afektívnu dimenziu a zaštruktúrovanie a plasticitu (Doulík, Škoda, 2003).

Kognitívna zložka detských predstáv je charakterizovaná svojim obsahom a rozsahom. Dieťa má určitú kognitívnu úroveň predstáv vzťahujúcich sa k určitému javu, či fenoménu. Táto úroveň je vymedzená kvalitou a kvantitou informácií. Dá sa teda povedať, že kognitívna zložka detských predstáv vyjadruje znalosti a vedomosti detí vzťahujúce sa k danému fenoménu. Detské predstavy, aj keď sú mnohokrát mylné, sa tak podieľajú na utváraní teórií, ktorými dieťa vysvetľuje svet, ktorý ho obklopuje. Kognitívna zložka detských predstáv vzťahujúca sa k určitému javu, či fenoménu je vytváraná jednak zámerne a takisto vzniká aj spontánne. K spontánnemu vytváraniu dochádza napríklad pri hre.

Pri spontánnom vzniku detských predstáv sa popri kognitívnej zložke utvára aj afektívna zložka. Z časového hľadiska môžu vznikať obe zložky súčasne, prípadne jedna sa vytvára skôr a môže určovať utváranie druhej. Vznik spontánnej zložky je takmer vždy emocionálne zafarbený. Emócie vznikajúce pri ich vytváraní ovplyvňujú utváranie pamäťových stôp a vznik príslušných asociačných väzieb. Na základe toho emocionálny kontext určuje postoj dieťaťa k danému fenoménu alebo situácii. Významnú úlohu pravdepodobne zohráva aj sociálny kontext vzhľadom k jeho vplyvu na emočné reakcie jedinca. Z neurofyziologického hľadiska pôsobia emocionálne situácie na aktivitu amygdalusu, čo vyvoláva zlepšenie epizodickej pamäti, do ktorej sú informácie na základe asociačných väzieb ukladané a umožňuje opätovné vyvolanie pamäťových stôp (Anderson, Yamaguchi, Grabski, Lacka, 2006).

Tento poznatok vysvetľuje stálosť detských predstáv, ktoré bývajú bohaté na epizodickú zložku pamäti v porovnaní so školskými poznatkami, u ktorých vzhľadom k používaniu prevažne monologických vyučovacích metód dominuje sémantická zložka pamäti. V kontexte prežitej situácie a s ňou spojeného emocionálneho pozadia sa vonkajší jav, či objekt pretvára do vnútornej žiakovej predstavy, pričom emocionálne zložka prispieva k utvoreniu subjektívneho zmyslu zapamätanej informácie. Tieto efekty môžu vznikať dvoma cestami. Prvou je, že podnety môžu získať určitú emocionálnu hodnotu priamym zážitkom s javom alebo fenoménom a druhý spôsob hovorí, že získaná informácia môže byť asociovaná so spomienkou, ktorá sa viaže k určitému javu alebo fenoménu. Druhým spôsobom je zabezpečené, že afektívnu zložku majú aj tie predstavy, ktorých vznik nebol priamo spojený s emocionálnym zážitkom. Tieto predstavy teda nevzniknú spontánne, ale napríklad v priebehu vyučovacieho procesu. Emocionálny kontext detskej predstavy vyvoláva určitý postoj dieťaťa k danému javu alebo fenoménu, ku ktorému sa daná predstava viaže (Smith, Henson, Rugg, Dolan, 2005).

Vzniknutý postoj môže byť pozitívneho aj negatívneho charakteru a to môže vyvolať snahu prijímania, resp. zamietania získavania ďalších informácií. Nie vždy však znamená, že pozitívne postoje vedú k smerovaniu dieťaťa k získaniu ďalších informácií a záporné k ich odmietaniu.

Zaštruktúrovanie vychádza z asociačných väzieb medzi predstavami. Predstavy nie je možné chápať ako izolované entity. Pojem, ktorý neskôr reprezentuje určitý fenomén z okolitého sveta sa dostáva do interakcie s ďalšími pojmami, ktoré sú už prítomné v mysli dieťaťa, a tak dochádza k ich začleňovaniu do konceptuálnych štruktúr detských predstáv. Do úvahy treba brať aj fakt, že asociačné štruktúry každého jednotlivca sú jedinečné, preto sa odlišujú predstavy medzi deťmi, aj keď sú viazané k tomu istému fenoménu (Doulík, Škoda, 2003).

Plasticita, resp. dynamická zložka detských predstáv sa chápe ako schopnosť predstáv detí podliehať zmenám. Plasticita je definovaná ako rozdiel medzi dvoma rozdielnymi, konkrétne charakterizovanými úrovňami detskej predstavy toho istého fenoménu, resp. javu (Doulík, 2005). Táto definícia vychádza z predstavy, že detské predstavy o určitom fenoméne alebo

jave sa správajú ako dynamická sústava, ktorá s rôznou mierou flexibility vstupuje do interakcie s novými informáciami a podnetmi prichádzajúcimi z okolia dieťaťa. Ak vzťahujeme plasticitu len k vyučovaciemu procesu, tak v ideálnom prípade sa detské predstavy menia až do štádia určitých finálnych predstáv, ktoré sú v zhode s rozsahom a obsahom vymedzeným v kurikulárnych dokumentoch. V skutočnosti sa však predstavy menia a rozvíjajú počas celého života jedinca. Ich zmena sa môže uskutočňovať buď pod vplyvom sociálnych alebo technologických zmien, získaním nových skúseností, premýšľaním o rôznych veciach, a tiež prostredníctvom zmeny hodnôt, ktoré jedinec uznáva a prostredníctvom pocitov, ktoré sú so zmenou hodnôt spájané (Granott, 1998).
Detské naivné teórie vykazujú niekoľko všeobecných znakov (Haverlíková, 2013):

- dominancia zmyslového vnímania: sústredenie sa na zmyslami priamo pozorovateľné charakteristiky,
- úzke zameranie pozornosti: sústredenie sa len na jednu zreteľne sa meniacu vlastnosť javov. Neuvažujú o interakcii zložiek systému,
- zameranie sa na zmenu: tendencia všímať si skôr zmeny než rovnovážne stavy,
- lineárne príčinné uvažovanie: uvažovanie o lineárnej príčinnej následnosti, kedy príčina produkuje reťaz efektov ako časovo následných udalostí,
- nediferencované pojmy: používanie pojmov so širokou škálou významov. Prechádzanie z jedného významu do druhého bez uvedomenia,
- dominantné predstavy: kľúčové predstavy ovplyvňujú chápanie ďalších javov

Podľa súčasných poznatkov týkajúcich sa skúmania problematiky detských naivných teórií môžeme rozlišovať ich dve významné roviny, prístupy.
Prvý prístup považuje detské naivné teórie za koherentné, systematické a vysoko organizované ucelené teórie, vďaka ktorým môže dieťa interpretovať a predikovať každodenné skúsenosti. Druhý prístup vníma detské naivné teórie ako relatívne nezávislé fragmenty reprezentované súborom neštruktúrovaných elementov, ktoré sa spontánne organizujú do konceptuálnych sietí a aktivujú sa mechanizmom poznávania (Pivarč, 2015). V rámci nášho výskumu sme preferovali druhý spomenutý prístup k problematike.
Stotožňujeme sa s názorom, že aj napriek tomu, že z pohľadu dospelého sa detské naivné teórie môžu javiť ako triviálne, nemôžeme ich podceňovať, pretože pre dieťa predstavujú zatiaľ jediné nástroje, ktoré majú k dispozícii na dekódovanie reality (Bertrand, 1998). Tieto naivné teórie nie sú ani odrazovými mostíkmi, ani výsledkom konštrukcie poznania, ale predstavujú samotné nástroje tejto činnosti.

1.2 Diagnostikovanie predstáv detí

Pri diagnostikovaní chýb detí sa dá využiť detská kresba. Tento spôsob vyjadrovania pohľadu na svet je deťom blízky a môže vypovedať o vnútornom svete dieťaťa oveľa viac než rozhovor alebo akákoľvek iná metóda pedagogického diagnostikovania. Problém je v tom, že kvalitný rozbor, obsahová analýza detských kresieb je náročnou záležitosťou, vyžaduje si nielen vedecké poznanie, ale aj skúsenosti s analýzou detských kresieb a vizuálnych expresívnych vyjadrení detí a mládeže (Valachová, 2009).
Je možné využiť aj ďalšie spôsoby pedagogického diagnostikovania ako metódy dramatickej výchovy ale aj metóda hrania rolí, ktorá je využiteľná i u starších žiakov (Mareš, Ouhrabka, 2007).
Ďalšou diagnostickou metódou je rozhovor s jednotlivcom alebo skupinou. Môže mať rôznu podobu, od voľného rozprávania s deťmi až po štandardizované dotazovanie. Rozhovor ponúka veľkú voľnosť pri zisťovaní subjektívnych názorov detí, dovoľuje ísť do hĺbky a pružne reagovať na odpovede (Osuská, Pupala, 1996).
Medzi diagnostické metódy sú zaradené aj projektívne techniky. Vychádzajú z predpokladu, že pri zámerne neurčitom zadaní má dieťa tendenciu doplňovať zmysel, ktorý mu je osobne

blízky. Do svojich odpovedí tak premieta svoje vlastné predstavy o danom jave, svoje osobné postoje a názory (Novák 1989).
Diagnostikovanie predstáv detí prináša niekoľko benefitov.

- Pomôže vymedziť oporné pojmy učiva, so zameraním na ťažšie pojmy k danému tematickému celku. Tie potom napomôžu pri odhaľovaniu prípadných miskoncepcí, ktoré by mohli negatívne ovplyvňovať porozumenie učiva.
- Podporuje individualizácii v prístupe k dieťaťu (obzvlášť u žiakov so špeciálnymi potrebami a špecifickými poruchami učenia).
- Umožňuje ďalší možný individualizovaný proces, kedy by deti mohli pracovať v skupinách, rozdelených podľa toho, ako danému fenoménu rozumejú. Postup je vhodný skôr pri projektovom vyučovaní.
- Vďaka rozsiahlemu výskumu detského vnímania by se mohlo vytvoriť určité „štandardné ponímanie‘‘, ktoré by sa ďalej malo premietať do tvorby učebníc a tým sa stať ešte efektívnejšími.
- Detská ponímanie by bola východiskom pro tvorbu kurikula, ktoré by v maximálnej miere rešpektovali potreby detí. Východiskom pre to sú štúdie, ktoré poukazujú na rozdiely detským ponímaním medzi rôznymi školami.
- Napomáhaním ovplyvňovania i rozvíjania afektívnej zložky, je spojené s postojmi a názormi detí).
- Zisťovanie polohy daných pojmov v mentálnych mapách.
- Lepšie pracovať s aktuálnym stavom dieťaťa.
- Mohlo by slúžiť ako porovnávanie škôl, regiónov, štátov, komparácie vývoja spoločnosti.
- Priblíženie sa ku svetu dieťaťa (Škoda, Doulík, 2011).

Diagnostikovanie predstáv detí prostredníctvom rôznych metód má niekoľko obmedzení.
Z hľadiska kvantitatívneho zamerania je vhodnou metódou didaktický test a dotazník, s kvalitatívnym zameraním je to metóda interview, pojmové mapovanie a analýza kresby. Z hľadiska veku respondentov je pre mladších vhodnou metódou analýza kresby, pre starších respondentov je vhodná metóda napr. pojmové mapovanie a didaktický test. Z hľadiska komplexnosti patrí medzi multidimenzionálne metódy interview, pojmové mapovanie, analýza kresby a analýza detských výkonov. V školskej praxi sú využiteľné metódy didaktický test, dotazník a v obmedzenej miere aj analýza kresby. Z uvedeného vyplýva, že pri diagnostikovaní predstáv detí tvorí výber vhodnej metódy kľúčovú úlohu z pohľadu výsledkov a ďalšieho sledovania predstáv detí.

2 INTERPRETÁCIA DETSKÝCH NAIVNÝCH TEÓRIÍ S VYUŽITÍM KRESBY

Kresba patrí nielen k najstarším výtvarným prejavom človeka vôbec, ale je taktiež jednou z najčastejšie využívanou technikou v pedagogickej praxi vôbec. V minulosti sa kresba skôr vnímala ako pomocný prostriedok pre ďalšie výtvarné techniky. Málokedy hrala samostatnú úlohu. Až neskôr v histórií bola docenená jej úloha a začala byť vnímaná aj ako samostatná výtvarná technika a spôsob výtvarného vyjadrenia. Prešla dlhým vývojom od skalných kresieb a rytín a po skutočné ponímanie a spôsoby podania. Je základom takmer každej výtvarnej činnosti. Kresbou rozumieme zobrazenie na ploche pomocou línií a iných kresbových stôp, ktorými môžu byť body, rozpité, rozmazané alebo ryté línie, škvrny a pod. Kresbové účinky umocňuje nepokreslená plocha, farby a štruktúra podkladu na ktorom je kresba prevedená. Kresba býva väčšinou jednofarebná a prevádza trojrozmerný svet do dvojrozmernej plochy. Kresbová línia má veľa podôb, od tenkej vlasovej čiary až po silnú robustnú stopu. Kresbou môžeme vyjadriť jednak tvar predmetu, ale aj jeho objem, hmotu a štruktúru. Línia použitá v kresbe môže v nás vyvolať aj nejaký pocit. Základným vyjadrovacím prostriedkom kresby je línia. Jej podstata je založená na vzťahu línií a plôch,

ktoré predstavujú základné výtvarné vyjadrovacie prostriedky. Línia kresbového materiálu môže byť tenká, hrubá, vlnitá, ostrá, roztrasená, prerušovaná. Jej kvalita závisí od tlaku a pohybu ruky.

2.1 Vizuálny symbol

Grafický vizuálny symbol používaný deťmi je jedným z najprirodzenejších prostriedkov ako prezentovať seba samého vo svete. Prostredníctvom neho začína komunikovať s okolitým svetom, poukazuje na svoje myšlienky, názory, na to čo cíti. Dieťa kreslí to, čo ho zaujíma a fascinuje. Grafický symbol je veľmi dôležitý najmä v období, kedy dieťa ešte nemá osvojenú reč a písmo. O to intenzívnejšie dokáže transformovať intuitívne pociťovaný svet do grafického symbolu. Pod „skutočným symbolom" rozumieme grafickú morfému, ktorá sa objavuje vo všetkých vývojových štádiách detského výtvarného prejavu. Za najzaujímavejšie tvaroslovie detského symbolu sa považuje výtvarný prejav dieťaťa vo vekovom rozpätí od piateho do desiateho roku. Spomínané tvaroslovie v sebe nesie isté znaky výtvarného umenia moderny. Grafický symbol v tomto období slúži ako výraz nevedomej integrácie jedinca so svetom.

Morfológia detského výtvarného prejavu je analyzovaná z pohľadu dospelého človeka, či už rodiča, učiteľa alebo výtvarníka. Detská kresba sa skúma z hľadiska psychomotorického vývoja, a teda či detský kresbový prejav zodpovedá veku dieťaťa (Kováčová, 2021). Avšak pri možnom skúmaní výskytu symbolu v detskej kresbe treba postupovať zodpovednejšie. Oblasť detskej kreativity si vyžaduje hlbší náhľad do problematiky. Tvaroslovie detskej kresby nie je však determinované len jej symbolickým charakterom, ale i sledovaním výskytu jednotlivých prostých motívov v kresbe, ako aj kompozičného spracovania morfém z hľadiska vývojovo-psychologického (Babyrádová, 1999). Medzi základné symboly, ktoré deti používajú vo svojich kresbách patrí dom, strom, slnko, ľudská postava, ich kombinácie a postupne s vekom aj širšie rozpracovanie (Valachová, 2020). Kresba ako súčasť umenia, v súlade aj s ostatnými druhmi umenia poskytuje neobmedzený priestor na poznávanie a skúmanie názorov detí pri ich umeleckej sebarealizácii (Benčič, Kováčová, 2022).

3 DIZAJN VÝSKUMU

Cieľom výskumu bolo skúmať predstavy detí o pojmoch múzeum a galéria.

Výskumný zámer bol koncipovaný v kvalimetrickom, kombinovanom dizajne výskumu, so zámerom získať čo najobjektívnejšie dáta a tie analyzovať.

Vo výskume sme aplikovali kvalitatívnu aj kvantitatívnu metodológiu. Cieľom výskumu z hľadiska kvalitatívneho prístupu bude interpretácia a pochopenie fenoménov exploráciou a opisom. Typy zozbieraných dát pre kvalitatívne skúmanie budú sústredené na texty, slová z rozhovorov a vizuálne zobrazenie, v prípade kvantitatívneho výskumu to budú štandardizované kvantifikovateľné dáta. Komplementárnym prístupom sa zameriame na skúmanie didaktickej praxe v autentickom prostredí s cieľom získať komplexný obraz o pozorovaných edukačných javoch (Hendl, 2016). Výskumný problém prostredníctvom kvalitatívneho i kvantitatívneho prístupu budeme môcť procesuálne analyzovať z hľadiska veľmi detailného pohľadu.

Predmetom skúmania bolo konceptuálne vyjadrenie skúmanej reality – predstavy detí o múzeu a galérii.

Výskumné metódy použité vo výskumnom šetrení bola kresbe a rozhovor pred, počas a po dokončení kresby s dieťaťom.

Rozhovor patrí medzi najnáročnejšie a súčasne najvýhodnejšie a obľúbené nástroje kvalitatívneho výskumu (Denzin, Lincoln, 1994). Vo výskume sme využili pološtruktúrovaný rozhovor, pri ktorom si výskumník pripraví kostru rozhovoru s rámcovými otázkami, ktoré dopĺňa ďalej podľa situácie.

V rámci dizajnu sme použili aj neštandardizovanú výskumnú metódu.

3.1 Obsahová analýza vizuálneho symbolu

Ako vhodný spôsob poznania a analýzy detských naivných tórií o pojmoch múzeum a galéria sa javí obsahová analýza. Chápeme ju *„ako špeciálnu metódu“* (Gavora, 2001). Obsahová analýza v našom poňatí bude tvoriť jadro metódy, v skúmaní nepôjde iba o konkrétny postup inej výskumnej metódy. Už samotný názov výskumnej metódy napovedá o jej charaktere, čiže analýzu a hodnotenie obsahu vizuálnych expresívnych vyjadrení.

Obsahová analýza vizuálneho symbolu je štruktúrovaná do šiestich kategórií.

Tabuľka 1. Štruktúra obsahovej analýzy vizuálneho symbolu

1.	identifikačné údaje	pohlavie, vek, stupeň školy, región, národnosť
2.	analýza a interpretácia	ako vznikol výtvarný produkt – tematika zadané/nezadaná, ako výtvarná technika opis zobrazeného, čo asociujú, alebo môžu asociovať aká je farebnosť vzhľadom na vek zobrazené objekty/symboly majú/nemajú náznak tvarovej kompatibility s realitou koľko prvkov obsahuje výtvarný produkt čo je považované za najdôležitejšie v súvislosti s témou verbálna výpoveď: krátke zhodnotenie komentáru
3.	výtvarný typ	vizuálny – haptický, zdôvodnenie
4.	obsah výtvarného produktu	téma námet proces tvorby
5.	úroveň výtvarného produktu	ako a prečo súvisí alebo nesúvisí s vekom do ktorého štádia ho možno zaradiť a prečo iné vyjadrenie súvisiace s pozorovaným subjektom
6.	interpretácia semiotická a sémantická	zhodnotenie vizuálneho symbolu v kontexte textovej výpovede

Zdroj: vlastné spracovanie

V rozhovore boli položené dve otázky, následne boli ostatné otázky doplnené podľa aktuálnej situácie.

Tabuľka 2 Otázky v rozhovore

V rámci analýzy kresieb sme využili kritériá, ktoré vychádzajú z poznania a aplikovania analytických kritérií a interpretácie semiotickej a sémantickej. Vybrali a použili sme kritériá, ktoré súviseli s konceptuálnym zámerom nášho výskumu.

Tabuľka 3 Kritériá analýzy vizuálnych symbolov

analytické kritéria	vznik vizuálneho symbolu
	použitá výtvarná technika
	opis zobrazovaného
	asociácia
	farebnosť
	vzťah k realite
interpretácia semiotická a sémantická	vlastné zhodnotenie vizuálneho symbolu v kontexte textovej výpovede

Zdroj: Valachová, 2018

3.2 Vzorka respondentov

Vzorku respondentov v našom výskume tvorilo 68 žiakov, ktorý navštevovali prvý stupeň základnej školy. Pohlavie respondentov a miesto základnej školy nebolo pre našu analýzu podstatné. Počas výskumu sme uskutočnili 68 rozhovorov a mali sme k dispozícii k nim kresby a doslovné prepisy rozhovorov a ďalšie materiály z terénneho výskumu. Uvedené materiály sme podrobili analýze. Realizácia výskumu prebiehala od 2020 a kontinuálne prebieha aj naďalej s postupným narastaním výskumnej vzorky a rozširovaním na zameranie aj na iné vekové kategórie.

3.3 Interpretácia a analýza výskumných zistení

Napriek tomu že rozhovor prebiehal pred, počas a po dokončení procesu kresby, analyzovať budeme obe metódy postupne, z dôvodu prehľadnosti.

Analýza rozhovoru

Rozhovory s respondentmi boli nahrávané na digitálne médium a doslovne prepísané a potom sa podrobili analýze a procesu kódovania.

V rámci analýzy sme využili kódovanie, tak aby sme mohli jednotlivé odpovede zoskupovať do skupín.

V prvom kroku kódovania sme získané dáta podrobili dôkladnému štúdiu s cieľom tvorby konceptuálnych označení. Tento proces sa nazýva aj označovanie javov. Existuje viacero prístupov ako texty prepisov analyzovať. Podstata tohto procesu je v rozbore a konceptualizácií samotného pozorovania alebo slova. Pri rozbore konkrétneho prepisu je možnosť sústrediť sa na jednotlivé slová, na vety ako celok, alebo na odstavce textu (Strauss, Corbinová, 1999). My sme zvolili prístup analýzy po jednotlivých slovách. Dôvodom takéhoto prístupu bol fakt, že pracujeme s informáciami od detí – žiakov vo veku medzi šiestym až desiatym roku života. Ich verbálne schopnosti vyjadrovania nie sú rozvinuté do takej miery, aby ich výpovede tvorili ucelené myšlienkové koncepty.

Pojmy sme zoskupili na základe spoločných čŕt. Proces vytvárania kategórií a ich aplikácia v kódovaní bol kontinuálny proces, v ktorom sa súbežne odohrávalo viacero akcií. Identifikácia javu, priradenie k pojmu, jeho overenie za účelom hlbšej analýzy a jeho súčasná kategorizácia.

Pri kvalitatívnom výskume je jednou z najnáročnejších operácií proces spracovania množstva informácií a spôsob organizácie priebežných výsledkov. Odporúčaná metóda je umiestnenie výsledkov do tabuliek. Preto sme aj naše výsledky umiestnili do tabuliek a myšlienkových máp, ktoré sú nielen prehľadné ale hlavne výpovedné.

Na základe ďalšieho postupu kategorizácie sme jednotlivé pojmy zoskupili do jednotlivých kategórii, uvedených v tabuľke 3.

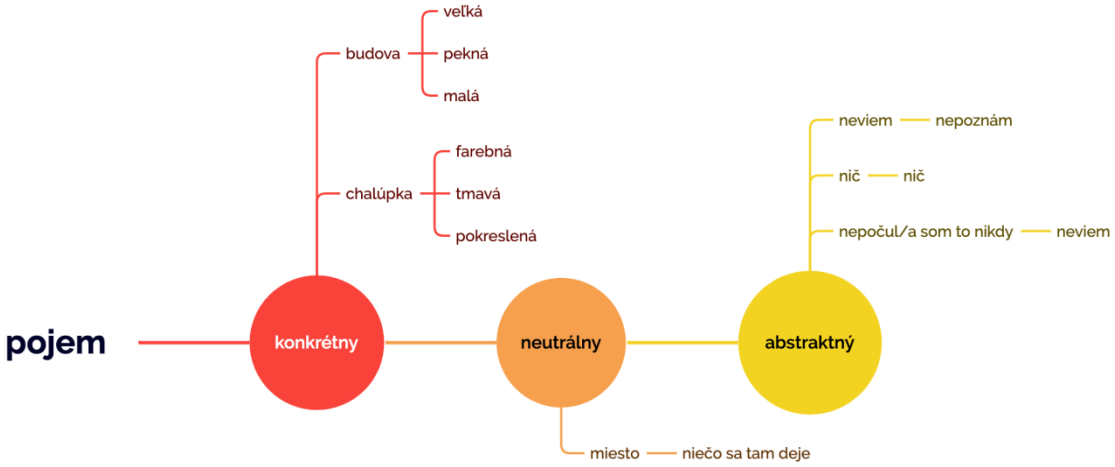
Tabuľka 4 Analýza odpovedí na prvú otázku v rozhovore

čo je to galéria a múzeum	pojem	konkrétny	budova	veľká
				pekná
				malá
			chalúpka	farebná
				tmavá
				pokreslená
		neutrálny	miesto	niečo tam je
		abstraktný	neviem	nepoznám
			nič	nič
			nepočul/a som to nikdy	neviem

Zdroj: vlastné spracovanie

V rámci kódovania a analýzy odpovedí na prvú otázku sa vyskytovali tri druhy kódových označení, konkrétny, abstraktný a neutrálny. V rámci konkrétnych označení boli vyselektované dve základné označenia. Môžeme konštatovať, že väčšina respondentov charakterizovala múzeum a galériu ako budovu. Okrem toho uvádzali pojmy ako chalúpka. V rámci neutrálneho pojmu bolo vyselektované slovné označenie *miesto.* V skupine abstraktných kódov boli vyselektované tri pojmy: *nič, neviem, nepočul/a som to nikdy.*
V druhom pláne analýzy prostredníctvom kódovania boli priradené k hlavným kódom aj ďalšie vlastnosti, ktoré prislúchali konceptuálne k prvým získaným označeniam.
Pri konkrétnom kóde *budova* boli doplnené aj charakteristiky ako *veľká, pekná, malá.* Ide o vonkajšiu charakteristiku hlavného kódu. Pri druhom konkrétnom kóde chalúpka boli doplnené charakteristiky ako *farebná, tmavá, pokreslená*. Uvedené vlastnosti môžu naznačovať konkrétne múzeá, ktoré respondenti navštívili a majú ich uchované v pamäti.
Pri neutrálnom kóde *miesto*, bola uvedená charakteristika, ktorá obsahovala opisnú formu, *niečo tam je*, nebola konkretizovaná ani ďalej rozvedená.
Abstraktné kódové označenie malo uvedené aj ďalšie abstraktné charakteristiky ako *nepoznám, nič, neviem*.
Výsledkom procesov kódovania odpovedí a informácií z prvej otázky sme zostavili myšlienkovú mapu zobrazujúcu vizuálnu podobu odpovedí.

Graf 1 Analýza kódovania prvej otázky



Zdroj: vlastné spracovanie

Tabuľka 5 Analýza odpovedí na druhú otázku v rozhovore

čo sa tam deje	konkrétne	živé	chodia tam ľudia	nerobia nič
				sú ticho
		neživé	sú tam predmety	staré
				ošarpané
			sú tam len staré veci	nepotrebné
			všelijaké obrazy	veľké
				malé
	abstraktné	neutrálne	neviem	nepoznám

Zdroj: vlastné spracovanie

Pri analýze odpovedí na druhú otázku v rámci rozhovoru sme využili taktiež postupy kódovania. Vyselektované boli dva základné kódy a to *konkrétne* a *abstraktné*.
V rámci konkrétneho kódu boli následne vyselektované označenia *živé* a *neživé*. V skupine živých označení boli konkretizovaní ľudia a ich činnosť. Respondenti uvádzali že *tam chodia ľudia,* sú *ticho* alebo *nič nerobia*. Z tejto analýza vyplýva, že respondenti pravdepodobne navštívili nejakú galériu, kde videli viacero ľudí, ktorý sa po priestore prechádzali, vlastne nič nerobili a boli ticho. Respondenti opisujú vlastné zážitky a pochopenie zážitku na vlastnej úrovni kognitívneho myslenia. Ešte nepochopili zameranie a ciele inštitúcie, čo vzhľadom na vek respondentov ani nepredpokladáme.
V skupine neživých označení bolo vyselektovaných viacero označení. Jednoznačné označenia boli dva druhu a to *obrazy* a *predmety*. V rámci označenia predmetov boli konkretizované vlastnosti ako *staré* a *ošarpané* predmety, čo naznačuje poznanie múzea a objektov v ňom. Pochopenie pojmov je v rámci kognitívneho rozvoja primerané veku našich respondentov. Za zaujímavé vyjadrenie považujeme skupinu odpovedí v rámci kódu neživých vyjadrení, že sú v galérii a múzeu umiestnené staré a nepotrebné veci. Respondenti priamo identifikovali v kóde neživých objektov obrazy, ktorým priradili dve základné charakteristiky, malé a veľké. Z toho dedukujeme, že už navštívili nejakú galériu, kde si všimli hlavne obrazy.
V žiadnom analyzovanom rozhovore sme neidentifikovali rozdielne vnímanie pojmov múzeum a galéria, ktoré je pre dospelých zrejmé.
Len niekoľko detí odpovedalo že nevedia čo sa deje v múzeu a galérii, tak ako pri prvej otázke.
Analýza kresby

Tabuľka 6 Analytické kritériá

vznik vizuálneho symbolu	počas rozhovoru
použitá výtvarná technika	kresba ceruzkou
	kresba farbičkami
	kolorovaná kresba
	koláž
opis zobrazovaného	symbol
	opisné zobrazenia
asociácia	priame
	nepriame
farebnosť	rôznorodá
	plnofarebná
	monochrómna
vzťah k realite	nejednoznačný

Zdroj: vlastné spracovanie

Analytické kritériá sme uplatnili pri všetkých vizuálnych zobrazeniach respondentov. Niektorí respondenti vyprodukovali jeden alebo viacero výsledných produktov, ktoré sme podrobili analýze. Podobne sme uplatnili aj interpretáciu semiotickú a sémantickú.
Na základe uvedených analýz môžeme konštatovať, že výtvarné zobrazenia v rámci výtvarných techník respondentov boli v dvoch základných líniách. Výber výtvarnej techniky bol v priamom kontexte výtvarného typu autora respondenta (Valachová, 2018). Vizuálny výtvarný typ si zvoli na výtvarnú tvorbu farbičky a kresbu. Zobrazenia boli detailne vykreslené, s presne ohraničenými líniami, zvyčajne menej farebné alebo monochrómne. Haptický výtvarný typ zvolil kolorovanú kresbu a farbenú papierovú koláž. Výtvarné zobrazenia boli zamerané skôr na farbené kompozície, prevažne bez zobrazenia konkrétnych objektov a tvarov.
Obsahovo bol zobrazovaný symbol výtvarnou skratkou, napr. budova, dom so šikmou strechou. Druhá skupina výtvarných symbolov bola zameraná na zobrazenie rôznych predmetov alebo objektov pripomínajúcich obrazy. Môžeme konštatovať že uvedené zobrazované symboly charakterizovali miesto galérie a múzea.
Druhá skupiny vizuálnych zobrazení predstavovala dejové zobrazenie. Respondenti zobrazovali viaceré situácie, ktoré sa v priestore prebiehajú, alebo ich sami zažili. Avšak ani jeden výtvarný produkt nezobrazoval úplne zobrazenia pojmov galéria a múzeum a ich obsahové zameranie, čo sme vzhľadom na vek respondentov predpokladali.
Na základe analýzy výskumných metód, ktoré sme vo výskume použili, môžeme konštatovať, že deti vo veku primárneho vzdelávania majú len základnú predstavu o tom, čo je to múzeum a galéria. Opisovali a zobrazovali ich ako budovu alebo konkrétne miesto, ktoré navštívili s rodičmi, ale boli na výlete. Časť respondentov však uvedené pojmy nepoznala. Za zaujímavé zistenie považujeme, že respondenti nerozlišovali pojmy múzeum a galéria, aj keď v anglickom jazyku sa používa ako synonymu, v slovenskom kontexte sú to dva druhy inštitúcií. Na otázku čo sa tam deje respondenti opisovali zvyčajne konkrétne miesto, napr., sú tam obrazy, alebo rôzne staré veci. Deti každú navštívenú výstavu alebo akúkoľvek expozíciu považovali za múzeum alebo galériu.
Skúmanie predstáv detí o múzeu a galérii považujeme za dôležité z viacerých hľadísk. Jednak je to poznanie kognitívnej úrovne našich respondentov. Zároveň je možné konštatovať, že poznanie kultúrnej produkcie so zameraním na múzeá je vhodným prostriedkom na rozvíjanie a dotváranie edukačných prístupov pre potreby detského publika (Eliášová, 2019).

4 ZÁVER

Proces identifikácie konkrétnych kategórií, ktoré by mohli vplývať na poznávanie detských naivných teórii v skupine recipientov je pomerne náročným procesom. V rámci popisovaného výskumu sme sa zamerali na sledovanie prekonceptov o pojmoch múzeum a galéria, ich verbálnu a vizuálnu charakteristiku.
Na základe výpovedí recipientov a zhodnocovania zo strany výskumníkov môžeme konštatovať, že poznanie pojmov vo výskume je na kognitívnej úrovni respondentov, s opisným zameraním, bez konkrétneho rozlíšenia a cieľa oboch pojmov. Popisované kategórie a výsledky považujeme za významné v tom zmysle, že tento typ výskumu v spojitosti detských naivných teórií a prostredia múzea a galérie nebol dokladovaný v našich podmienkach v žiadnom spomenutom kontexte a popisované zistenia považujeme za významné pre danú skupinu a zároveň aj pre komunitu výskumníkov pôsobiacich v danej oblasti.

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UDRŽITELNOST KVALITY VÝUKY SPOLEČENSKOVĚDNÍCH PŘEDMĚTŮ

SUSTAINABILITY OF TEACHINCH QUALITY OF SOCIAL SCIENCE SUBJECTS

Jaroslav Lindr

Abstrakt

Společenskovědní předměty na technické univerzitě mají za cíl poskytnout všestrannost. Jsou zaměřeny především na rozvoj tzv. soft-skills. Jako příklad lze uvést předměty Prezentační dovednosti a Sociální komunikace, jejichž cílem je zlepšit komunikativní kompetence potřebné pro budoucí praxi absolventů. Bohaté zkušenosti s jejich výukou za období více než 15 let umožňuje systematicky sledovat údaje o tom, jaký přínos tyto předměty pro studenty mají. Přehledné výstupy, grafy, tabulky a regrese trendu prozrazují, že studenti jsou s výuku společenskovědních předmětů spokojení. Analýza údajů je vhodnou autoevaluací a sebereflexí činnosti učitelů. Celkově lze konstatovat, že výuka studenty obohacuje a přispívá k jejich osobnímu rozvoji.

Klíčová slova: *společenskovědní předměty, celkový dojem, soft skills, hodnocení kvality výuky, statistické zpracování*

Abstract

Social science subjects at a technical university have to main aim to provide versatility. They are mainly focused on the development of so-called soft-skills. As an example, we can mention the subjects Presentation skills and Social communication, the aim of which is to improve the communicative competence needed for the future practice of graduates. Extensive experience in teaching them over a period of more than 15 years allows for systematic monitoring of data on the benefits these subjects have for students. Clear outputs, graphs, tables and trend regressions reveal that students are satisfied with the teaching of social science subjects. Data analysis is a suitable self-evaluation and self-reflection of teachers' activities. Overall, it can be concluded that teaching enriches students and contributes to their personal development.

Key words: *social science courses, overall impression, soft skills, teaching quality evaluation, statistical processing*

1 NUTNOST VŠESTRANNOSTI ABSOLVENTŮ PRO PRAXI

Dichotomie všeobecnosti a odbornosti patří mezi tradiční aktuální otázky pedagogiky. Pouze odbornost nestačí. Mnohokrát samotná profesní i firemní praxe potvrdila, že lépe uspěje ten absolvent vysoké školy, který se univerzálněji, šíře aplikovaněji a všestranněji zapojí do náročnosti týmových úkolů, než jen úzkoprofilový specialista, který není schopen širšího odborného, mezilidského či mezioborového kontaktu s okolím a ostatními obory.

Pro školy samotné to představuje velkou výzvu – zařadit do akademických studijních plánů také takové předměty, které budou schopny rozvíjet kýženou všestrannost absolventů, a tím zvyšovat schopnost jejich lepšího začlenění do praxe, např. rozvoj soft skills, znalosti cizích jazyků, odborné terminologie v cizích jazycích, psychologie ve firemní praxi, prezentační dovednosti, sociální komunikace apod.

Cílem příspěvku je podívat se do edukační reality, jak se podařilo zvládnout realizaci výuky těch společenskovědních předmětů na technické univerzitě, které se aspektům všestranného rozvoje věnují. Ukazuje se totiž, že pokud tyto předměty v akademických plánech již za studií zastoupeny jsou, student jednak získá potřebné základy, jednak student může posléze na něco navazovat, než v opačném případě, kdyby se žádný předmět podobného zaměření ve studijních plánech nevyskytoval vůbec.
K dispozici jsou výsledky agendy hodnocení kvality výuky. Prostřednictvím této agendy studenti vyjadřují spokojenost s výukou, a hlavně přínos, který pro ně výuka má. Jsou tedy cenným pohledem do edukační praxe tzv. zespoda, odkud můžeme pohlížet na to, jak samotní studenti výuku vnímají. Právě analýza zjištěných výsledků bude praktickou částí příspěvku.

2 VYBRANÉ TEORETICKÉ NÁHLEDY NA KVALITU VÝUKY A JEJÍ UDRŽITELNOST

Plánovaná a realizovaná výuka se liší. Liší se také formální, plánované a realizované kurikulum. Na jedné straně vysvítá potřeba dosáhnout co nejkvalitnější výuky, na straně druhé je v pedagogické praxi velmi obtížné realizovat výuku tak, aby bezchybně obstála ve všech deklarovaných vlastnostech a kvalitách. Proto narůstá potřeba evaluace výuky obecně i s ohledem na kvality školy v tom smyslu, aby docházelo k soustavnému zdokonalování, zefektivňování a k modernizaci výuky na základě evaluace či autoevaluace.
Potřeba inovace školství a vzdělávacích systémů vysvítá z konceptu přiblížit se ideálu „dobré školy“, jejíž vymezení není jednoznačné ani jednoduché, jak by se na první pohled mohlo zdát. V autoevaluaci se objevují stěžejní oblasti jako je např. skládání účtů ze své činnosti, kultura pedagogů, prostředí školy, spolupodílení pedagogů na rozhodovacích procesech, reflexe vlastní činnosti i školního působení, očekávání do budoucna, možnost aplikace změn aj. (srv. Rýdl, 1998, s. 6–8). Rýdlovy koncepty se často inspirují mezinárodním srovnáním škol v rámci evropského kontextu. Časté inspirace v projektové výuce, ve snaze propojit teorii s praxí, nepřetěžovat systém teoretickými potřebami mechanických znalostí, hledání perspektiv úspěšnějšího rozvoje tam, kde se již podařil apod., vede na jedné straně k hlubokému zamyšlení nad principy českého školství. Na druhé straně by tento přístup mohl vést pouze k sumarizaci nedostatků, které české školství má, aniž bychom viděli možná pozitivní srovnání úspěchů, v čemž jsme lepší než ostatní.
Škola musí procesem zvyšování kvality a efektivity výuky nutně projít. *„Držet ve škole krok s rozvojem vědeckého poznání, a to rozšiřováním požadavků o nové poznatky, jak je přináší věda, výroba, moderní technika nebo měnící se způsob života lidí. V tomto směru jde často o modernizaci nebo též o inovaci obsahu.*“ (Maňák, a kol., 2008, s. 30) Zejména na odborné školy je kladen požadavek spojení teorie s praxí, což nutí sledovat moderní trendy nejen v oboru, ale také ve vyučovacích metodách a didaktických prostředcích, které s novými vzdělávacími obsahy pracují.
K tématu evaluace školských systémů a škol lze uvést též koncept „skládání účtů ze své práce“, „učící se organizace“ a fenomén zodpovědnosti, „komu, za co a jakou“ zodpovědnost škola má. (srv. Pol, 2009, s. 41–53). Škola se v procesu demokratických přeměn a v potřebě obstát před všemi účastníky promlouvajícími do jejího chodu ocitá v problému uspět v náročných podmínkách, tlacích, pnutích a požadavcích, které na ně současná doba klade.
„Požadavky na dnešní školu odkazují na školu v pohybu, školu rozvíjející se ke smysluplné představě (vizi)…“ (Pol, 2009, s. 40–41). Z toho vyplývá i nutnost přerodu a soustavných proměn škol ve vnitřním prostředí i ve vztahu k okolí tak, aby nároky na ně kladené úspěšně zvládla. *„V situaci, kdy nezřídka chybějí jasné ukazatele efektivnosti…, snaží se proto školy udržovat si image „profesionálních“ organizací, které fungují hladce a účinně a někdy jsou k takovému chování i nepřímo vybízeny.“* (Pol, 2009, s. 19) Pol představuje nesporně téměř guruovskou vizi existence optimální podoby školy z hlediska „účtování ze své práce“. Školu

vidí jako organizaci, systém, funkční systém, kterým protéká spousta prostředků, systém, který je ovlivňován, a mnohdy i deformován vnějšími či vnitřními tlaky. Ve škole vidí též pospolitost fungování a zamýšlí se nad demokratickým způsobem vnitřního řízení, resp. vedení tak, aby přinášel co nejefektivnější a nejkvalitnější výsledky. Přepokládá proto, že kvalitně vybudovaná škola musí nutně budovat kvalitní systém výuky a výsledků své práce, který obstojí před veřejností, zřizovateli, rodiči i absolventy samotnými.

Při zkoumání kvality výuky si můžeme krátce vypomoci i definicí či interpretací samotného pojmu evaluace. Evaluaci výuky můžeme chápat jako *„systematické zkoumání k určení hodnoty nebo přednosti programu, opatření nebo postupu pečlivým zhodnocením a studiem založeným na relevantních metodách, kritériích a standardech“*. (Michek, 2009, s. 3). Nástrojem evaluace může být i hodnocení kvality výuky na základě formulovaných kritérií. Smyslem celého procesu je rozpoznat stav výuky a posunout tento stav kvalitativně vpřed. Michek však hledá především pouze metodologické otázky uchopení kvality věci, např. statistické metody, optimalizace, ekonomické teorie či ekonomicky orientované příklady např. ABC benchmarking apod., které mají za cíl hledat optimální cesty či metody formou maximalizace zisků při vyloučení nežádoucích ztrát. Je proto otázkou, zda ekonomicko-statisticko-matematické cesty jsou na školství uplatnitelné přímo.

V podobném duchu lze pohlížet na hodnocení kvality výuky obecně. *„Pro normativní přístup jsou příznačné hodnotící soudy, svázané s tvorbou normativních rámců, etalonů a pravidel, tj. s tvorbou programů, předpisů či metodik, jak v praxi postupovat… Podmínkou pro formulaci poznávacích soudů jsou empiricky stanovené paritní kategorie, které vypovídají o vlastnostech a stavech reálných jevů vzdělávací praxe založená na hodnotovém odstupňování kvalit určité vlastnosti edukačního procesu.“* (Slavík, a kol., s. 179). Paritní kategorie, sémantický diferenciál či hodnotící stupnice na pořadové škále mezi nejlepší a nejhorší apod. napomáhají s převodem kvalitativního popisu na kvantitativně vyhodnotitelný. Jedná se o jednu z cest, jak kvalitu výuky empiricko-výzkumně uchopit.

Autor hledá didaktickou dokonalost, která povede ke znalosti obsahu oboru, ale zároveň vyzývá ke kvalitě, která může být dosažena osvojením dalších kompetencí. Odhaluje skutečnost, že kvalita je jednak pojem chápaný subjektivně, je problém ji definovat a stanovit jasný obsah, jak kvalitu modelovat, konstruovat, definovat a řídit tak, aby odpovídala standardům, které v edukaci chceme, máme či musíme dosáhnout. Pro výuku to znamená sladění všeho užitečného.

Už samotný pojem „kvalita výuky“ v sobě a priori předpokládá rozlišení vyšší a nižší kvality. To závisí na průběhu výuky a na faktech, která by měl po skončení výuky student znát. Obsahový přístup ke kvalitě výuky znamená *„podporu profesionalizace učitelů a spojení teorie se vzdělávací praxí tím, že vychází vstříc hlavnímu profesnímu zájmu učitele; jak vnášet do výuky kvalitní obsah a jak jej hodnotit v učení“*. (Janík, 2013, s. 263). Jak dále autor zdůrazňuje, smyslem hodnocení kvality je možnost jejího zlepšování na základě popisu, analýzy a hodnocení výukové situace. Autor se věnuje zejména didaktické analýze obsahu výuky, v čemž vidí hlavní východisko kvality. Velký důraz proto klade na nejen na zvládnutí metodiky daného předmětu, ale především v rámci spojení mezipředmětových vztahů na didaktiku transdisciplinární, protože jednotlivé předměty je nutné vidět jako vzájemně propojené celky tvořící stavebnice jednoho společného vzdělávacího programu.

Nad kvalitou českého a evropského odborného školství se už na počátku reforem školství zabývala zpráva Irdac (1998, s. 39), která hovoří o multidisciplinaritě jako faktoru kvality škol. Už tehdy varovala, aby: *„odborné vzdělání nebylo pojímáno jako uzavřená vzdělávací cesta… To vyžaduje zdůraznění a rozvoj přitažlivých rysů, což je chápáno jako vícezdrojové vzdělávání s větším důrazem na kvalitu.“* Zpráva sice reflektuje především ekonomické a výkonnostní charakteristiky posuzování odborných škol, nicméně koncepčně sleduje ideu spojení odbornosti a všeobecnosti směrem k celkovému růstu všeobecné kvality vzdělávání. Snaží se spojit dohromady svět technický a společenskovědní, příp. esteticko-umělecký.

3 PŘÍNOS VÝUKY VYBRANÝCH SPOLEČENSKOVĚDNÍCH PŘEDMĚTŮ – ROZBOR, INTERPRETACE, SMYSL A UDRŽITELNOST

Již pravidelně se snažíme sledovat kvality výuky vybraných společenskovědních předmětů v čase. Není lehké vytyčenou kvalitu udržet, neboť se do ní promítá řada faktorů vyplývajících z vedení výuky, proměna charakteru podpůrnosti výukového prostředí, změna metod, pedagogicko-psychologický vliv osobnosti učitele, vědecko-metodické obsahy učiva, budování školní třídy jako pospolitosti, důraz na sepětí s praxí apod. Právě proto je dobré stanovit, jak se tyto průběžně sledovatelné vlivy vpisují do výsledků kvality výuky. Tím naplňují onu udržitelnost kvality výuky, o kterou principiálně jde – tedy aby kvalita výuky nestála pouze na momentální potřebě jejího zlepšování, ale vykazovala průběžný rostoucí trend vyúsťující v její permanentní vykazování směrem ke stabilitě nebo alespoň k lineárně rostoucímu trendu.

Z těchto důvodů byly ponechány k rozboru stejné předměty jako v předchozích letech, aby právě na nich bylo možné vysledovat vlivy, které kvalitu výuky ovlivňují. Mění se vyučující, mění se způsoby metodiky práce s třídou, mění se další faktory, které přínos ovlivňují. Podívejme se tedy na zbrusu nová data, která výzkumný vzorek vydal k dalšímu rozboru.

Jak již bylo zmíněno v anotaci, k vyhodnocení celkového dojmu byla použita agenda *Hodnocení kvality výuky*, která je každoročně k dispozici jako zpětnovazební hodnocení výuky na vybrané technické univerzitě. Studenti se na škále 1–6, resp. nově na škále 1–5, vyjadřují k celkovému přínosu předmětu po obsahové a pedagogické stránce. Zjištěné údaje byly systematicky sledovány za roky 2010–2023 u předmětu *Sociální komunikace* a u předmětu *Prezentační dovednosti*, kde se podařilo údaje shromáždit za roky 2016–2023. Poznámka: Nově vytvořená škála 1–5 se matematicky přepočítává na stávající škálu 1–6, aby bylo možné výsledky sjednotit a využít pro sledované matematické účely.

Již opakovaně se pojem přínos obsahově přibližuje pojmu celkový dojem. Samotní studenti často také oba pojmy ztotožňují, proto nově vedená agenda pojmy sjednocuje a dále pracuje pouze s pojem „přínos“. Každopádně nás stále zajímá, jaký význam studenti přisuzují přínosu daného společenského předmětu, jak pohlížejí na jeho smyl pro profesní i osobní život, v čem a kam studenty posouvá a jak se v něm celkově cítí. Jak hodnotí způsob práce v něm, jak vnímají obsahovou náplň a roli učitele v předmětu a jak celkově předmět formuje jejich osobnost, tj. zda přináší kýžený posun nebo se jedná spíše o předmět vynucený, který musí absolvovat proto, že se požaduje, aniž by přinášel potřebný rozvoj.

Prvním analyzovaným předmětem je předmět *Prezentační dovednosti* zařazený do 1. ročníku a 2. ročníku navazujícího magisterského studia napříč všemi obory. Jeho cílem je především zlepšit celkovou prezentační úroveň studentů s ohledem na rétorické, jazykové a obecné psychosociální dovednosti. Je pamatováno též na vylepšení graficko-estetické stránky prezentace, tj. práce s power-pointovým softwarem na vyšší úrovni. Ukazuje se, že schopnost zvládnout kvalitní, působivou, netuctovou, zapamatovatelnou a po všech stránkách kvalitní prezentace není tak jednoduché, jak by se na první pohled mohlo zdát. Když se jako kritéria kvality použije:

- efektivní úvod
- hlavní obsahová část
- zvládnutí plynulého přechodu mezi jednotlivými částmi prezentace
- přednes
- neverbální komunikace
- jazyková vybavenost
- dodržení požadovaného rozsahu, času a struktury prezentace,
- efektivní závěr, zdůraznění poselství.

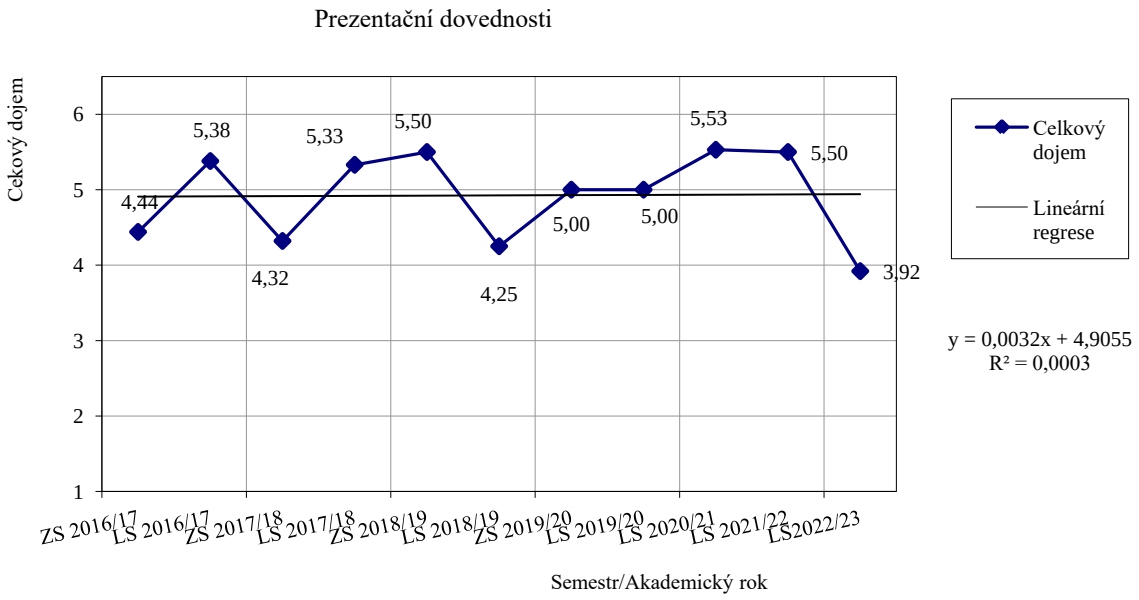
Není vůbec jasné a jednoduché vše zvládnout tak, aby prezentace úspěšně naplnila všechna kritéria na ni kladená.

Cílem předmětu je překonat bariéry bránící realizaci kvalitní prezentace. Je třeba také povýšit úroveň prezentací stávajících. Předmět je vhodný zejména pro ty studenty, kteří mají s prezentováním na veřejnosti potíže či pro ty, kteří se chtějí v prezentování před veřejností zdokonalit. Studenti se naučí též zpětnovazebně hodnotit prezentaci druhých dle stanovených kritérií, což jim umožní zpětné lépe pohlédnout na prezentaci vlastní a druhých.
Jak již bylo výše řečeno, naplnit všechna tato obecně kladená kritéria na kvalitu prezentací není jednoduché. Pouze systematickým vyhodnocováním a sledováním všech kritérií lze postupnými krůčky dospět ke zlepšení reflexe a autoreflexe přednášeného projevu, poučit se z chyb a napracovávat je tam, kde je nejvíce zapotřebí. Na tomto místě je zapotřebí vyzdvihnout trpělivou práci vyučujících a připravenost pro realizaci zpětnovazebních reflexí a poctivou práci s nimi.
Výsledky hodnocení celkového dojmu z předmětu za jednotlivé akademické roky a semestry ukazuje tabulka 1 a graf 1.

Společenskovědní předmět/Období		Celkový dojem z předmětu *na škále 1–6 (1–malý, 6–velký)*
Prezentační dovednosti	ZS 2016/17	4,44
Prezentační dovednosti	LS 2016/17	5,38
Prezentační dovednosti	ZS 2017/18	4,32
Prezentační dovednosti	LS 2017/18	5,33
Prezentační dovednosti	ZS 2018/19	5,50
Prezentační dovednosti	LS 2018/19	4,25
Prezentační dovednosti	ZS 2019/20	5,00
Prezentační dovednosti	LS 2019/20	5,00
Prezentační dovednosti	LS 2020/21	5,53
Prezentační dovednosti	LS 2021/22	5,50
Prezentační dovednosti	LS 2022/23	3,92
Průměr		*4,92*

Tab. 1 Hodnocení celkového dojmu předmětu *Prezentační dovednosti* na základě *Hodnocení kvality výuky 2016/17* až *2022/23*

(zpracováno autorem)



Graf 1 Znázornění celkového dojmu předmětu *Prezentační dovednosti* na základě *Hodnocení kvality výuky 2016/17* až *2022/23*

počet respondentů n = 215

(zpracováno autorem)

Výsledky hodnocení celkového dojmu z předmětu vykazují nadprůměrné hodnocení kolísající kolem aritmetického průměru *m* = 4,92/6,00. Lineární regrese ukázala mírně rostoucí trend, proto lze konstatovat, že studenti vidí předmět přínosně. Udržet stále vysokou a kvalitní úroveň výuky není snadné. Správné vymezení fenoménu kvality výuky totiž v sobě obnáší nejen správné metodologické uchopení vyhodnocení kvality ve vazbě na splnění kurikurálního rámce, ale zároveň též širší vymezení kvality z hlediska smyslu celého studijního programu či vzdělávací koncepce jako takové. Prezentační dovednosti však z dnešního pohledu patří mezi tak významnou součást komunikativních kompetencí, bez nichž nelze uspět prakticky v žádné sféře profesního firemního života, proto je na jejich úroveň kladen takový důraz.

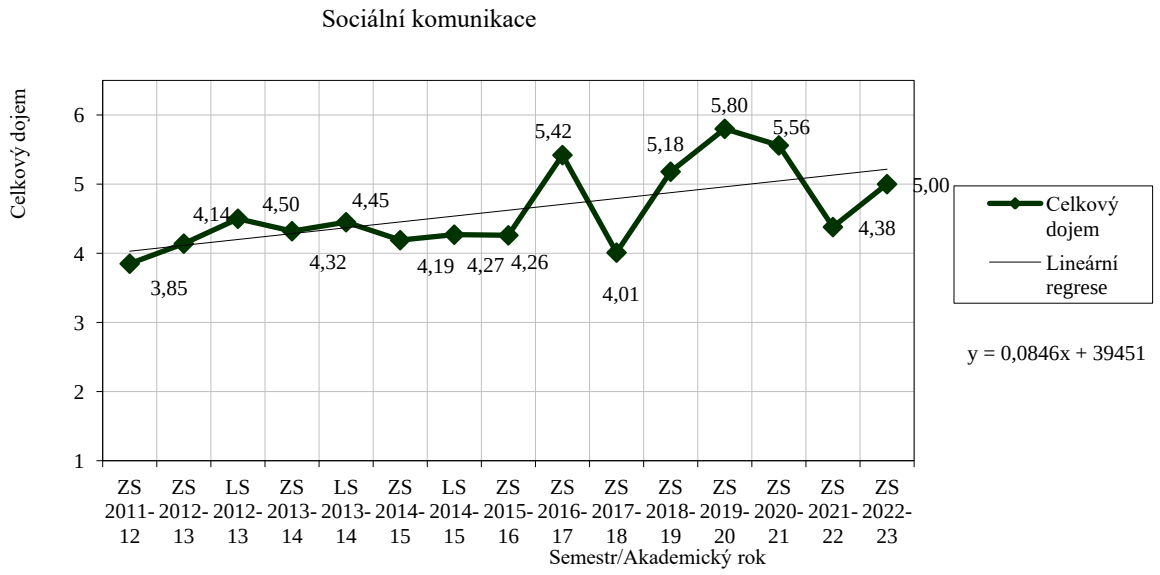
Druhým analyzovaným předmětem je předmět *Sociální komunikace* zařazený v bakalářském studiu u oboru Management ve stavebnictví. Studenti se v něm seznamují se základy teorie komunikace především z psychologického, sociologického a rétorického hlediska. Témata se kromě samotné teorie komunikace také věnují problémům, které s komunikací souvisí.

Výsledky hodnocení celkového dojmu z předmětu ukazuje tabulka 2 a graf 2.

Společenskovědní předmět/Období		Celkový dojem z předmětu *na škále 1–6 (1–malý, 6–velký)*
Sociální komunikace	ZS 2011/12	3,85
Sociální komunikace	ZS 2012/13	4,14
Sociální komunikace	LS 2012/13	4,50
Sociální komunikace	ZS 2013/14	4,32
Sociální komunikace	LS 2013/14	4,45
Sociální komunikace	ZS 2014/15	4,19

Sociální komunikace	LS 2014/15	4,27
Sociální komunikace	ZS 2015/16	4,26
Sociální komunikace	ZS 2016/17	5,42
Sociální komunikace	ZS 2017/18	4,01
Sociální komunikace	ZS 2018/19	5,18
Sociální komunikace	ZS 2019/20	5,80
Sociální komunikace	ZS 2020/21	5,56
Sociální komunikace	ZS 2021/22	4,38
Sociální komunikace	ZS 2022/23	5,00
Průměr		*4,62*

Tab. 2 Hodnocení celkového dojmu předmětu *Sociální komunikace*
na základě *Hodnocení kvality výuky 2011/12* až *2022/23*
(zpracováno autorem)



Graf 2 Znázornění celkového dojmu předmětu *Sociální komunikace*
na základě *Hodnocení kvality výuky 2011/12* až *2022/23*
počet respondentů n = 167
(zpracováno autorem)

Výsledky hodnocení celkového dojmu z předmětu vykazují nadprůměrné hodnocení kolísající kolem aritmetického průměru *m* = 4,62/6,00. Lineární regrese ukazuje mírně rostoucí trend. To znamená, že výuka předmětu si stále udržuje svoji kvalitu a zaznamenává kýžený přínos pro studenty, který se rok co rok postupně zvyšuje.

4 ZÁVĚREČNÁ OHLÉDNUTÍ A ZAMYŠLENÍ NAD ZÍSKANÝMI VÝSLEDKY

V teoretické části byly naznačeny alespoň rámcové důvody pro nutnost všeobecného rozvoje studentů technické univerzity. Pomáhají k tomu výraznou měrou společenskovědní předměty. Byla též stručně popsána potřebnost soustavné evaluace výuky s cílem zvýšit její kvalitu a efektivitu.

Z hlediska zjištěných výsledků může zavládnout oprávněná spokojenost s tím, že přínos výuky obou sledovaných předmětů rovnoměrně stoupá, tudíž výuka dynamicky a možno říci, že i „zdravě sebevědomě“, kráčí vpřed. Samozřejmě se tak nemůže dít donekonečna, přesto

ale takové výsledky potěší. Podotkněme, že se na výuce podílí řada vyučujících, tudíž se nejedná pouze o osobnostní zrání jednoho vyučujícího během několika let výuky téhož předmětu.

V empirické části byly představeny výsledky dlouhodobého sledování celkového dojmu dvou vybraných společenskovědních předmětů *Prezentační dovednosti* a *Sociální komunikace*. Oba reprezentují rozvoj tzv. soft skills a rozvíjejí zejména komunikativní a částečně i občanské kompetence, které patří k všestrannému vzdělání absolventů.

Vybrané předměty reprezentují, jak je pěstována rovnováha mezi zastoupením všeobecných a odborných předmětů na technické univerzitě. Pouze odbornost nestačí. Důležitost je přenášena na pěstování kompetencí potřebných pro současnou profesní a firemní praxi, např. schopnost kvalitně zvládnout prezentaci na veřejnosti.

Potěšujícím faktem je, že otázka všestranného rozvoje nezůstává okrajovou a je na ni již řadu let kladen důraz. Výsledky přínosu výuky společenskovědních předmětů, které rozvíjejí všeobecnost, stoupá. Zkvalitňuje se nejen výuka jako taková, ale též výstupy, které má. Mnozí studenti cítí zlepšení v této oblasti, např. zvládnutí působivé prezentace. Mnohdy si také uvědomují potřebnost se v aplikovaných společenskovědních tématech více zdokonalovat a také teoreticky je hlouběji poznávat.

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ANALÝZA VYBRANÝCH CHARAKTERISTÍK OSOBNOSTI PÁCHATEĽOV A OBETÍ NÁSILNÝCH TRESTNÝCH ČINOV

ANALYSIS OF SELECTED PERSONALITY CHARACTERISTICS OF PERPETRATORS AND VICTIMS OF VIOLENT CRIMES

Soňa Algayerová

Abstrakt

Výskumná štúdia má za cieľ preskúmať osobnostný profil páchateľov a obetí násilnej trestnej činnosti na základe psychologických znaleckých posudkov, ktoré boli zostavené na základe využitia rôznych psychodiagnostických metód a v týchto výsledkoch hľadať podobnosti, rozdiely, a inak štatisticky významné zistenia medzi skupinou páchateľov, obetí, ako aj skupín navzájom. Z psychodiagnostikých metód sme sa opierali o výsledky z projektívnych metód ako sú Rorschach, Handtest a kresebné testy (kresba postavy, Baumtest).

Kľúčová slova: *páchateľ, obeť, násilný trestný čin, agresivita*

Abstract

The research study aims to examine the personality profile of perpetrators and victims of violent crime on the basis of psychological expert reports that have been compiled using a variety of psychodiagnostic methods and to look for similarities, differences, and otherwise statistically significant findings in these results between groups of perpetrators, victims, as well as between groups of each other. Of the psychodiagnostic methods, we relied on results from projective methods such as the Rorschach, Handtest, and drawing tests (figure drawing, Baumtest).

Key words: *offender, victim, violent crime, aggression*

1 ÚVOD

Vedecké štúdie, ktoré sa zaoberajú charakteristikami osobností páchateľov a obetí násilných trestných činov, sa zvyčajne koncentrujú buď výlučne na skupinu páchateľov alebo na skupinu obetí, pričom dominuje zameranie na páchateľov. Komparatívna analýza osobnostných profilov oboch skupín je v súčasnej literatúre menej zastúpená.

V prípadoch, kedy násilné správanie dosahuje významnú závažnosť a je zaznamenané príslušnými orgánmi (pričom je potrebné zdôrazniť, že veľká časť násilných činov pravdepodobne zostáva nezaznamenaná), je často do procesu zapojený psychológ ako znalec v odbore klinická psychológia. Tento odborník je povolaný na vypracovanie znaleckého posudku, ktorý sa týka ako páchateľa, tak aj obete. Tento posudok je vytvorený na základe psychodiagnostického vyšetrenia, ktoré zahŕňa pozorovanie a aplikáciu rôznych psychodiagnostických metód na hodnotenie páchateľa a obete.

V rámci vyšetrenia sa skúma duševný stav, úroveň intelektu, pamäťové funkcie, celková štruktúra osobnosti, vývin, patológia, abnormality a deviácie v kontexte trestného činu. Skúma sa aj schopnosť vierohodne vypovedať, motivácia konania, perspektíva resocializácie, prípadne iné relevantné zistenia vo vzťahu k vyšetrovanej veci. Psychologické testy obsahujú rôzne determinanty, ktoré môžu naznačovať napríklad tendenciu k násilnému správaniu, môžu poukázať na špecifické aspekty fungovania osobnosti alebo vysvetliť, ako je osobnosť u daného jedinca konštruovaná.

Tieto testy môžu tiež identifikovať, ktoré komponenty osobnosti nie sú v harmónii a môžu prispievať alebo brániť násilnému konaniu, alebo prečo sa niektorí ľudia stávajú obeťami násilníkov a iní nie. Osobnostné premenné sú dôležitými prediktormi agresívneho správania (Anderson & Huesmann, 2003). Osobnosť je v podstate súbor pomerne konzistentných vzorcov myslenia, pocitov a správania, ktorý je relatívne stabilný v priebehu času (Roberts & DelVecchio, 2000).
Zaoberáme sa teda analýzou vybraných charakteristík osobnosti páchateľa a obete násilných trestných činov s cieľom zistiť, či majú skúmané skupiny spoločné znaky, a či existujú znaky, ktoré by mohli vysvetľovať vzťah medzi páchateľom a obeťou. Páchateľ obeť môže a nemusí poznať. Vzhľadom na to, že sa v prípade skúmaných nesexuálnych trestných činov jednalo o násilie blízkej osoby, páchateľ s obeťou sa častokrát poznajú, resp. žijú alebo žili určitý čas spolu v jednej domácnosti.
Násilné trestné činy sme kategorizovali do dvoch hlavných skupín: sexuálne a nesexuálne. Analýza obetí sa sústredila prevažne na nesexuálne trestné činy, keďže v prípade sexuálnych trestných činov sa vo väčšine prípadov jednalo o maloleté obete, pre ktoré neboli dostupné psychodiagnostické údaje.

2 MODELY AGRESIVITY

Agresivita je inherentnou súčasťou ľudskej osobnosti. Svetová zdravotnícka organizácia (WHO, 2008) definuje agresívne alebo násilné správanie ako „zámerné využitie moci alebo fyzickej sily, buď vo forme hrozby alebo v skutočnosti, proti sebe samému, inému jedincovi, skupine ľudí alebo komunite, ktoré s vysokou pravdepodobnosťou alebo s istotou vyústi do poranenia, smrti, psychologického poškodenia, vývojovej poruchy alebo deprivácie“. Táto definícia rozširuje tradičné chápanie násilného správania o aspekty zastrašovania a vyhrážania sa, pričom dôsledky násilia nemusia byť obmedzené len na fyzické poškodenie, ale môžu zahŕňať aj menej zjavné následky, ako sú psychické traumy, narušenie individuálneho sebarozvoja alebo obmedzenie adekvátnej sociálnej integrácie (Banský, Heretik, 2011).
Podľa Trestného zákona SR (č. 300/2005 Z.z) sú násilné trestné činy definované ako činy, ako sú vražda, lúpež, úmyselné ublíženie na zdraví, nebezpečné vyhrážanie, únos, hrubý nátlak, týranie a podobne. Pre adekvátne hodnotenie násilného správania je nevyhnutné pochopiť dynamiku ľudskej agresivity. Vo všeobecnosti sa pojmy ako agresia, agresivita, násilie, hostilita a podobne často zamieňajú alebo sa používajú ako synonymá, napriek existujúcim rozdielom medzi nimi. Hodnotenie páchateľa trestného činu zdôrazňuje potrebu diferenciácie agresologických pojmov, kde rozlišujeme agresiu ako akt správania, agresivitu ako osobnú dispozíciu, hostilitu ako postojovú premennú, afektivitu ako dôležitý motivačný, ale nie nevyhnutný prítomný korelát a interpersonálne/situačné faktory (Heretik, 2013).
V teoretickej časti práce by prezentujeme teórie agresivity, ktoré možno kategorizovať do inštinktivistických, kognitívno-behaviorálnych, sociálno-psychologických a integratívnych (bio-psycho-sociálnych) teórií. Rovnako vysvetľujeme, aký je rozdiel medzi reaktívnou a inštrumentálnou agresiou, ktoré externé a interné faktory aktivizujú alebo inhibujú agresívne správanie, aké osobnostné charakteristiky ovplyvňujú riziko páchania trestnej činnosti, a tiež to, či existujú určité faktory, ktoré zvyšujú pravdepodobnosť, že niekto sa stane obeťou násilného páchateľa.
Stefanile et al. (2021) identifikovali štyri prediktory agresívneho správania na vzorke väzňov a neväzňov:

1. Postoj k násiliu: Jedinci, ktorí majú priaznivejší postoj k násiliu, sú pravdepodobnejšie agresívni. Postoj mal priamy vplyv na správanie, pričom sa vyskytli významné rozdiely medzi mužmi a ženami. Muži častejšie ako ženy prejavovali postoj podporujúci násilie, čo naznačuje, že postoje mužov sú ovplyvnené sociálnymi normami, ktoré legitimizujú násilie.

2. Sebahodnotenie: Jedinci s nízkym sebahodnotením sa zdajú byť náchylnejší k agresívnemu správaní ako jedinci s vysokým sebahodnotením.
3. Dysregulácia emócií: sa ukázala ako kľúčový mediátor vzťahu medzi sebahodnotením a agresívnym správaním. Jedinci s nízkym sebahodnotením mali väčšie problémy s reguláciou emócií, čo súviselo s častejším agresívnym správaním.
4. Hnev: Tento faktor mediuje vzťah medzi dysreguláciou emócií a agresívnym správaním, najmä u neväzňov. Jedinci, ktorí prežívajú vysokú úroveň hnevu a majú problémy s jeho efektívnym zvládaním, sa častejšie správajú agresívne. Čím nižšia schopnosť regulovať emócie, tým vyššia pravdepodobnosť, že sa človek nahnevá, čo môže viesť k agresívnemu správaniu.

V inom výskume Barros et Pádua-Serafim (2008) identifkujú faktory, ktoré môžu aktivovať alebo inhibovať agresívne správanie:

1. Osobnostné poruchy: Poruchy osobnosti, najmä antisociálna a hraničná porucha osobnosti, sú silnými prediktormi násilia a agresie. Antisociálni jedinci boli viac emocionálne chladní a viac sa zapájali do trestných činov, ktoré vyžadovali podrobnejšie plánovanie, zatiaľ čo pacienti s hraničnou poruchou osobnosti mali väčšiu tendenciu byť impulzívni a angažovali sa skôr do explozívnych epizód fyzického násilia.
2. Impulzivita: je kľúčovým faktorom, ktorý môže aktivovať agresívne správanie. Hraničná porucha osobnosti, ktorá je charakterizovaná vysokou mierou impulzivity, je spojená s vyššou pravdepodobnosťou fyzickej agresie.
3. Hypoarousal a hyperarousal: Antisociálni jedinci charakterizuje hypoarousal, ktorý znižuje emocionálne bariéry k násiliu a vedie k viac inštrumentálnemu násilnému správaniu. Na druhej strane, jedinci s hraničnou poruchou osobnosti vykazujú hyperarousal, ktorý vedie k podráždenosti a výbuchom, čo je väčšinou spojené s fyzickým násilím.
4. Plánovanie: Antisociálni jedinci sa častejšie zapájajú do trestných činov proti majetku, ktoré vyžadujú podrobnejšie plánovanie, zatiaľ čo jedinci s hraničnou poruchou osobnosti sa častejšie zapájajú do impulzívnych epizód agresie a fyzického násilia.

3 VÝSKUMNÁ ČASŤ

3.1 Výskumné ciele a výskumné otázky

Cieľom dizertačnej práce je zistiť rozdiely, podobnosti a iné významné zistenia v osobnosti páchateľa a obete násilného trestného činu pomocou štúdie pár stoviek psychologických znaleckých posudkov, v ktorých boli použité zväčša projektívne testy (ROR, HT, Kresba postavy, Baumtest). Výskumné otázky sme si položili nasledovne:

1. Aké sú špecifiká osobnosti páchateľa?
2. Aké sú špecifiká osobnosti obete?
3. Aké sú medzi nimi rozdiely a v čom sú si podobní?
4. Je rozdiel v miere agresie u páchateľov a obetí?
5. Sú u páchateľov alebo obetí prítomné znaky porúch osobnosti?
6. Majú páchatelia sexuálnych trestných činov iné špecifiká než pri nesexuálnych trestných činoch?

3.2 Metóda

Ide o retrospektívnou kvantitatívnu analýzu znaleckých posudkov. Dáta budú spracované korelačnou analýzou, Spearman aj Pearson koreláciou. Zo znaleckých posudkov získavame dáta z Rorschachu: zdroje, šírka prežívania, index egocentricity, emotivita participanta, agresivita a iné. Z Handtestu prakticky všetky premenné, ktoré HT má, z hľadiska skúmania

agresivity AOR ratio a AGG index. Z kresebných metód, ktoré sú veľmi subjektívne, vyberáme predovšetkým prítomnosť / neprítomnosť znakov, ktoré sú pre náš výskum významné, napríklad impulzivita pri kresbe, psychosociálna nezrelosť a pod.
Posudky sú zhotovené jedným znalcom, čo považujeme za výhodu ako aj limitáciu výskumu. Opierame sa o predpoklad, že vykonáva svoju prácu kvalitne a správne. V prípade vyhodnocovania projektívnych metód fakt, že všetky posudky sú od jednej osoby, pokladáme za výhodu, nakoľko dvaja schopní diagnostici sa môžu líšiť v určitých detailoch pri interpretácii testov, avšak mali by dospieť k rovnakému výsledku.
Prítomnosť alebo absencia určitých determinantov nemusí mať lineárny vzťah k agresívnemu správaniu. Je potrebné mať správne porozumenie a interpretáciu výsledkov psychodiagnostických metód. Napríklad, vo vzťahu k agresívnym determinantom je žiaduce, aby sa určitá miera agresivity prejavila, pretože agresivita je prirodzenou súčasťou ľudskej povahy a riadenie tejto agresivity prináša prospech a pomáha uspokojiť ľudské potreby. Avšak, v prípade nadmerného prejavu agresivity a nedostatočnej kontroly sa stáva nežiaducou. Väčšina násilných činov je výsledkom reaktívnej, neplánovanej agresie.

3.3 Výskumný súbor

Výskumný súbor je zložený z páchateľov a obetí trestných činov, ktorí boli podrobení psychologickému hodnoteniu v rámci vyšetrovania trestného činu. Páchateľmi sú prevažne muži, zatiaľ čo obeťami sú väčšinou ženy, pričom v oboch prípadoch ide o dospelých jedincov. Vo výskumnej vzorke je zatiaľ 420 respondentov, z toho 276 páchateľov, z toho 164 z nesexuálnych a 112 zo sexuálnych trestných činov. V skupine obetí je zatiaľ 144 respondentov, z toho 126 z nesexuálnych a len 18 zo sexuálnych trestných činov. Toto číslo nie je konečné, nakoľko do analýzy chceme zahrnúť ešte dáta z posudkov z prvej polovice roku 2023.

3.4 Čiastkové výsledky

Vzhľadom na rozpracovaný stav práce nevieme uviesť výsledky výskumnej práce.

4 DISKUSIA

Z čiastkových výsledkov tejto štúdie vyplýva, že u skupiny páchateľov sme pozorovali zvýšenú úroveň Vista (z Rorschachtestu), ktorá je spojená s negatívnym emocionálnym prežívaním. Tento stav je výsledkom zamerania na seba a sebaskúmania a môže sa javiť ako pozitívny znak. Avšak, Vista je spojená s negatívnymi a bolestivými pocitmi týkajúcimi sa seba, ako sú vina, výčitky svedomia a chronická zaujatosť k negatívnym aspektom seba samého (Exner, 2009). Toto môže viesť k negatívnej emočnej bilancii. U jedincov so predispozíciou môže negatívna emočná bilancia viesť k prejavom agresívneho správania. Keď jedinec zažíva negatívnu emočnú bilanciu, kde prevládajú negatívne emócie a nepríjemné pocity, môže to mať vplyv na jeho tendenciu vykazovať agresívne správanie. Negatívne emócie, ako je hnev, frustrácia, zlosť alebo žiaľ, môžu zvýšiť pravdepodobnosť prejavu agresívneho správania ako spôsobu vyjadrenia týchto negatívnych emocionálnych stavov. Negatívna emočná bilancia môže tiež narušiť schopnosť jedinca efektívne regulovať svoje emócie a impulzy. Keď sa jedinec nachádza v intenzívnom negatívnom emocionálnom stave, existuje väčšie riziko prejavu impulzívneho, agresívneho a deštruktívneho správania. Agresívne správanie môže slúžiť ako spôsob, ako jedinec snaží znížiť svoju negatívnu emočnú bilanciu alebo vyjadriť svoje vnútorné napätie.
Lambda (z ROR) je u nadpolovičnej väčšiny doposiaľ preskúmaných páchateľov veľmi vysoká. To svedčí o prítomnosti nejakého preferovaného štýlu reagovania, ktorý má redukovať podnetové situácie na čo najľahšie zvládnuteľné. Zúženie, alebo simplifikácia podnetového poľa. Snaží sa minimalizovať, alebo ignorovať dôležitosť niektorých prvkov

poľa (tunelové videnie). Má tendenciu nadmerne zjednodušovať zložitú podnetovú situáciu, preto správanie môže byť menej účinné z hľadiska požiadaviek situácie a niekedy postupuje proti sociálnym očakávaniam. Ide vlastne o obranný proces, ktorý môže byť produktom vývojových skúseností, spôsobujúcich nezrelosť a sociálnu neobratnosť, je dôsledkom pocitu sociálnej deprivácie a nadmerného zaujatia uspokojovaním potrieb.

5 ZÁVER

Cieľom tejto výskumnej štúdie je analyzovať osobnostný profil páchateľov a obetí násilných trestných činov na základe psychologických znaleckých posudkov. Z posudky boli získané dáta z rôznych psychodiagnostických metód, ako sú projektívne testy Rorschach, Handtest a kresebné testy (kresba postavy, Baumtest). Hlavným záujmom štúdie je identifikovať podobnosti, rozdiely a štatisticky významné zistenia medzi skupinami páchateľov a obetí, ako aj medzi týmito skupinami navzájom. Vzhľadom na aktuálny stav neviem poskytnúť viac zmysluplných výsledkov.

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FROM PAINTING TO ACTION

Xénia Bergerová, Daniela Valachová

Abstract

In this text, we delve into the intricate historical existence of visual art, specifically highlighting the dynamic nature of contemporary art and its infrequent visual representations within the realm of Slovak art. The text subtly suggests the impulses and logical connections between action art and artistic manifestations of the times past. Vladimír Kordoš, through his artistic works, exemplifies the diverse formal and conceptual expressions of action in art. These range from reimagining action painting, interpreting historical works through film, thematic variations in photographic paraphrases, to engaging in performances. The artistic narrative also reflects the impactful contributions of Alex Mlynarčík and the film reactions directed by Dušan Hanák.

Key words: *action art, performance, action painting, paraphrase, interpretation*

1 PICTURE - REFLECTION

In a realm of perspectives, the world unfolds as a grand spectacle, resembling mirrors that derive their existence solely through the reciprocal reflections they cast upon each other (Rovelli, 2022).

A picture possesses the power to create a new reality, reflecting visual truth, embodying subjective ideas, and serving as a transformative transposition. It can capture a frozen moment, offering a compelling testimony of cultural heritage. Alongside the mesmerizing illusion of stillness, the dynamic negation increasingly emerges in tandem. This pursuit was already explored by baroque painters, modern expressionists, and Italian futurists, who sought to convey movement through their paintings and sculptures. Time and state intricacies exert their influence over the painted surface of the image.

2 THE SILENT WORLD OF PAINTING

Ján Bakoš reflects on the serene realm depicted in Milan Paštéka's paintings, stating, "The painting serves as both a narrative and an aesthetic object, two sides of the same coin for admirers of Matisse. Conditio sine qua non for a modern artwork, encompassing an autonomous realm and a subjective expression of the world, an independent value and a dedicated commentary, an aesthetic embodiment and a critical examination of human affairs, a commodity and a sermon" (Bakoš, In: Paštéka, 1999). Within the same catalog featuring Milan Paštéka's artworks, Rudolf Fila contemplates the significance, nature, and equilibrium of human existence, expressing, "... in the earlier times marked by cohesive stylistic elements... artists enjoyed a certain guarantee, particularly within a consistent morphology... Nevertheless, crossing the boundaries of the regulated system of expressive means always carried the risk of displacement... “ (Fila, In: Paštéka, 1999).

The domain of fine art effortlessly embraces and explores an expanding repertoire of mediums. Through their juxtaposition and fusion, they serve as contemporary manifestations of insatiable and frenzied individuality, driven by an overwhelming quest for uniqueness. In the realm of Slovak art, Milan Paštéka stood as a solitary existentialist figure within his time and context. It is intriguing to note the inaccuracies surrounding his portrayal, such as an encyclopedic slogan that confines him within the category of new figuration, failing to capture the spiritual essence that defines Paštéka's artistry.

The unforeseeable power of technology and the uncertain future of civilization provide a fertile environment for legitimate feelings of unease and apprehension. Several authors acknowledge the relationship between physiology and diverse emotional manifestations. One of the hindrances to the visible advancement of society lies in the civilizational impulses, as previously highlighted by the esthetician Václav Zygmund. Numerous barriers contribute to indifference and the dulling of our sensitivity. When contemplating the boundaries of contemporary fine art, it becomes clear that the traditional categorization is no longer sufficient.

The esteemed tradition of European painting rests upon a pillar that can be characterized as tranquility—a striking immobility exemplified by the works of Poussin, Vermeer, CD Friedrich, Morandi, and others. However, as we navigate towards the present, a path reveals itself, leading to vibrant phenomena, animated dynamism, and heightened theatricality that invites our embrace. "When we translate knowledge into action, we transcend the confines of good and evil" (Zhoř, 1992). The realm of objects and installations has expanded considerably since the resurgence of quasi-classical content and forms of "alternative" objectivity. This expansion is driven by the incorporation of diverse technologies, interventions in painting and drawing, alterations in scale, subtle reminiscences of the past, and the captivating intermingling of photography and painting, blurring their unique characteristics. In the wake of Duchamp's ready-mades and the mythical charisma surrounding Jozef Beuys and their veiled meanings, a new chapter unfolds for the contemporary individual. This chapter involves the cultivation of a refined perception of the art world and its myriad artistic occurrences, events that exist in a realm "beyond" that of Dada. Meanwhile, the allure of the art market casts its spell.

The post-war climate in the Western world presented a stark contrast to that of the Eastern realm. In this context, new forms of art, including visual art, film, music, theater, and emerging media, sought to explore the convergence of content and form. Within the realm of fine art, a growing inclination towards theatrical language and movement emerged—an earnest effort, motivated by a desire to captivate and connect with the audience, as well as to elicit their creative potential. Alan Kaprow, a versatile autodidact, embarked on a journey to bridge the gap between everyday life and artistic reality, ultimately leading him to the realm of happenings.

The intriguing notion of a new way, personifying a happening, was constructed by merging the mundane elements of everyday life with an unconventional framework. The absurdity of this concept was not overlooked, either. Happenings had the flexibility to employ pre-existing environments or establish their own unique spaces. The proponents of these events collectively proclaimed a heightened level of sensitivity (Benčič and Kováčová, 2022). The history of happenings brought along Fluxus, which stood out as a group activity, and Bratislava bore witness to the intensive presence of New Music, characterized by unconventional sound effects and unusual instruments. It is important to highlight the significant impact of New Music, which expanded the boundaries of the musical landscape, reminiscent of the influence computer graphics had on visual arts. Initially, this movement revolved around new concrete music, often crafted and recorded at home using tapes. In 1965, the establishment of a cutting-edge electroacoustic studio at Slovak Radio brought forth a high level of technical prowess and a team of exceptional professionals. This facility became a hub of activity for young composers, leading to the creation of entirely novel compositions. The remarkable quality of these works earned them accolades at international electronic music competitions and esteemed music festivals (Hrčková, 2006).

"Regardless of our inclinations, laws remain unchanging. We may navigate within their boundaries by introducing specific modifications, allowing for some progress. However, we will eventually revert back to the original laws. Legalities encompass more than just the law

itself. While the law dictates that pouring diesel into rivers is prohibited, legality emphasizes that circumventing this law will result in water destruction and our own downfall." (Huba, In: Krénová, 2020)

Let us revisit the realm of painting, which has, over the centuries, made sporadic attempts to challenge two-dimensionality and the inherent state of stillness. In this regard, we must acknowledge the presence of Baroque dynamism and numerous instances of Expressionism. Certain realms of dynamism and movement, deemed unconventional, such as futurism, inadvertently played a part in shaping the notion of "the end of painting." However, this shift did not transpire towards the end of the 20th century. Instead, it disrupted and inflicted internal damage, particularly upon the younger generation of painters, leaving them adrift in a disheartening void of uncertainty. Nonetheless, painting continued to evolve, albeit within the realm of individual artistic endeavors.

Across Europe and beyond, a multitude of fresh and evolving artistic movements emerged, predominantly with European roots. Amongst these, a striking phenomenon took shape in the United States an innovative variation of traditional action-painting led by Jackson Pollock. This prompts the question of how Pollock's abstraction sets itself apart from the array of other, what we might call, "serious" painting programs. Upon initial observation, a distinct sense of extremity becomes evident. Pollock abandoned conventional picture composition and embraced a contentious, authorial "principle," akin to crafting a painting as a continuous entity, akin to the measured "fabric footage" seen on textile counters. This approach seemingly enabled him to fully engage in the painter's gesture, notably the renowned dripping technique, characterized by physical spontaneity and force. While working with the canvas in a horizontal position, Pollock embraced uncontrolled actions and technical possibilities, surpassing mere artistic introspection (Biarincová, 2021), (Biarincová, 2022).

It seems that the timeless nature of artworks, upon which artists have traditionally depended, is gradually fading away. Action art, performances, and happenings exhibit diverse durations or possess an open-ended quality. As time goes by, another element becomes evident—the very "something" that was meant to divert our attention from centuries of art may have become entangled with the art market. Over time, the proclamations of avant-garde artists regarding purity and the remnants of the recent past have morphed into expensive and coveted objects of desire (see Fluxus), (Zhoř, 1992) .

In retrospect, it emerges as the epitome of the "total art" concept when Timm Ulrich from Hannover, considering himself a living artwork, exhibited himself. The duo Gilbert and George also expressed themselves provocatively.

3 PERSONALITY EXPRESSIONS IN ACTION ART

A similar form of self-presentation emerged in Czechoslovak art as well. Though incomparable, notable Czech artists such as Mlčoch, Chatrný, Miller, and Štembera embraced this approach. In Slovakia, sculptor Juraj Meliš responded vividly and intimately through objects that served as self-portraits. Dezider Tóth explored a broader range of expressions, while Vlado Kordoš presented himself in a more understated and introspective manner. Kordoš's artistic ingenuity, the essence of his concepts, and his working process can be perceived as a manifestation of personal freedom. His unique perspective and multifaceted approach to art intrigue us. The distinct manner in which he merges human sensitivity with a response to everyday phenomena evokes a sense of irreplicability. The author occasionally speaks of his "preferences" with a subtle touch of self-irony, revealing the depth of his interest and, most importantly, his connection to the artistic process. The artistic world crafted by Kordoš possesses an unassuming yet alluring charm, reflecting the artist's inherent humanity, spiritual depth, and appreciation for beauty. Within the breadth of his artistic endeavors, he ventures without limitations or predilections. To exemplify this, consider "The School of

Athens," a work from 1981 where Kordoš sought to interpret Raphael's significant composition. Placed within the historicized ambiance of the former School of Arts in Bratislava, Kordoš breathed new life into Raphael's static monument (fresco). Together with his fellow teachers, Kordoš orchestrated a captivating event. The film adaptation of the interpretation of "The School of Athens," originally designed for television, exudes a charm that lies in its numerous parallels. The visual experience is enhanced by the interplay between dynamic and static images, interspersed with fragmented moments of stillness and movement, leading to the eventual dissolution of the image. It is precisely this multifaceted nature and personal accent that sets Kordoš's work apart, providing a refreshing departure from the frequent ambiguities observed within the art scene.

The essence of Kordoš's work is deeply embedded in his renditions of Giovanni Bellini's Madonna and Child. The image's unmistakable beauty and the enchanting nature of the interpretation arose effortlessly from a genuine personal need. In 1989, Kordoš produced a highly distinctive and striking performance video entitled "Tribute to FX Messerschmidt". Comprising three distinct parts, this composition functions as an initial foray, wherein the author delivers a lecture-style discourse on the Austrian-Bratislava Baroque of the Theresian period. Interestingly, the author also assumes an active role in the hair-cutting sequence, hinting at their propensity for performative expressions and a deep sense of empathy.

Exploring the concept of action within the realm of visual arts, we shift our focus to the collaborative endeavors of the multifaceted artist Alex Mlynarčík. In 1971, the Day of Joy - If All the Trains was created and marked a significant occasion—the cessation of operations of the forest railway in Zakamenne, Orava. This meticulously orchestrated event served as a dynamic, internationally resonant experience. One cannot help but consider the profound connection between life and art present in this work. Acclaimed filmmaker Dušan Hanák fully embraced and internalized the kaleidoscopic and almost folk-like nature of this "festival." Through a skillful blend of documentary and archival footage, he crafted a film documentary capturing the essence of the Day of Joy event. By juxtaposing the train and everyday life with static images, such as photographs, drawings, newspaper documents, and an array of quotations, individuals adorned in authentic costumes forged a remarkable symbolic metaphor of life, motion, time, and era. The cinematic essence of organic eclecticism found parallels with the French New Wave film movement (such as Godard), while the musical dimension, crafted by composer Ilja Zeljenka, holds a significant position within the film (Rusnáková, 2006). It is not without reason that we confidently assert that such a comprehensive and truly monumental achievement could only have come into existence during a specific era.

Affiliation

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PŘIPRAVENOST UČITELŮ K PRÁCI S JINAKOSTÍ

TEACHERS' READINESS TO WORK WITH OTHERNESS

Helena Vomáčková, Andrea Rotsteinová

Abstrakt

Škola a její prostředí mají přispívat k maximálnímu rozvoji dispozic každého žáka, což předpokládá akceptaci jejich jinakosti učiteli, profesionální didaktickou dovednost ale zejména ochotu vyučujících s jinakostí žáků pracovat. Ani jedno ani druhé není v povinném vzdělávání ČR zcela běžné, neboť u učitelů vyžaduje překonat osobní lenost či nesprávné stereotypy a vkládat do příprav a výuky větší díl práce. Předkládaný příspěvek seznamuje s výsledky sondy, která byla v tomto kontextu realizována na konci roku 2022.

Klíčová slova: *rozvoj dispozic žáků, jinakost žáků, přístupy učitelů, ochota přidělávat si práci, výsledky výzkumné sondy*

Abstract

The school and its environment should contribute to the maximum development of the dispositions of each pupil, which presupposes acceptance of their otherness by the teachers, professional didactic skills, but especially the teachers' willingness to work with the pupils' otherness. Neither one nor the other is quite common in compulsory education in the Czech Republic, as it requires teachers to overcome reluctance or incorrect stereotypes and put more work into preparation and teaching. The present contribution introduces the results of the probe, which was carried out in this context at the end of 2022.

Key words: *development of pupils' dispositions, pupils' otherness, teachers' approaches, willingness to add work, results of the research probe*

1 VHLED DO PROBLEMATIKY

Tendenční chování k odlišnosti druhých osob je historicky zmapováno a řada autorů ho obdobně strukturuje (Zilcher, Svoboda, 2019; Jesenský, 2000; Lechta, 2010) jako represivní, zotročovací, charitativní, humanistické, rehabilitační či socializační. Časově ani prostorově nelze označit některé z uvedených tendencí za překonané, neboť s prvky některých z nich se lze běžně setkat i v současnosti. Tomu odpovídají kategorie přístupů k lidské jinakosti (Linton, 1998) odstupňované od zavržení a sociálního vyloučení, přes ekonomický a sociální problém, tolerantní utilitu, limitovanou participaci, liberální přístup až po aktivní participaci. Škola by měla v tomto ohledu představovat bezpečné místo pro žáky odlišující se nějakým způsobem od většinové populace (Vítková, Bartoňová, Mühlpachr, 2007). Základním předpokladem k tomu je nepochybně láskyplný a chápající přístup učitele-profesionála.

Povinné vzdělávání a v něm působící učitelé představují pro rozvoj dítěte zásadní životní zkušenost (Helus, 2009). Její charakter, průběh a prožitky zpravidla provázejí jedince celým dalším životem. Platí to pro běžné intaktní žáky (Mareš, 2013) a dvojnásob pro žáky se speciálními vzdělávacími potřebami (Pipeková et al., 2010). Učitel je tím nejdůležitějším faktorem, který rozhoduje o tom, zda tato zkušenost bude pozitivní, neutrální či negativní. Jeho kompetence a praktické dovednosti rozhodují o tom, jak se jednotliví žáci budou ve škole cítit, jak budou spolupracovat, komunikovat, hodnotit se, rozvíjet se, růst apod. (Čapek, 2019). Kompetence učitelů ve vztahu k různorodosti žáků a odlišnosti jejich potřeb lze obecně

chápat jako „inkluzivní“ kompetence, které jsou charakterizované v Profilu inkluzivních učitelů (European Agency for Development in Special Needs Education, 2012). V tomto Profilu se objevují čtyři základní dimenze, v rámci nichž jsou vždy vymezeny dvě klíčové kompetence inkluzivního učitele:

- Dimenze A: oceňování jinakosti žáků, která je vnímána jako jejich přednost, nikoli nedostatek
  - Kompetence A1 – učitel přijímá odlišnosti žáků
  - Kompetence A2 – učitel zná koncepci inkluzivního vzdělávání a aktivně ji prosazuje
- Dimenze B: podporování všech žáků a očekávání úspěchu u všech žáků
  - Kompetence B1 – učitel podněcuje vědecké, praktické, sociální a emocionální učení u všech svých žáků
  - Kompetence B2 – učitel vyučuje efektivně v heterogenních kolektivech
- Dimenze C: týmová práce a kooperace jsou pro všechny učitele zásadními kroky při vedení žáků ke spolupráci
  - Kompetence C1 – učitel pracuje s rodiči a rodinami
  - Kompetence C2 – učitel pracuje s širokým spektrem dalších pedagogických pracovníků.
- Dimenze D: učitelé jsou odpovědni za svůj celoživotní osobnostně profesní rozvoj
  - Kompetence D1 – učitelé jsou schopni a ochotni reflektovat svůj aktuální stav poznání
  - Kompetence D2 – učitelé jsou schopni a ochotni aktualizovat trvale svůj stav znalostí a dovedností.

Ačkoli profesní znalosti každého učitele jsou k výkonu pedagogické praxe důležité, daleko důležitější je jeho psychologická, speciálně pedagogická případně terapeutická dovednost, s níž by ve všech žácích dokázal potencovat jejich silné stránky a eliminovat či kompenzovat bariéry v jejich vzdělávání (Helus, 2015). Jde přitom jak o bariéry vnější, např. stigmatizace žáků s postižením (Štech, 2018), tak zejména o bariéry vnitřní, např. agrese žáka vůči spolužákům, která ale může být „voláním o pomoc“. Příspěvek se zaměřuje právě na vybrané didaktické a sociální dovednosti učitelů a komentuje výsledky realizovaného šetření.

2 METODOLOGIE

Šetření proběhlo v roce 2022 na 26 spolupracujících ZŠ a zúčastnilo se ho 162 respondentů (32 % představovali učitelé na 1. stupni ZŠ, 45 % učitelé na 2. stupni ZŠ, 8 % metodiků prevence, 6 % speciálních pedagogů, 5 % výchovných poradců, 4 % ředitelů či jejich zástupců). Všichni zapojení respondenti vyjadřovali své stanovisko v rámci šesti příběhů k prezentovaným situacím na šestistupňové Likertově škále od hodnoty 1 (absolutní ztotožnění), až po hodnotu 6 (absolutní odmítnutí). Ve variantních vyjádřeních učitelů k prvním třem situačním příběhům se promítl jejich vztah k individualizaci výuky z hlediska jinakosti žáka, ale též jejich didaktická dovednost a ochota přidělávat si práci. Další tři příběhy cílily na sociální dovednosti učitelů. Řešení každého příběhu vždy nabízelo několik variant, které se odlišovaly úrovní proinkluzivity, a v nichž každý respondent pomocí likertovy škály vyjadřoval míru svého ztotožnění se či odmítnutí nabízeného variantního řešení.

1. Řešení prvního příběhu (4. třída ZŠ: Downův syndrom) nabízelo šest variant, přičemž učitel vyjadřoval souhlasem s variantou:
   a) + b) ochotu vytvářet dvojí přípravy, tedy přidělávat si práci za účelem diferenciace a individualizace ve výuce,
   c) + d) snahu nepřidělávat si práci, ale vstřícnost reorganizovat výuku, příp. hodnocení,
   e) + f) tendenci zbavovat se takových žáků.

2. Řešení druhého příběhu (5. třída ZŠ: Demotivace Tomáše pro neúspěch) nabízelo též šest variant, přičemž učitel vyjadřoval souhlasem s variantou:
   a) + f) preferenci normativního a výkonového hodnocení pro všechny žáky ve třídě,
   b) + c) + d) vstřícnost reorganizovat výuku a změnit přístup k hodnocení, aby nedocházelo k demotivaci žáků,
   e) tendenci zbavovat se takových žáků.
3. Řešení třetího příběhu (4. třída ZŠ: Soutěžní hry) nabízelo pět variant, přičemž učitel vyjadřoval souhlasem s variantou:
   a) neochotu měnit soutěžní styl výuky, kdy se menšina žáků (20 %) musí přizpůsobit většině,
   b) + c) určitou reflexi nevhodnosti soutěže a jejich částečné omezení ve výuce,
   d) + e) vstřícnost reorganizovat soutěžní styl výuky tak, že „vyhraje“ každý, kdo odvede práci dle nastavených pravidel, např. celá skupina
4. Řešení čtvrtého příběhu (5. třída ZŠ: Důsledky poruchy štítné žlázy) nabízelo pět variant, přičemž učitel vyjadřoval souhlasem s variantou:
   a) + b) snahu převést řešení posměchu žáků vůči nemocné spolužačce na jinou osobu,
   c) + e) rozhodnutí řešit problém jednostranně, tj. buď jen se třídou bez přítomnosti postižené spolužačky, nebo individuálním pohovorem s nemocnou spolužačkou,
   d) ochotu řešit problém formou opakovaných komunitních kruhů se všemi žáky ve třídě.
5. Řešení pátého příběhu (3. třída ZŠ: Nepozornost, roztěkanost, drzost, šaškování) nabízelo čtyři varianty, přičemž učitel vyjadřoval souhlasem s variantou:
   a) + b) preferenci sankcí za nevhodné chování,
   c) + d) snahu spojit síly s třetími osobami (rodiče, výchovný poradce) ke zvládnutí nestandardních reakcí žáka.
6. Řešení šestého příběhu (9. třída ZŠ: Budoucnost Romské žákyně) nabízelo čtyři varianty, přičemž učitel vyjadřoval souhlasem s variantou:
   a) + d) preferenci řešit ofenzivně otázku budoucnosti Romské žákyně ve prospěch jejího dalšího rozvoje spolu s třetími osobami a za pomoci konkrétní finanční podpory,
   b) + c) preferenci řešit formálně situaci o budoucnosti Romské žákyně v neprospěch jejího dalšího rozvoje (podřízení se tlaku matky, na kterou „škola nedosáhne“).

Data vyjádřená bodovým ziskem byla zpracována pomocí relativních četností a vynesena do grafů, viz dále část Interpretace výsledků a diskuse.

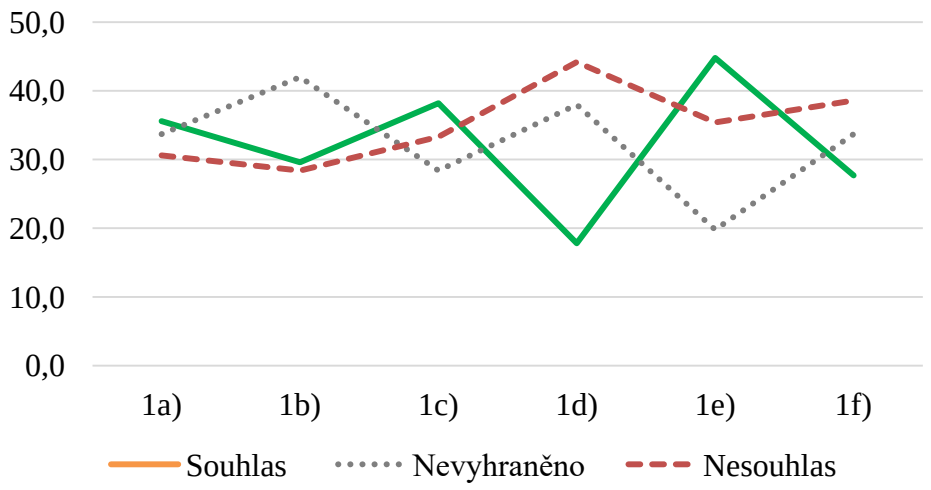
3 INTERPRETACE VÝSLEDKŮ A DISKUSE

Pro přehlednější uchopení dosažených zjištění jsou příběhy a varianty jejich řešení komentovány jako součtové hodnoty relativních zastoupení převažujícího souhlasu (hodnocení na škále 1+2), nevyhraněného průměru (hodnocení na škále 3+4) převažujícího zamítnutí (hodnocení na škále 5+6). Zajímavými se jevily právě největší diskrepance mezi souhlasnými a zamítavými reakcemi učitelů.

V případě prvního příběhu se jednalo především o situaci d) – viz graf 1. Jak je patrné z grafu 1, zamítavé stanovisko v situaci d) převýšilo o více než 26 procentních bodů stanovisko souhlasné: „*Učitel se rozhodne, že na tento čas bude chlapec s Downovým syndromem pracovat na stejných úkolech jako zbytek třídy, ale nebude dosahovat stejných výsledků a výstupů. Bude třeba opisovat text, ve kterém ostatní vyhledávají slovní druhy“.* Jedná se přitom o diferencovaný přístup k žákovi se zohledněním jeho vnitřních dispozic a vnějších okolností (onemocnění asistenta pedagoga) bez segregačních tendencí. Druhý největší rozdíl nastal v situaci e), kdy souhlasné stanovisko o necelých 11 % převýšilo stanovisko záporné: „*Bez přítomnosti dalšího pedagogického pracovníka nelze ve třídě aktivně pracovat. Pro školu i chlapce s Downovým syndromem by bylo lepší přeřazení do vhodného typu vzdělávání“.* V této situaci narážíme na jednu z nepodkročitelných

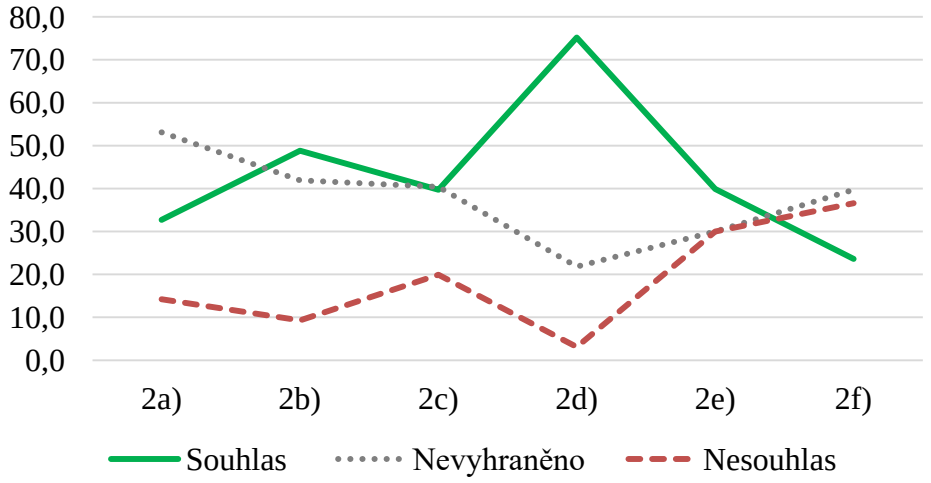
podmínek funkční inkluze (Vomáčková, 2015), s níž souvisí počet žáků ve třídě (nebyl uveden), rozsah a hloubka postižení, kompetence pedagoga a rovněž trvalost či přechodnost trvání dané situace.

Graf 1: Downův syndrom



V případě druhého příběhu byla vykázána největší diskrepance mezi souhlasným a zamítavým stanoviskem opět u situace d) – viz graf 2.

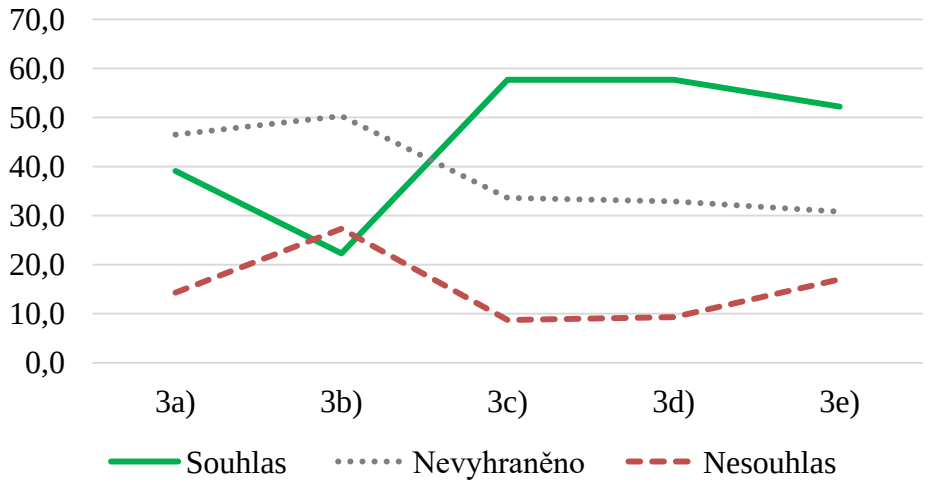
Graf 2: Demotivace Tomáše pro neúspěch



Z grafu 2 je zřejmé, že zajímavé odchylky byly zaznamenány hned ve třech situacích. V situaci d) převýšil souhlas učitelů o více než 72 procentních bodů zamítavé stanovisko: „*Učitel využije činnost Tomáše pro skupinové aktivity. Tomáš může aktivně zastávat pozice ve skupině, ve kterých svou aktivitu plně využije a napomůže skupině k dosažení cíle*“. Souhlas zde vyjadřuje flexibilitu učitele v rámci jeho proinkluzivního přístupu. Totéž lze konstatovat i v situaci b), kde dosahuje převýšení souhlasu téměř 40 %: „*Učitel průběžně nastavuje některé úkoly tak, aby výstup byl spíše závislý na aktivitě a snaze, nežli na konkrétních schopnostech v dané látce.*“ Je si ovšem třeba uvědomit, že učitel by měl vyžadovat spíše odvedenou práci, než snahu (Čapek, 2019). Rozdíly souhlasu a odmítnutí v situaci c) představovaly téměř 20 %, což je sice nejnižší odchylka ze tří uvedených, ale zato zcela zásadní z hlediska neodrazujícího přístupu učitele: „*Učitel Tomášovi přestane známkovat špatné výsledky a po domluvě s rodiči mu dá vždy zpětnou vazbu o zcela konkrétních problémech v dané látce, na kterých mohou rodiče s Tomem zapracovat*“.

V případě třetího příběhu byla zjištěna největší diskrepance mezi souhlasným a zamítavým stanoviskem u situace c) a d), a to téměř ve shodném rozsahu – viz graf 3.

Graf 3: Soutěžní hry (prvních 7 vyhrává)

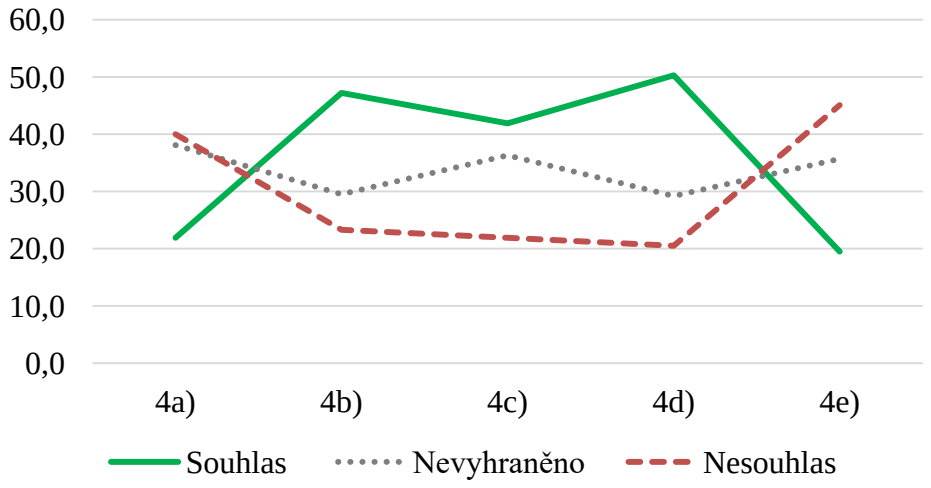


Z výše uvedeného grafu 3 vyplývá, že souhlasné stanovisko ve variantě c) a d) převýšilo zamítavé stanovisko téměř o 50 %. Varianta c) přitom kompetitivní princip pouze přenáší z individuální úrovně na skupinovou a hodnotí kvalitu zpracování úkolu, nikoli odvedenou práci žáků při plnění úkolu ve skupině, takže k této variantě z hlediska inkluze lze přistupovat spíše skepticky: „*Učitel se rozhodne soutěžní hry upravit tak, že žáci již nesoupeří individuálně, ale ve vytvořených skupinách, kde má každý žák danou roli (úkol) a první dvě skupiny, které úkol splní v požadované kvalitě, vyhrávají*“. Poněkud jiná je situace ve variantě d), kterou je možno považovat za proinkluzivní, neboť vyžaduje po každé skupině žáků splnění zadání bez ohledu na kvalitu: „*Vyučující nastaví pro soutěžní hry nové pravidlo: tentokráte nebude vyhrávat prvních sedm žáků, nýbrž nastaví kritérium pro všechny (např. časový limit a výpočet 8/10 příkladů) a kdo toto kritérium překoná, tak vyhrává*“.

V případě čtvrtého příběhu byla vykázána největší diskrepance mezi souhlasným a zamítavým stanoviskem ve variantě d) a e) – viz graf 4.

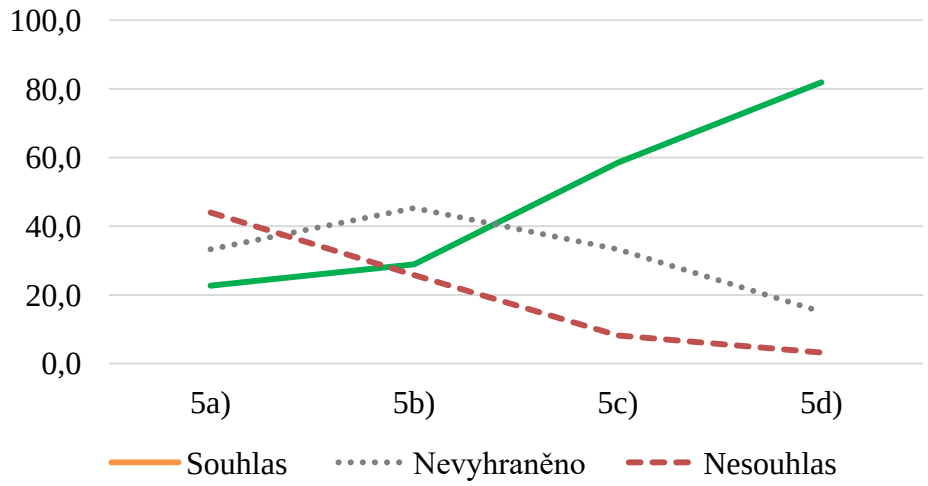
Graf 4 znázorňuje největší souhlas respondentů (50 %) s řešením ve variantě d), které lze považovat z hlediska otevřeného a správného přístupu k formování třídního kolektivu za proinkluzivně žádoucí: „*Učitel nabídne Aničce možnost otevřeně probrat její situaci v rámci třídnické hodiny a dopředu prodiskutují, jak se může povídání vyvíjet. Když souhlasí, uspořádá ve třídě komunitní kruh a nechá Aničku promluvit o jejím onemocnění i o tom, jak se ve třídě cítí. Diskuse je pro děti velmi náročná, sdělují Aničce, že jim vadí některé její projevy a zápach. Zaznívají i komentáře o tom, že děti mrzí, že se Aničce posmívaly. Učitel nabídne, že setkání s diskusí o vztazích ve třídě budou pravidelná a o všech důležitých tématech se bude otevřeně mluvit*“. Stejně proinklutivně žádoucí se jeví zamítnutí (45 %) varianty e), neboť neřeší problém žákyně a nechává ji bez pomoci: „*Učitel si promluví s Aničkou a přesvědčuje ji, že si z posměchu nemá vůbec nic dělat, protože děti prostě jsou někdy zlé. Anička se musí nad takové hloupé projevy povznést a neměla by z toho být smutná. Nabídne, že kdyby si kdykoliv chtěla promluvit, může zase přijít*“.

Graf 4: Důsledky poruchy štítné žlázy



V případě pátého příběhu byla vykázána největší diskrepance mezi souhlasným a zamítavým stanoviskem ve variantě c) a d) – viz graf 5.

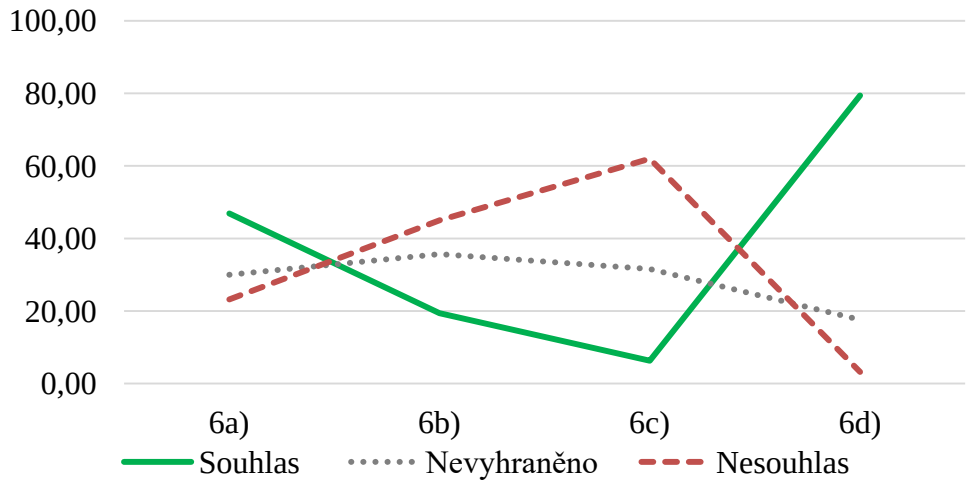
Graf 5: Nepozornost, roztěkanost, drzost, šaškování



Jak graf 5 potvrzuje, většina respondentů vyjádřila svůj souhlas s variantou c) (59 %): „*Učitel se domluví s výchovným poradcem na škole, jestli by si „drzého chlapce“ nemohl občas vzít o svých volných hodinách a hovořit s ním o jeho projevech, proč se tak chová. Ve škole je krátce a toto chování by měl řešit právě výchovný poradce*“ a s variantou d) (82 %): „*Učitel informuje rodiče o situaci a doporučí Patrika k diagnostice na poruchu pozornosti a hyperaktivitu, což z jeho chování vyplývá*“. Oba postupy směřují k využití širších kompetencí specialistů, než je tomu v současné době u učitelů a lze je hodnotit jako cestu inkluzivně správným směrem.

V případě šestého příběhu byla vykázána největší diskrepance mezi souhlasným a zamítavým stanoviskem ve variantě c) – viz graf 6.

Graf 6: Budoucnost Romské žákyně



V grafu 6 je jednoznačně vyjádřen proinkluzivní žádoucí nesouhlas s variantou c), která neprospívá rozvoji romské žákyně (62 %): „*Učitelka žákyni vysvětlí, že postup matky musí pochopit. Je doma na všechno sama a v takovém případě by žákyně měla rodině pomoci a nenásledovat příkladu otce. Rodina je samozřejmě nejdůležitější. Žákyně může úspěšně dokončit učební obor, a pokud budou v budoucnu podmínky lepší, může si vzdělání kdykoliv doplnit*“ a současně ztotožnění se s variantou d), která otvírá romské žákyni dveře k lepší budoucnosti: „*Učitelka po dohodě s žákyní uspořádá společné setkání s ní i s matkou. Pokusí se dosáhnout dohody a společně s žákyní rozptýlit matčiny obavy. Nabídne podporu rodiny prostřednictvím aktivit místní neziskové organizace v době nepřítomnosti žákyně doma. Po tom, co se žákyně na střední škole adaptuje, může se pokusit o dohodu o individuálním studijním plánu*“.

4 ZÁVĚR

Příspěvek upozorňuje na ošidnost rozhodování v každodenních školních situacích, které v rámci inkluze pro všechny současně vyžadují supportivní výuku pedagoga (Čapek, 2022), a to zejména cestou diferencovaného a individuálního přístupu k jinakým žákům, a které současně vytvářejí tlak na učitele z hlediska zajištění odpovídajícího výkonu žáků. První tři příběhy ověřovaly didaktickou zdatnost učitelů a odehrávaly se na 1. st. ZŠ, kde by hlavním úkolem učitelů mělo být neznechutit žáky, neodradit je od poznávání nového a neznámého. Zdá se, že je to v přímém rozporu s dnešním převažujícím výkonovým zaměřením škol na dokonalost, perfektní provedení a stoprocentní výkon žáka. Tato situace se zrcadlí v prvním příběhu, který vypovídá o prioritách učitele a jeho volbě mezi výkonovým a supportivním pojetím výuky. Druhý příběh promítá metodickou dovednost učitele do schopnosti motivovat žáky, kterým se zrovna nedaří a třetí příběh konfrontuje didaktickou zdatnost učitele z hlediska preference výukových stylů, konkrétně při upozaďování stylu kompetitivního ve prospěch kooperativního či individuálního.

Další tři příběhy se zaměřovaly na sociální dovednosti učitelů a s výjimkou posledního se opět odehrávaly na 1. st. ZŠ. Čtvrtý příběh demonstroval sociální zdatnost učitele při řešení neoblíbenosti zdravotně znevýhodněné žákyně ve třídě právě v důsledku symptomů jejího zdravotního stavu. Pátý příběh souvisel s problémovým chováním třeťáka, jehož vtažení do učebního procesu naráželo na vztahovou rovinu žák-žák a žák-učitel. Šestý příběh se jako jediný odehrával v posledním ročníku povinné školní docházky a ověřoval sociální dovednost učitele v kontextu kulturních odlišností romského etnika. Všechny uvedené situační příběhy

dokladovaly, že učitel nemůže být jen v roli hybatele kognitivního rozvoje žáků, ale rovnocenně i hybatelem jejich sociálního a emočního rozvoje.

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RODINNÁ VYPRÁVĚNÍ V KONTEXTU EKOLOGICKÝCH TEORIÍ

FAMILY NARRATIVES IN THE CONTEXT OF ECOLOGICAL THEORIES

Tereza Rynešová, Marek Preiss

Abstrakt

Text se soustředí na porozumění různým typům rodinných vyprávění a jejich vlivu na vývoj jedince. K tomuto účelu byla provedena částečná analýza tří ekologických teorií vývoje: ekologického modelu lidského vývoje, narativního modelu self a ekologického modelu rodinných vyprávění. Text popisuje tři hlavní typy rodinných vyprávění (sdílená rodinná vyprávění, komunikační rodinná vyprávění a širší rodinnou historii) a také oblasti, na které mají ve vývoji jedince vliv. Sdílená rodinná vyprávění jsou klíčová pro rozvoj narativních dovedností, formování narativní identity a pro udržování sociálních a emočních vazeb v rámci rodiny. Komunikační rodinná vyprávění mají vliv na budování individuální identity a generativitu a podobně jako širší rodinná historie, přispívají k přenosu rodinných hodnot, rodinné identity i paměti.

Klíčová slova: *rodinná vyprávění, mezigenerační rodinná vyprávění, narativní identita*

Abstract

The text focuses on understanding different types of family narratives and their influence on individual development. A partial analysis of three ecological theories of development (ecological systems theory, narrative model of self and ecological model of family narratives) was carried out. The text describes the three main types of family narratives (shared family narratives, communicative family narratives, and broader family history) as well as the areas they influence in the development of the individual. Shared family narratives are crucial for the development of narrative skills, the formation of narrative identity, and the maintenance of social and emotional bonds within the family. Communicative family narratives have an impact on building individual identity and generativity and, like broader family history, contribute to the transmission of family values, family identity and memory.

Key words: *family narratives, intergenerational family narratives, narrative identity*

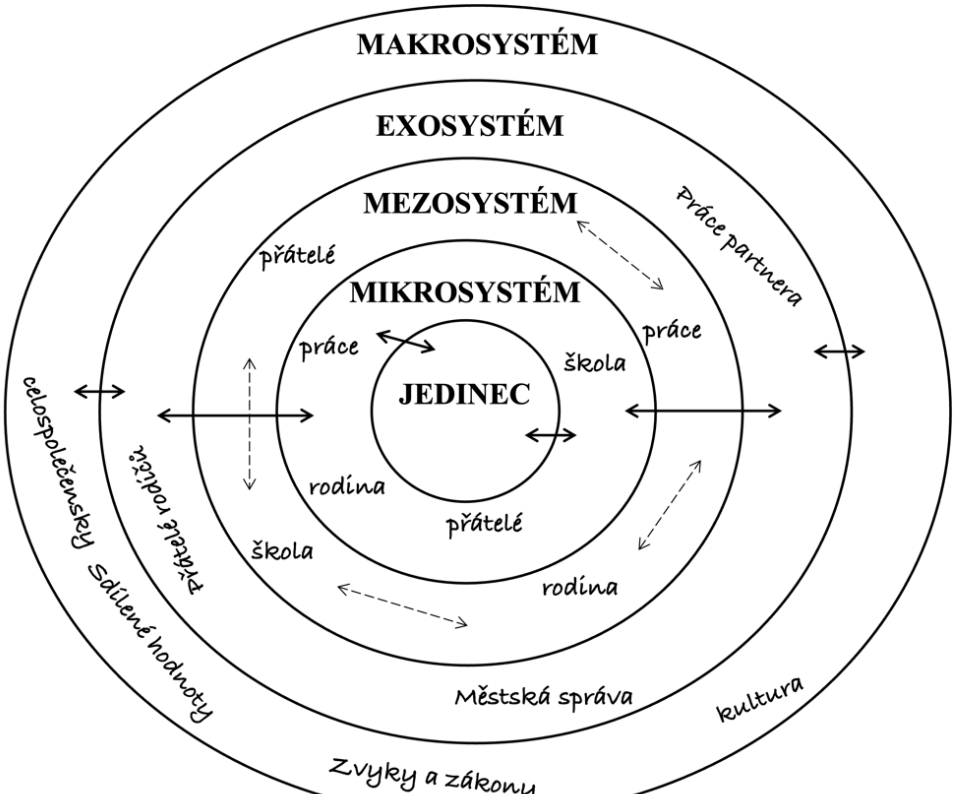
1 ÚVOD

Hlavní myšlenkou ekologické perspektivy je, že člověka nemůžeme oddělit od prostředí, v němž žije. Tento přístup vznikl v 60. a 70. letech minulého století v návaznosti na nedostatek pozornosti věnovaný širšímu sociálnímu prostředí, na rozdíl např. od dyadických vztahů v rodině či intrapsychických procesů jedince (Darling, 2007). Bronfenbrenner (1979) jako první upozornil na to, že vývoj jedince je zasazen do rozšiřujícího se okruhu prostředí a vlivů od nejbližšího okolí jedince až po nejširší vlivy kultury a společnosti. V této perspektivě není rodina jen suma jednotlivců či dyadických vztahů, ale sama o sobě je jednotkou, která významně ovlivňuje životy všech členů rodiny (Pratt & Fiese, 2004). Hraje klíčovou roli v socializaci jedince, protože slouží jako prostředník mezi jednotlivcem a širším kulturním kontextem. Rodina je také místem, kde se odehrává velká část individuálního vývoje, a to nejen v dětství a dospívání, ale i v dospělosti a stáří (Merrill et al., 2019). Vztahy mezi příbuznými, jsou složité a mnohdy problematické, ale jsou také celoživotní. Pouta mezi

mnohými rodinnými členy nejsou dobrovolná, a tedy se nedají snadno přerušit. Rodina je místem setkávání několika generací a rodinné příběhy jsou jedním ze způsobů, jak se jednotlivci napříč generacemi propojují a vytvářejí pocit rodinné sounáležitosti, identity a historie (Sobotková, 2017). Pratt a Fiese (2004) vymezují tři vlastnosti rodinných vyprávění. Za prvé vyprávění je akt, jehož prostřednictvím se děti učí, jak se stát kompetentními vypravěči. Za druhé příběhy mají konkrétní sdělení, takže děti i dospělí z nich mohou získat cenné informace, které jsou často v souladu s kulturními zvyklostmi. Za třetí příběhy pomáhají při vytváření osobní identity, která se vyvíjí v průběhu času a integruje prožité zkušenosti a do smysluplných celků. Pro hlubší porozumění tématu rodinných vyprávění a jejich vlivu na jedince bude nejprve představen ekologický model lidského vývoje. Na něj naváže narativní model self, který se zaměřuje na to, jak se jednotlivé ekologické úrovně podílejí na utváření osobní identity. Konečně způsob, jakým se různé ekologické úrovně podílejí na utváření rodinných příběhů, bude patrný z ekologického modelu rodinných vyprávění.

2 EKOLOGICKÝ MODEL LIDSKÉHO VÝVOJE

Ekologický model lidského vývoje, jehož autorem je již zmiňovaný Urie Bronfenbrenner (1979), popisuje vývoj jedince v kontextu vztahů a interakcí, které se vzájemně ovlivňují na několika úrovních nejbližšího i vzdáleného okolí. Na člověka nahlíží v kontextu prostředí, ve kterém žije, pracuje, vzdělává se či tráví volný čas. Autor této teorie chápe prostředí jako systém, který se skládá ze čtyř propojených a na sebe vzájemně působících subsystémů: mikrosystému, mezosystému, exosystému a makrosystému.



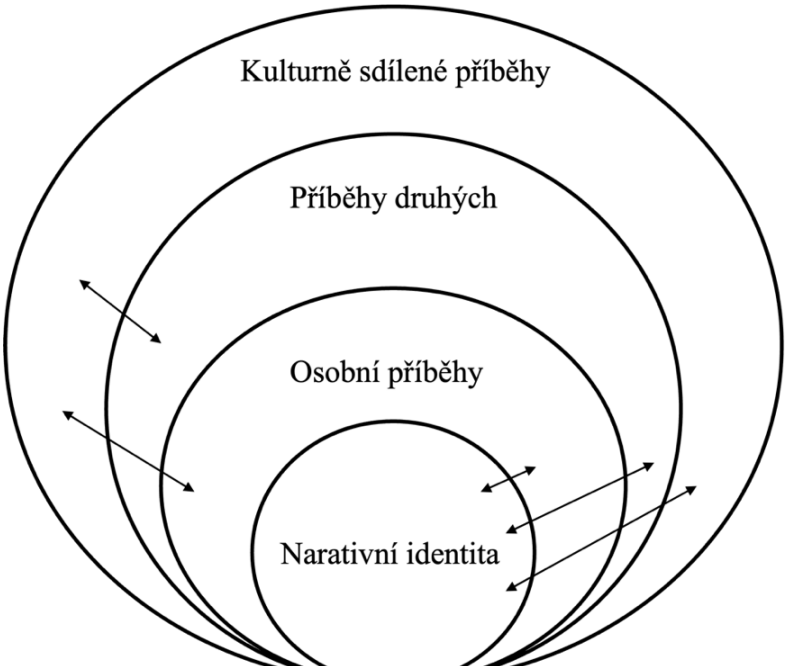
Obrázek 1: Ekologický model lidského vývoje (přepracováno podle Lemme, 2002).

Jak je patrné z obrázku 1, mikrosystém představuje nejbližší okolí jedince, tvoří jej blízké osoby a objekty, se kterými jedinec vstupuje do bezprostřední interakce. Základní součásti mikrosystému jsou vztahy, aktivity a role, na kterých se jedinec přímo podílí (Bronfenbrenner

1979). Prvním a také nejvýznamnějším kontextem vývoje jedince je základní rodina, postupně se tento okruh rozšiřuje o širší rodinu, ale také školní třídu, okruh přátel a pracovní prostředí (Bronfenbrenner & Morris, 1998). Člověk je v průběhu života vystaven různým prostředím, která se navzájem ovlivňují. Mezosystém je složený z několika mikrosystémů, zachycuje jejich vztahy a vzájemné působení. Exosystémem tvoří vzdálené prostředí, v němž se jedinec fyzicky nenachází a nemá v něm žádnou aktivní roli, ale dění v něm ovlivňuje jednotlivé mikrosystémy a tím i jedince samotného. Patří sem např. práce rodičů, ale i orgány státní zprávy. Nejkrajnější úrovní systému je makrosystém, který je tvořen z hodnot, historických událostí, zákonů a zvyklostí dané společnosti a kultury, např. víra, právní systém, celospolečenské ideologie (Bronfenbrenner 1979).

3 NARATIVNÍ MODEL SELF

Narativní model self, který se zaměřuje vývoj narativní identity, vychází z myšlenky, že identita jednotlivce není pouze výsledkem intrapsychického procesu, ale a je utvářena skrze vztahy a interakce s okolím a je zakotvena v sociálním, kulturním a historickém kontextu. Nejen, že každý jedinec sám sebe definuje prostřednictvím vztahů ke svému okolí, ale zároveň i okolí definuje jeho, a to skrze příběhy a vyprávění. Člověk se stává součástí vyprávění druhých a tato vyprávění se podílejí na vytváření jeho identity. Vliv mají nejen příběhy, které o jedinci přímo pojednávají, ale i příběhy, které druzí vyprávějí o sobě samých, a dokonce i příběhy, které se z nejrůznějších důvodů nesdílejí (McLean, 2016). Stejně jako u Bronfenbrennerova modelu, nejsou ani zde mezi jednotlivými složkami modelu pevně dané hranice, příběhy se naopak navzájem ovlivňují a mezi úrovněmi volně prostupují – např. z osobního příběhu se může stát příběh druhých i kulturně sdílený (viz obrázek 2).



Obrázek 2: Narativní model self (přepracováno podle McLean, 2016).

V centru tohoto modelu se nachází narativní identita, kterou McAdams (2018) definuje jako internalizovaný a neustále se vyvíjející koncept integrující rekonstruovanou minulost, vnímanou přítomnost a představovanou budoucnost. Identita je vytvářena integrací životních zkušeností do smysluplného a celistvého osobního příběhu. Jedinec tedy své já neobjevuje, ale spíše jej neustále konstruuje podle toho, jak skládá a přestavuje své životní zkušenosti tak, aby vytvořil nový a smysluplný celek (McAdams, 2001). Prostřednictvím narativní identity

člověk rozumí tomu, kdo je, jak se stal tím, kým je a kým si myslí, že by v budoucnu mohl být (McAdams, 2018). Na druhé úrovni modelu se nacházejí osobní příběhy, které jsou těsně spjaty s identitou jedince (McLean, 2016). Vztah mezi těmito dvěma koncepty by se dal označit za reciproční – „Já je vytvářeno příběhy a zároveň příběhy jsou vytvářeny já.“ (McLean et al., 2007). Osobní zkušenosti sdílí jedinec s okolím formou příběhů. V tomto procesu jsou příběhy vystavovány řadě sociálních a diskurzivních vlivů. Dochází k jejich opětovnému zpracování, upravování a reinterpretování. Podrobnosti konkrétních událostí obsažených v příbězích jsou v sociálním kontextu překračovány, dochází k vyvozování obecných významů, na základě kterých je postupně budována narativní identita jedince (McAdams & McLean, 2013). Zvláště významní jsou v tomto procesu lidé z nejbližšího okolí, jež poskytují důležitá vodítka pro to, zda se daný výklad začlení do porozumění sobě samému či nikoli (McLean, 2016).

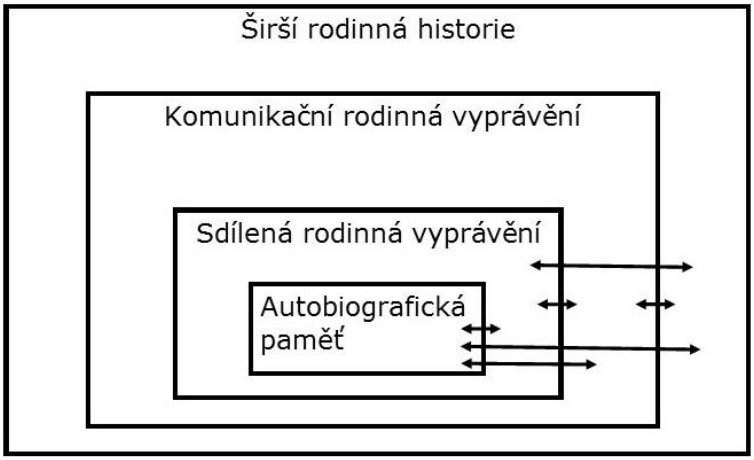
Příběhy vytvořené z osobních zkušeností však nestačí k vytvoření celistvé identity (McAdams & McLean, 2013). Sami sebe totiž vždy popisujeme ve vztahu k členstvím v různých skupinách (Hewstone, Stroebe, 2006). Pro komplexnější porozumění sobě samému je proto potřeba do životního příběhu zařadit také vyprávění druhých, které tvoří třetí úroveň modelu (McLean, 2016). Jsou to zejména příběhy rodinných příslušníků (či jiných významných druhých), které se stávají součástí osobní identity. Rodina a rodinné příběhy provází člověka jeho prvními a mnohdy nejvýznamnějšími životními zkušenostmi. Především vyprávění, která se často opakují, mohou vést k vyvození určitého závěru o sobě vyplývajícího z příslušnosti k dané rodině (McAdams & McLean, 2013). Nezáleží ani na tom, jaký postoj jedinec k příběhům zaujme – ať už je bezvýhradně přijme, upraví nebo se vůči nim postaví. Jejich význam tkví v tom, že jej provázejí prvními zkušenostmi s formováním identity. Do narativní identity se samozřejmě vlévají i příběhy významných druhých mimo rodinu, především blízkých přátel, partnerů, autorit či spolupracovníků. Nejvýznamnější se však v procesu porozumění sobě samému jeví právě příběhy rodinné (McLean, 2016).

Na poslední úrovni narativního modelu self se nachází příběhy kulturně sdílené. Patří mezi ně např. pohádky, náboženské příběhy a historické události (McLean, 2016). Tyto příběhy slouží jako předlohy a exemplární modely lidského chování, informují o tom, co je v lidském životě důležité, nabízejí prostředky k porozumění světu a k uspořádání vlastních zkušeností do smysluplného celku (Habermas, T., & Bluck, S. 2000).

Za stěžejní termín v narativním modelu self by se dal označit příběh. Na prvním stupni to je příběh životní, na druhém stupni příběh o osobní zkušenosti, na třetím příběh druhých a na stupni čtvrtém příběh kulturní. I přesto, že připouští významný vliv rodiny a rodinných příslušníku na utváření životního příběhu a zmiňuje i způsob, jakým je tento vliv uplatňován, tématu rodinných příběhů se podrobněji nevěnuje. Pro hlubší porozumění tématu rodinných příběhů proto bude představen ekologický model rodinných vyprávění.

4 EKOLOGICKÝ MODEL RODINNÝCH VYPRÁVĚNÍ

Ekologický model rodinných vyprávění (viz obrázek 3) znázorňuje různé typy rodinných vyprávění a jejich vzájemnou interakci. Obousměrné šipky spojující všechny úrovně systému znázorňují, že jednotlivé systémy jsou v neustálé a dynamické interakci. Vidíme, že individuální autobiografické vzpomínky jsou utvářeny v obousměrné interakci s rodinnými příběhy o sdílených zkušenostech, s komunikačními vyprávěními a také s širší rodinnou historií. Na makroúrovni jsou rodinné příběhy obohacovány o rodinnou historii, která je sama zakotvena v kultuře a historii své společnosti a doby (Fivush & Merrill 2016).



Obrázek 3: Ekologický model rodinných vyprávění (přepracováno podle Fivush & Merrill, 2016).

4.1 Autobiografická paměť

Na první úrovni se nachází autobiografická paměť, kterou lze definovat jako paměť na události vlastního života (Conway & Rubin, 1993). Autobiografická paměť umožňuje vytvoření vlastní identity a je podstatná pro vědomí životní kontinuity, tedy toho, že je jedinec stále stejným člověkem v průběhu času (Berntsen & Rubin, 2012). Reprezentace v autobiografické paměti navíc spojují prožitou minulost s přítomností i s budoucností. Nejde jen o záznam toho, co jsem v minulosti dělal, autobiografická paměť v sobě nese i to, co si o proběhlé události myslím nyní a jaké plány si na základě toho udělám do budoucna (Conway, 2005). Fivush et al. (2004) zdůrazňují silný vliv kultury a sociálního prostředí na vývoj autobiografické paměti. Důležitý je především rozvoj narativních schopností, jelikož většina vzpomínek v autobiografické paměti je narativního charakteru (Čermák, 2004, Fivush et al., 2004). Tyto schopnosti se rozvíjejí v kontextu společného vzpomínání dětí a dospělých (nejčastěji rodičů). Způsob, jakým rodiče s dětmi sdílí společně prožité zážitky, zásadně ovlivňuje schopnost jejich dětí organizovat osobní vzpomínky a tvořit vlastní životní příběh. Konkrétní styl vzpomínání rodičů je pochopitelně silně ovlivněn kulturou a sociálním prostředím, ale také pohlavím rodiče i dítěte a osobností rodiče. Individuální vývoj autobiografické paměti tedy neprobíhá jen na intrapsychické úrovni, je silně ovlivněn prostředím (Fivush, 2011).

4.2 Sdílená rodinná vyprávění

Na druhé úrovni se nachází sdílená rodinná vyprávění. Jsou to příběhy vyprávěné o zkušenostech, které členové rodiny společně prožili a společně si o nich také vyprávějí (např. rodiče s dětmi vzpomínají na rodinnou dovolenou u moře). Při vyprávění se všichni členové nějakým způsobem podílejí na rekonstrukci příběhu – rodiče i děti tak minulé události „spolukonstruují“ (Fivush & Merrill 2016). Děti se učí formy i funkce autobiografického vyprávění v interakcích s rodiči. Rozvoj narativních dovedností dětí úzce souvisí se způsobem, jakým je jejich rodiče zapojují do společného vzpomínání (Fivush 2013). Jako významný faktor při diferenciaci jednotlivých stylů se ukázala četnost společného vzpomínání, ale také množství detailů poskytovaných rodičem, vysvětlení příčin a následků prožívaných událostí a jejich emoční zhodnocení, podpora a potvrzení účasti dětí na vzpomínání a také poskytování zpětné vazby (Fivush 2013, Farrant & Reese, 2000, Fivush et

al., 2004). V rámci rodin mohou existovat významné rozdíly ve stylech společného vzpomínání – např. někde se spontánně doplňují, jinde je vyprávění moderováno jedním rodičem (více viz Fivush et. al, 2010). Sdílená rodinná vyprávění jsou významná již v raném věku, jelikož poskytují dětem základy pro rozvoj dovedností, které umožňují smysluplné vyjádření vlastních zkušeností. V období adolescence přispívají sdílená rodinná vyprávění k rozvoji narativní identity a mají také vliv na psychickou pohodu adolescentů (Fivush et al., 2011). Také se podílejí na udržování sociálních a emocionálních vazeb v rámci rodiny a na vytváření rodinné historie (Fivush et al., 2004, Fivush & Merrill 2016).

4.3 Komunikační rodinná vyprávění

Na třetí úrovni ekologického modelu rodinných vyprávění se nacházejí komunikační rodinná vyprávění, což jsou příběhy, které přímo prožili pouze někteří členové rodiny a vypráví o nich ostatním členům. Patří sem dva druhy vyprávění. První z nich jsou příběhu typu „*Já jsem dnes…*“ („*Today I…*“), které vypovídají o aktuálně prožívaných každodenních událostech. Patří sem příběhy, které děti vyprávějí rodičům o svém dni ve škole či mimoškolních aktivitách. (Fivush & Merrill, 2016). Tyto příběhy zůstávají součástí osobních zkušeností dětí, ale mohou být přehodnoceny ve světle společného vzpomínání s ostatními členy rodiny (Peterson & McCabe, 2004). Dále se do vyprávění o každodenních událostech řadí příběhy, které dětem vypráví rodiče (či jiní dospělí členové rodiny) o tom, co se jim během dne přihodilo. Tato vyprávění přináší do mikrosystému dítěte informace ze vzdálenějších prostředí, ve kterých se sice dítě fyzicky nenachází, ale mohou na něj mít vliv prostřednictvím jeho blízkých (Fivush & Merrill, 2016). Druhým typem komunikačních rodinných vyprávění jsou mezigenerační rodinná vyprávění. Jsou to příběhy, kterými rodiče a prarodiče sdílí s dětmi či vnoučaty vlastní zkušenosti a zážitky z doby dětství, dospívání a mladé dospělosti. Jedná se o příběhy, které se typicky odehrály před narozením posluchačů nebo v době jejich raného dětství, na které si zpravidla nemohou sami pamatovat. Nemusí se týkat jen rodičů a prarodičů, ale mohou zahrnovat nejrůznější členy rodiny (Merrill & Fivush, 2016). Dospívajícím jedincům, kteří bývají zpravidla v rolích posluchačů, poskytují tyto příběhy kontext pro pochopení jejich vlastních zkušeností a pomáhají jim tak s konstrukcí identity (Merrill et al., 2019). Jedincům starších generací, kteří jsou typicky v rolích vypravěčů, zase slouží tyto příběhy jako prostředek k dosažení generativity, jež se projevuje jako péče a zájem o budoucí generace (Merrill & Fivush, 2016). Dosavadní výzkumy navíc naznačují, že mezigenerační rodinná vyprávění ovlivňují nejen psychosociální vývoj jednotlivých členů rodiny, ale že souvisí také celkovou psychickou pohodu jednotlivých členů rodiny (např. Duke et al., 2008, Fivush et al., 2011). Významná se jeví především znalost ucelených, propracovaných a emočně nabitých příběhů z dětství a dospívání předků (Fivush et al., 2011). Prostřednictvím komunikačních rodinných vyprávění dochází ke sdílení osobních konfliktů a ukázkám jejich řešení, k přenosu morálních hodnot, rodinných hodnot, rodinné identity i paměti (Merrill & Fivush, 2016; Merrill et al., 2019). Tato vyprávění také ovlivňují rozvoj narativních dovedností, jelikož se děti a dospívající při jejich poslechu učí, jak má v dané společnosti a kultuře vypadat „dobrý příběh“, např. jak jej strukturovat, aby byl pro posluchače zajímavým (Fivush & Merrill, 2016). Sdílení osobních vzpomínek a vlastní minulosti s druhými navíc podporuje a udržuje intimitu a blízkost mezi komunikujícími (Pratt & Fiese, 2004).

4.4 Širší rodinná historie

Na poslední úrovni modelu se nachází příběhy o dávné rodinné historii, které ani vypravěči, ani posluchači přímo neprožili. Patří sem vyprávění o praprarodičích a předcích rodin, které se přesunuly do rodinných mýtů, jež jsou předávány napříč generacemi. Vyprávění o rodinné historii jsou silně ovlivněna příběhy kulturně a celospolečensky sdílenými a často bývají

spojena s významnými událostmi své doby. Vyprávění o širší rodinné historii tak jedince propojuje se vzdálenějšími prostředími, kterých je součástí. (Fivush & Merrill, 2016). Při přechodu příběhů mezi generacemi může být patrná tendence k heroizaci směrem k mladším generacím – čím více se vyprávění blíží k nejmladší generaci, tím vyznívají pozitivněji. Dalším rysem proměny příběhů je jejich aktualizace na základě soudobého celospolečenského diskurzu (Švaříčková-Slabáková & Sobotková, 2018; Welzer, Moller & Tschuggnall, 2010). V průběhu předávání z generace na generaci se příběhy postupně zkracují, získávají mlhavější obrysy, vytrácí se detaily, někdy i celý kontext událostí (Halbwachs, 2020). Kromě ucelených příběhů jsou obsahem rodinné paměti také krátké, nesouvztažné útržky z hluboké minulosti rodiny. Z některých se stávají hodnoty či rodinné charakteristiky, které si rodina nese dál. Významný vliv mají tato vyprávění na transfer rodinné identity a paměti (Švaříčková-Slabáková et al., 2018).

5 SROVNÁNÍ MODELŮ

Ekologický model lidského vývoje je nejobecnější ze všech zmiňovaných modelů. Do jednotlivých subsystémů tohoto modelu se dá zařadit vše, co nějakým způsobem souvisí s existencí jedince (od lidí, přes objekty až po národní instituce). Narativní model self oproti tomu nabízí užší záběr, jelikož se věnuje výhradně lidské zkušenosti prezentované formou příběhů. Díky tomu může být zvolené téma podrobněji zkoumáno. Model se soustředí na vývoj narativní identity, ale již nezohledňuje vývoj jedince v celé jeho šíři. Ještě užší záběr je patrný u posledního představeného modelu, který se soustředí na rodinná vyprávění. Tento model nabízí srovnání různých typů rodinných vyprávění a jejich vlivů na jedince. Důležitým termínem v tomto modelu se jeví také paměť (autobiografická, rodinná). Pokud by však téma rodinných vyprávění bylo vysvětleno pouze prostřednictvím posledního modelu, mohly by uniknout některé podstatné aspekty z vývoje jedince, kterým není v modelu věnována dostatečná pozornost.

Bronfenbrenner (1979) vnímá vývoj jedince jako interakci vnějšího prostředí a jeho biologických, psychologických a behaviorálních charakteristik. Důraz klade nejen na jednotlivá prostředí, ale také na jejich vzájemný vliv. Z těchto myšlenek vychází i autorky narativního modelu self (McLean, 2016) a ekologického modelu rodinných vyprávění (Fivush & Merrill, 2016). Na rozdíl od Bronfenbrennera se ale více zaměřují na způsob, jakým jsou informace z jednotlivých systémů předávány. Upozorňují na to, že významným způsobem přenosu jsou příběhy, které poskytují lidské zkušenosti strukturu, a tedy i možnost sdílení s druhými.

Všechny modely se shodují v tom, že se jednotlivé systémy navzájem ovlivňují a že hranice mezi nimi jsou propustné. I přesto, že oba novější modely využívají původního Bronfenbrennerova rozdělení prostředí na subsystémy, jsou patrné jisté rozdíly. Dva novější modely popisují jen jeden mikrosystém (osobní vyprávění, sdílená rodinná vyprávění). Naproti tomu Bronfenbrenner zmiňuje větší počet mikrosystémů (rodina, práce, škola) a jejich vzájemný vliv popisuje v mezosystému, který pak u dvou novějších modelů zcela chybí. Je také patrný posun v tom podle čeho rozdělují jednotlivá prostředí. Bronfenbrenner se soustředí především na fyzickou vzdálenost jedince od prostředí a na míru vlivu, kterou jedinec může v daném prostředí uplatňovat. Naproti tomu narativní model self i ekologický model rodinných vyprávění zdůrazňují míru zprostředkovanosti zkušeností. Podstatou mikrosystému u narativního modelu self i ekologického modelu rodinných vyprávění jsou vlastní (bezprostřední) zkušenosti jedince bez ohledu na to, že je zažil ve vzdálenějším prostředí (např. na návštěvě u rodiče v práci). Podstatou exosystému jsou zase zprostředkované zkušenosti druhých, a to i když jsou z prostředí blízkého jedinci (např. vyprávění o tom, co se dělo na rodinné večeři, které se neúčastnil). Hlavním způsobem vyjádření i formou přenosu těchto zkušeností je příběh.

6 Závěr

Předložený text se snažil o popis různých typů rodinných vyprávění a jejich významu ve vývoji jedince. V rámci toho byla provedena částečná analýza tří ekologických teorií vývoje. Byl představen ekologický model vývoje jedince, narativní model self a ekologický model rodinných vyprávění, které mohou do značné míry přispět k pochopení různých typů rodinných vyprávění a jejich vlivu na člověka. Byly popsány tři hlavní typy rodinných vyprávění (sdílená rodinná vyprávění, komunikační rodinná vyprávění a širší rodinná historie) a také oblasti, na které mají v rámci vývoje vliv. Sdílená rodinná vyprávění jsou klíčová pro rozvoj narativních dovedností, formování narativní identity a pro udržování sociálních a emočních vazeb v rámci rodiny. Komunikační rodinná vyprávění mají vliv na budování individuální identity a generativity, přispívají k přenosu rodinných hodnot, rodinné identity i paměti, souvisí s psychickou pohodou jednotlivých členů rodiny a také podporují blízkost a intimitu v rodině. Komunikační rodinná vyprávění lze rozdělit na dva subtypy – „*Já jsem dnes…*“ vyprávění a mezigenerační rodinná vyprávění. Širší rodinná historie se podílí na předávání rodinných hodnot, paměti a identity.

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THE MEANING OF ART THERAPY FOR PEOPLE WITH ALZHEIMER'S DISEASE

Marie Bajnarová

Abstract

This paper focuses on the meaning of art therapy for people with Alzheimeir's disease (hereinafter AD). Alzheimer's association (2023) defines AD as a type of dementia that affects memory, thinking and behaviour. There is no cure for AD, but there are ways such as non-medical therapies for AD, which include art therapy accompanied by fine art and music. The goal of art therapy is to help people with AD maintain a better quality of life and find a sense of happiness, reduce anxiety and improve mood through art. The variety of artistic activites within art therapy and with its emphasis on the senses can help people with AD to express themselves more easily, as art provides opportunities for non-verbal communication and the venting of emotions. According to Crystal Ehresman (2014), the sensory experience of art therapy can be enjoyed by people with AD and can be an empowering form of rehabilitation.

Key words: *art therapy, alzheimer's disease, dementia, Willem de Kooning*

1 INTRODUCTION

AD starts slowly, with the patient's short-term memory deteriorating at first and being unable to take care of some household items. The rate of illness varies from person to person, but the sufferer has increasing difficulty expressing himself, making decisions, not completing thoughts and becoming more confused. As the disease progresses, the abilities needed to carry out daily tasks gradually deteriorate, the patient's cognitive abilities and language deteriorate, making it impossible to vent their negative emotions, making them prone to behavioural and psychological symptoms, leading to a reduced quality of life (Wang Qiu-Yue, Li Dong-Mei, 2016). The whole personality of the sufferer changes and he is unable to take care of himself in the last stages of the disease. If a person loses the ability to control his or her speech and words become an impossible means of communication, then the person is at greater risk of becoming isolated or lonely. People with AD are more vulnerable to mental health problems when their language skills prevent them from expressing emotions, then they may be plagued by anxiety or depression. In such cases, art therapy is helpful because it offers an easy way to express feelings through intuitive artistic expression. As a result, art awakens positive feelings and satisfaction. Art therapy can increase the AD patient's sense of achievement because it motivates attention, develops a sense of meaningfulness, and provides a space for free artistic expression. Ultimately, the finished artefact can make them feel useful and this gives them a sense of achievement. Patients may also experience a sense of achievement when they can create artifacts that can be shared with other participants or that will serve as a gift. For people with AD and communication impairments, the opportunity for non-verbal expression through artistic activity has a beneficial art therapy effect, allowing them to engage in collective activity, which promotes dignity and self-worth.

The text focuses on the definition of AD, the artistic expression of Willem de Kooning, a significant aspect and benefits of art therapy for a person with AD, and at the end of the paper are presented recommendations for planning art activities for clients with AD.

1.1 AD: Causes and Risk Factory, Symptoms, Prevention and Treatment

AD is a chronic brain disease. The disease always leads to dementia. The Alzheimer's Association (2023) points out that AD is a progressive disease in which the symptoms of dementia gradually worsen over a number of years. On average, a person with AD lives 4 to 8 years after diagnosis, but can live up to 20 years depending on other factors. Symptoms eventually become severe enough to interfere with daily tasks. As AD progresses through the brain, it leads to increasingly severe symptoms, including:

- disorientation,
- changes in mood and behaviour,
- deepening confusion about events, time and place, and difficulty walking and talking.

Typical symptoms include reduced memory for recent events and possibly for events that go back in time. Table 1 presents the causes and risk factories, symptoms, prevention and treatment of AD (Knut Engedal, 2022).

Causes and risk factors	Symptoms	Prevention and treatment
Apart from some rare hereditary forms of AD, there are no known causes, only risk factors, that increase the risk of the disease, i.e. • High age – the older a person gets, the more likely they are to develop AD. • Hereditary variants – There are two forms of inheritance, i.e. 1. A rare type called autosomal dominant inheritance. 2. The form of inheritance are gene variants (polymorphisms). • Other risk factors – cardiovascular disease, high blood pressure, diabetes, obesity, high cholesterol, stroke, repeated episodes of major depression.	Loss of brain cells and changes in biochemical systems lead to many symptoms, such as: • reduced memory for recent events or events going back in time; • the disease can lead to loss of orientation in time and place; • the disease can lead to loss of language communication skills; • patients often feel helpless in the face of the small and big challenges of everyday life.	• Regular physical, mental, and social activity throughout life can protect against AD or delay its development. • Some studies have shown that people who eat a lot of fish and vegetables are less prone to AD. • Many patients can benefit from various measures that make their daily existence easier, e.g. The patient can engage in everyday life at any time with the limitations that the disease brings.

Tab. 1 AD: Causes and Risk Factory, Symptoms, Prevention and Treatment

1.2 Artist Willem de Kooning with AD

Willem de Kooning was an artist suffering from AD disease. During his illness he painted more than 300 abstract paintings, which art critics evaluated as one of the best and most sensitive artistic achievements of contemporary painting (Marcus Esther-Lee, Kaufman Yakir, Cohen-Shalev Amir, 2009). Despite his mental decline, he painted his works in a radically different style than is evident in his previous works. During AD Kooning, he was

unable to answer any factual questions, e.g. he did not know the dates and where he lived. However, de Kooning was able to hold attention for several hours each day during creation. His works became more sensory and tactile, during the creative process he used his fingers to scratch and rub art materials. His work began to be more relaxed and accelerated, e.g. wild expressiveness is evident in the design of the painting called Pirate. This work was probably painted on an earlier discarded painting and was processed using a working tool used in construction work with plasterboard. This non-traditional painting technique allowed the artist to stretch the color into strong expressive bands (Moma.org, 2023). De Kooning's declarative memory was severely affected by AD, but his motor abilities and aesthetic instinct were intact.

Figure 1: "Pirate", Willem de Kooning, painting, 1981.
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2 ART THERAPY FOR PEOPLE WITH AD

Art therapy is a psychosocial intervention that combines psychotherapy and the creative process, facilitating self-understanding and self-discovery. Art therapy is considered a safe and reliable non-pharmacological treatment option. Art facilitates self-expression through

sensory stimulation, creativity and social interaction (Guseva Elena, Wilchesky Michelle, 2022). In general, art therapy is perceived as a tool providing a healing process that facilitates meaningfulness and positive artistic interventions promoting psychological well-being. Art therapy includes art activities that are playful and relaxing and used by people of all ages, but for people with AD, artistic activities are especially important because they stimulate the brain in many ways and can trigger forgotten memories and stimulate speech.

Art therapy creates a sense of accomplishment and provides:

- an opportunity for nonverbal expression;
- an effective way for people with AD to train their language skills;
- an effective way to train fine motor skills, where hand-brain interaction helps maintain and develop motor skills and coordination;
- improving the perception of colours, shapes, space, proportions, etc. (Wang Qiu-Yue, LI Dong-Mei, 2016).

Appropriate art therapy activities help strengthen cognitive function in brain areas and improve communication and social interaction in people with AD and dementia. Interventions based on artistic activities are suitable for the rehabilitation of older people because they affect both cognitive function and quality of life.

A team of researchers (Savazzi, Federica, et al., 2020) in a pilot study on the effectiveness of art-based intervention for people with AD point to three levels. These three levels of the framework affect the functioning of people with AD within artistic activities, i.e.:

1. **Cognitive level**

   Visual arts:

   - improves positive memories because it reduces fears of death and negative thoughts;
   - strengthens continuous attention, intellectual engagement and learning;
   - improves concentration.

   Art therapy activities:

   - Specialized activities stimulating cognition include creating collages.

2. **Behavioral level**

   Artistic activities reduce:

   - anxiety, restlessness and depression.

   Art therapy activities:

   - relaxing artistic activities, group discussion of emotional self-expression, creating mandalas.

3. **Emotional-communication level**

   Artistic activities promote:

   - socialization and communication.

   Art therapy activities:

   - Art therapy should focus on group activities that provide clients with a safe environment for sharing their own thoughts and inner experiences. Group activities develop significant relationships between group members and self-integration.

3 BENEFITS OF ART THERAPY FOR PEOPLE WITH AD

Crystal Ehresman (2014) argues that people with AD should be encouraged to create because it improves their well-being and quality of life. Crystal Ehresman also adds that people with AD may not be able to understand their surroundings, but they can still draw on the joy of the sensory experiential qualities that artistic creation provides. The personal identity of a person with AD may be distorted, but it may be expressed through the creative process.

Art therapy is a technique used by caregivers to improve the health and well-being of AD patients. The Ness Care Group in the UK provides research-based clinical care and support to families and individuals suffering from dementia or memory loss. The Ness Care Group (2023) has compiled the following benefits of art therapy for dementia patients:

- **Increased brain stimulation, i.e.:**
  - Art therapy provides a way to stimulate the mind;
  - creativity makes it easier for the AD patient to engage in simple activities.
- **Improved memory, i.e.:**
  - We can ask the patient to draw something from a photograph that awakens memories of their past. It probably won't bring back the whole memory, but it can bring back a sense of joy and happiness, which can help patients remember.
- **The feeling of achievement, i.e.:**
  - The feeling of success strengthens the confidence of people with AD and motivates them to further similar activities.
- **Space for expressing creativity, i.e.:**
  - In some cases, people with AD find it difficult to express their feelings verbally.
  - Thanks to art, they can transfer their thoughts and feelings to paper.
- **Increase in physical strength, i.e.:**
  - Increased use of patients' hands during creation eliminates the deterioration of their state of health.
- **Improving mood and overall well-being, i.e.:**
  - Engaging in creative activities has been shown to improve the mood of people with AD and improve their overall well-being.

3.1 Recommendations for art therapy for clients with AD

The Alzheimer's Association (2023) presents the following recommendations:

- Keep art activities at the adult level and avoid anything that could be degrading or childish.
- Incorporate conversation into art activities and provide encouragement to clients with AD. Discuss what clients are currently creating, what they are thinking about and what they remember during the creation.
- Help the client start an artistic activity. If the client wants to paint, you may need to start with brush movement.
- Use safe materials and avoid toxic substances and sharpening tools.
- Take the time to keep in mind that persons with AD may not complete their work immediately.

4 DISCOURSE

The paper points out important aspects of creation for people with AD. Using the creativity for people with AD can increase their success, develop their attention and independence, and thanks to their creation they can experience a sense of meaningfulness. Art therapy provides interventions that can eliminate cognitive decline. Art helps the mind in finding new communication avenues because through the creative process the person with AD can better express themselves and translate their feelings into an artifact. Artistic creation appears to be a possible therapy and activity that can slow AD disease and stimulate patients' brains, e.g. painting provides visual stimulation, while writing can provide mental brain stimulation. Also, the creative process creates a good sense of achievement. Artistic activity provides a great opportunity for social interaction and communication, e.g. group art therapy can reduce the negative feelings associated with loneliness. At the same time, art can be a good solution

and a joint activity for family members who have someone in their family with this diagnosed disease. Art therapy helps people with AD regain self-confidence and find a sense of purpose.

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UMIERAJÚCI PACIENT V KONTEXTE OŠETROVATEĽSKEJ STAROSTLIVOSTI

DYING PATIENT IN THE CONTEXT OF NURSING CARE

Jana Cinová, Andrea Šuličová, Zuzana Novotná, Tatiana Šantová, Zuzana Šimová

Abstrakt

Počas profesionálnej kariéry sa zdravotnícky pracovník stretne asi s 2000 umierajúcimi pacientmi. Napriek tomu sa často dostáva do situácie, že nevie adekvátne odborne a prakticky reagovať. Výnimkou nie sú ani študenti lekárskych a nelekárskych študijných odborov, ktorí počas absolvovania študentskej praxe poskytujú zdravotnú starostlivosť aj ťažko chorým a umierajúcim pacientom. Autorky v príspevku uvádzajú do pozornosti výsledky prieskumu zameraného na postoj študentov ošetrovateľstva k poskytovaniu ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom. Na základe výsledkov prieskumu autorky konštatujú, že študenti ošetrovateľstva pri poskytovaní ošetrovateľskej starostlivosti paliatívnym pacientom vstupujú do riešenia náročných ošetrovateľských a etických problémov. Poskytovať paliatívnu starostlivosť je pre študentov náročné, tak po stránke fyzickej, ako aj emočnej.

Kľúčové slová: *modely umierania, ošetrovateľská starostlivosť, potreby umierajúceho pacienta.*

Abstract

During the course of a professional career healthcare worker will encounter about 2000 dying patients. The healthcare worker often finds himself unable to respond adequately in a professional and practical way. The exception are not even students of medical and non-medical fields of study, who also provide medical care to seriously ill and dying patients during their student practice. In this professional article the authors bring to attention the results of a survey focusing on nursing students' attitudes towards the provision of nursing care to seriously ill and dying patients. Based on the results of the survey, the authors conclude that nursing students enter into challenging nursing and ethical problem solving when providing nursing care to palliative patients. Providing palliative care is challenging for students, both physically and emotionally.

Key words: *models of dying, nursing care, needs of the dying patient.*

ÚVOD

Problematika paliatívnej starostlivosti je v súčasnosti už intenzívne diskutovaná. Stala sa aj jedným z hlavných cieľov riešenia zdravotnej politiky. Európska asociácia paliatívnej starostlivosti (EAPC) je centrom pre všetkých, ktorí sa zaoberajú paliatívnou starostlivosťou *na úrovni vedeckej, klinickej a sociálnej*; určená je pre lekárov, sestry, sociálnych pracovníkov, psychológov, duchovných a dobrovoľníkov. Zastrešuje národné asociácie z európskych krajín, ktoré vzájomne kooperujú. WHO deklaruje rozvoj paliatívnej starostlivosti, ako jednu z prioritných oblastí rozvoja zdravotníctva a sociálnej starostlivosti. Nespochybniteľný je aj fakt, že na Slovensku pribudne denne 32 pacientov s nevyliečiteľným ochorením, 135 ľudí denne zomiera a až 12 000 pacientov ročne tvorí cieľovú skupinu pre

odbor paliatívnej starostlivosti. Najčastejším miestom úmrtia je nemocnica (58 %), liečebný ústav (9 %) a sociálne zariadenie (6 %). V súčasnosti je umierajúcim pacientom poskytovaná profesionálna zdravotná starostlivosť najmodernejšou technikou, avšak mnohokrát pri jej poskytovaní absentuje aspekt blízkosti. Umierajúci pacienti sú z ošetrovateľského hľadiska najnáročnejší a mnohokrát hospitalizovaní aj na štandardných ošetrovacích jednotkách. Paliatívnu starostlivosť v rámci absolvovania klinickej výučby poskytujú okrem ďalších členov zdravotníckeho tímu aj vysokoškolskí študenti odboru ošetrovateľstvo. Poskytovanie ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom počas klinickej výučby je pre nich mnohokrát náročné po stránke fyzickej aj psychickej. Študenti vstupujú do ošetrovateľsky a eticky náročných situácií, musia zvládať aj emočnú záťaž. Niekedy môže skúsenosť s poskytovaním paliatívnej starostlivosti pôsobiť na študenta až traumatizujúco. Z tohto dôvodu je dôležité, aby všetci, ktorí poskytujú zdravotnú starostlivosť ťažko chorým a umierajúcim pacientom zvládali nie len odbornú stránku tejto špecifickej starostlivosti, ale aby rešpektovali aj etický aspekt vo vzťahu k umierajúcemu.

1 UMIERANIE A SMRŤ V KONTEXTE OŠETROVATEĽSTVA

Častokrát sa umieranie a smrť tabuizuje, aj keď sa týka každého človeka. Ľudia majú tendenciu nerozprávať sa o tejto problematike, nakoľko je pre nich obťažujúca či znepokojujúca. Avšak, ak sa tejto problematike nevenuje dostatok času, stáva sa prekvapujúcou najmä vtedy, ak už niet inej cesty. O umieraní možno uvažovať, ako o niečom čo predchádza smrti, ktorá nás vždy zaskočí. Smrť je stav, ktorý nastáva po skončení života, avšak umieranie je proces, ktorého konečným zavŕšením je smrť. Umieranie je možné chápať, aj ako poslednú kapitolu života človeka, ktorá si vyžaduje špecifické etické úlohy. Tak, ako každý človek rovnako aj umierajúci človek zostáva mravne zodpovedný, nestáva sa kvôli tomu nesvojprávnou osobou. Umieranie so sebou prináša aj strach z utrpenia, strach z toho čo príde. Paliatívny pacient je nevyliečiteľne chorý, ktorý trpí rôznymi príznakmi, predovšetkým bolesťou. Mnohokrát nevie prijať skutočnosť smrti a žiada pokračovať v kauzálnej liečbe, aj keď už možnosti tejto liečby sú vyčerpané. Má právo na dôstojnú smrť, slobodnú voľbu miesta, kde zomrie a primeranú starostlivosť. Zároveň sa vedome alebo nevedome vyrovnáva s tým, že je na konci života. Je často závislý na starostlivosti, má biologické, psychické, sociálne a spirituálne problémy, stráca perspektívu, zmysel života a silu bojovať. Tento proces umierania si teda v plnej miere žiada uplatnenie filozofie paliatívnej starostlivosti, ktorá je aplikovateľná v akomkoľvek prostredí.

1.1 Modely umierania

Model umierania doma – výhodou pre umierajúceho pacienta v domácom prostredí je komfortnosť, neprítomnosť ruchu a režimu v porovnaní s oddelením. V domácom prostredí sa denný režim prispôsobuje umierajúcemu, o umierajúceho sa starajú rodinní príslušníci, nepretržite 24 hodín denne. Zdravotnú starostlivosť v domácom prostredí umierajúcim pacientom poskytujú aj ďalší pracovníci rôznych profesií, akými sú sestry, lekári, fyzioterapeuti a ďalší. Tento model starostlivosti si vyžaduje osobnosť, ktorá je schopná zvládnuť rôzne situácie a rozhodovať sa samostatne. Pre poskytovanie starostlivosti v domácom prostredí, musia byť splnené isté podmienky. Fyzické a psychické príznaky umierajúceho musia byť stabilizované. Rodinní príslušníci by mali byť ochotní postarať sa o umierajúceho a taktiež prispôsobiť sa všetkým požiadavkám, ktoré si situácia vyžaduje. Pri tejto starostlivosti často dochádza k fyzickému a psychickému vyčerpaniu rodinných príslušníkov, čo je jednou z nevýhod tohto modelu. *Inštitucionálny model umierania* – model vznikol postupným budovaním nových nemocníc. V nemocničnom prostredí sa umierajúcim poskytuje kvalitná starostlivosť prostredníctvom diagnostických a terapeutických metód. Avšak aj napriek tomu, umierajúcim chýba ľudský kontakt, ktorý je tak potrebný.

Starostlivosť o umierajúceho môže negatívne pôsobiť na zdravotnícki personál, z toho dôvodu zostávajú citovo negatívni a sústreďujú sa na priebeh choroby viac, ako na osobnosť umierajúceho. V niektorých zdravotníckych zariadeniach absentuje osobný prístup k pacientovi. Negatívne na psychický stav umierajúceho pôsobí nedostatok súkromia, hluk z oddelenia alebo malo kontaktu s príbuznými. *Paliatívny model umierania* – paliatívna starostlivosť utrpenie zmierňuje a skvalitňuje život umierajúcim pacientom a ich rodinám. Zameriava sa na starostlivosť, ktorá skvalitňuje ich každodenný život. Pomáha zabezpečiť zmysluplný život aj napriek vážnej chorobe. Udržiava kvalitu života prostredníctvom praktickej pomoci rodinám pri úprave domovov, fyzickej starostlivosti o telo, duchovnej a emocionálnej podpore. Paliatívna starostlivosť začína od zistenia pokročilého ochorenia a končí ukončením smútenia pozostalých. Môže to trvať niekoľko rokov, týždňov niekedy len dni.

1.1.1 Princípy paliatívnej starostlivosti

Paliatívna ošetrovateľská starostlivosť je ošetrovateľská starostlivosť o umierajúcich a ťažko chorých pacientov. Človeka vníma celistvo so všetkými jeho biologickými, psychologickými, sociálnymi a spirituálnymi potrebami. Je kontinuálna a profesionálna, zmierňuje utrpenie, tíši bolesť, uspokojuje psychologické a spirituálne aspekty, zabezpečuje podporu a pomoc aj rodinným príslušníkom. Hlavnou úlohou je uspokojovanie všetkých potrieb umierajúcich a ťažko chorých pacientov. Zásady paliatívnej starostlivosti sú tlmiť bolesti a ostatné príznaky, neurýchľovať a neodďaľovať smrť, zapájať do starostlivosti o pacienta aj psychologické a spirituálne metódy, podporovať umierajúceho, aby žil aktívne až do smrti, podporovať rodinných príslušníkov s vyrovnaním sa s novo vzniknutou a veľmi náročnou situáciou, kolektívnym prístupom riešiť potreby umierajúceho a jeho rodinných príslušníkov, zvýšiť kvalitu života, čím sa kladne môže ovplyvniť progres ochorenia. Súčasťou paliatívnej starostlivosti je *terminálna starostlivosť*, ktorá je poskytovaná v posledných dňoch a hodinách pred úmrtím. Paliatívna starostlivosť vníma človeka, ako biologickú, psychologickú, sociálnu a spirituálnu bytosť, teda vníma človeka holisticky so všetkými jeho potrebami. Umieranie chápe ako proces, ktorý je prirodzený. Na Slovensku je od apríla 2020 v platnosti štandard *Komplexný ošetrovateľský manažment pacienta v paliatívnej starostlivosti*, ktorý vymedzuje postupy komplexnej ošetrovateľskej starostlivosti. Vymedzuje nie len inštitucionálnu starostlivosť, ale aj domácu ošetrovateľskú starostlivosť a všade tam, kde je poskytovaná ošetrovateľská starostlivosť a dochádza ku kontaktu medzi sestrou a umierajúci pacientom.

1.2 Potreby umierajúceho pacienta

V starostlivosti o umierajúceho je dominantná úľava a liečba príznakov. Vytvára priestor pre pacienta a jeho príbuzných pre rozhodovanie o zdravotnej starostlivosti v spolupráci s lekárom. V poskytovaní paliatívnej starostlivosti je podstatným nástrojom komunikácia. Nie vždy sa pacient a jeho príbuzní vedia vyrovnať s pocitmi, ktoré súvisia s blížiacou sa smrťou a práve tomu majú komunikačné zručnosti napomôcť, aby sa tie pocity zvládali lepšie. Z toho vyplýva, že paliatívna starostlivosť je plná emócií a pri jej poskytovaní, je takmer nemožne neprísť do osobného kontaktu s pacientom. Starostlivosť v terminálnej fáze ochorenia je poskytovaná holisticky, zahŕňa biologickú, psychologickú, sociálnu a spirituálnu oblasť. Sestra poskytuje ošetrovateľskú starostlivosť umierajúcim pacientom v zmysle holistického vnímania pacienta a zohľadňuje fakt, že v terminálnej fáze ochorenia sa potreby umierajúceho pacienta menia. Úlohou sestry je teda včasne identifikovať aktuálne problémy pacienta, prípadne potenciálne riziká pri uspokojovaní potrieb. Pri uspokojovaní *biologických potrieb* sa sestra zameriava na odstránenie a zmiernenie príznakov, ktoré sa často u týchto pacientov vyskytujú a sú nimi bolesť, neschopnosť udržať moč a stolicu. Je potrebné uspokojiť u umierajúceho pacienta potrebu výživy, príjmu tekutín, spánku, aktivity a pohybu. Proces

umierania a následnej smrti má veľký vplyv na psychiku pacienta. Umierajúci pacienti pociťujú strach a obavy z neznámeho, z toho čo ich čaká. Pociťujú kombináciu emócií, aby sa dokázali vyrovnať s nevyliečiteľnou chorobou. Medzi *psychické potreby*, ktoré umierajúci pacienti pociťujú patrí potreba autonómie, pravdivosti, potreba rešpektovania ľudskej dôstojnosti, možnosť sebarealizácie a potreba zmysluplnosti. Sesterské intervencie v rámci uspokojovania psychologických potrieb spočívajú v neustálom vypočutí pacienta a empatickom rozhovore. Veľmi dôležité je rešpektovanie dôstojnosti pacienta pri vykonávaní každej intervencie. Nakoľko je človek tvor spoločenský, tak aj uspokojovanie sociálnych potrieb má svoj význam, nakoľko nikto nechce umierať sám. V posledných chvíľach života je prítomnosť rodiny alebo blízkej osoby veľmi dôležitá. Zásadnou súčasťou vnímania nevyliečiteľnej choroby je spiritualita. *Spirituálne potreby* má každý človek bez rozdielu či je veriaci alebo nie. Spiritualita kladie otázky zmyslu, existencie ľudskej osobnosti. Pri poskytovaní ošetrovateľskej starostlivosti je dôležité rešpektovať vierovyznania a náboženskú slobodu.

2 ANALÝZA PARCIÁLNYCH VÝSLEDKOV PRIESKUMU

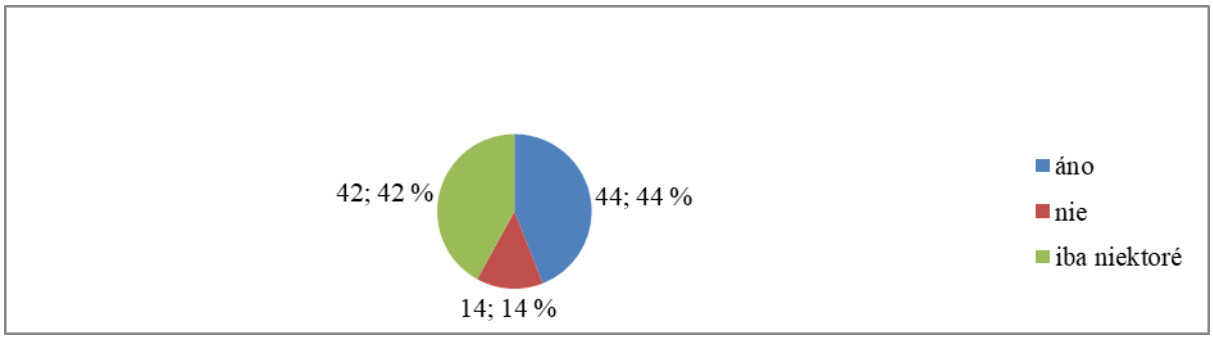
2.1 Prieskumný problém, cieľ, vzorka respondentov a metodológia prieskumu

Realizovaný prieskum, ktorého sa celkovo zúčastnilo 100 vysokoškolských študentov 2. a 3. ročníka dennej formy odboru ošetrovateľstvo - bakalárskeho stupňa štúdia bol zameraný na ich postoj k poskytovaniu ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom. Parciálnymi cieľmi prieskumu bolo zistiť postoj respondentov k problematike umierania a smrti; zistiť, ako často v rámci klinickej výučby poskytovali respondenti ošetrovateľskú starostlivosť ťažko chorým a umierajúcim pacientom; poukázať na najčastejšie emócie, ktoré respondenti pociťovali pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom; identifikovať najnáročnejšiu oblasť v rámci uspokojovania potrieb umierajúcim pacientom z pohľadu respondentov; identifikovať najnáročnejšie ošetrovateľské výkony súvisiace s poskytovaním ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom z pohľadu respondentov; zistiť, s akými najčastejšími etickými problémami boli respondenti konfrontovaní počas študentskej klinickej praxe v súvislosti s poskytovaním ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom. Prieskum bol realizovaný využitím metódy neštandardizovaného dotazníka, ktorý bol respondentom administrovaný online a konštruovaný celkovo z 23 položiek.

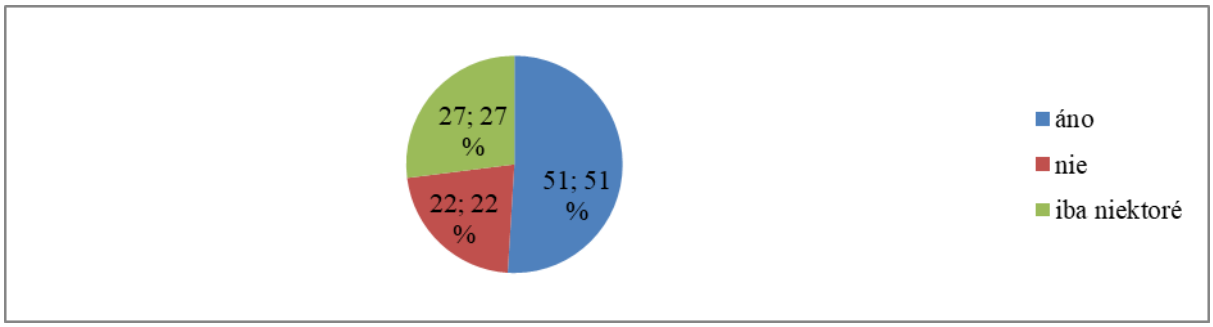
2.2 Kvantitatívna analýza významných prieskumných zistení a diskusia

Tabuľka 1 Postoj respondentov k vnímaniu smrti a umierania

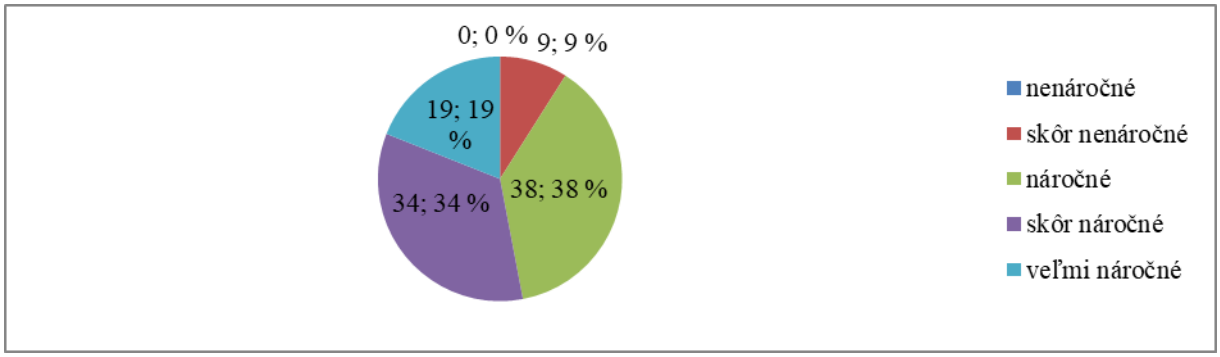
Možnosť odpovede	Počet (n)	Percentá (%)
prirodzená súčasť života	71	54
bolesť, utrpenie	29	22
nezaoberám sa touto otázku	3	2
zmiešané pocity	25	19
nemám názor	1	1
uveďte iné	2	2



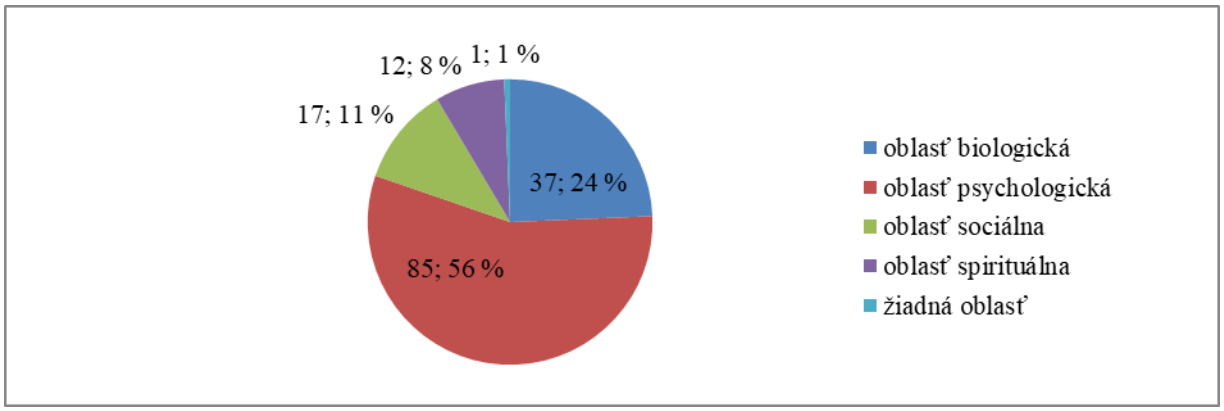
Graf 1 Vedomosti respondentov o právach umierajúcich



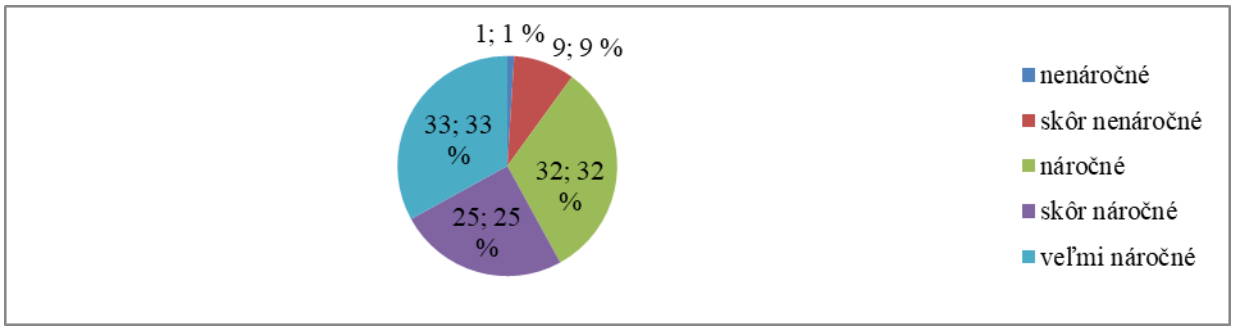
Graf 2 Vedomosti respondentov o fázach umierania



Graf 3 Náročnosť poskytovania ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom



Graf 4 Náročnosť uspokojovania jednotlivých oblastí potrieb



Graf 5 Náročnosť identifikácie fáz umierania

Tabuľka 2 Vnímanie náročnosti ošetrovateľských výkonov

Možnosť odpovede	Počet (n)	Percentá (%)
hygienická starostlivosť	41	15
podávanie stravy	48	17
aplikácia liekov	29	11
odber biologického materiálu	43	16
komunikácia s umierajúcim pacientom	75	27
komunikácia s príbuznými pacienta	38	14
uveďte iné	0	0

Tabuľka 3 Najčastejšie emócie zo strany respondentov pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom

Možnosť odpovede	Počet (n)	Percentá (%)
smútok	75	47
hnev	16	10
empatia	63	39
zlosť	5	3
žiadne špecifické emócie, pocity	2	1

Tabuľka 4 Najčastejšie vnímané etické problémy pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom

Možnosť odpovede	Počet (n)	Percentá (%)
nevhodná komunikácia zdravotníckych pracovníkov s umierajúcim pacientom	65	25
nevhodná komunikácia zdravotníckych pracovníkov s rodinou, príbuznými umierajúceho	30	12
nedostatočný manažment tíšenia bolesti	34	13
nedôstojné zaobchádzanie s umierajúcim pacientom zo strany zdravotníckych pracovníkov	58	23
nedôstojné zaobchádzanie s umierajúcim pacientom zo strany rodiny	12	5
nerešpektovanie práv ťažko chorých a umierajúcich pacientov	29	11
oznamovanie nepriaznivej diagnózy v prítomnosti iných ľudí	27	11

Tabuľka 5 Najnáročnejšie uspokojované potreby biologickej oblasti

Možnosť odpovede	Počet (n)	Percentá (%)
potreba výživy	52	20
potreba príjmu tekutín	47	19
tíšenie bolesti	62	24
potreba spánku	13	5
potreba aktivity/ pohybu	31	12
potreba hygienickej starostlivosti	49	19
žiadna z potrieb	3	1

Tabuľka 6 Najnáročnejšie uspokojované potreby psychologickej oblasti

Možnosť odpovede	Počet (n)	Percentá (%)
potreba bezpečia, istoty	54	31
potreba zachovania ľudskej dôstojnosti	50	29
potreba rešpektu	30	17
potreba lásky a úcty	32	18
žiadna z potrieb	8	5

Tabuľka 7 Najnáročnejšie uspokojované potreby sociálnej oblasti

Možnosť odpovede	Počet (n)	Percentá (%)
potreba prítomnosti blízkej osoby	62	51
uspokojovanie potreby komunikácie	53	43
žiadna z potrieb	15	6

Tabuľka 8 Najnáročnejšie uspokojované potreby spirituálnej oblasti

Možnosť odpovede	Počet (n)	Percentá (%)
potreba zmyslu života	77	67
potreba prítomnosti kňaza/ prijatia sviatostí	23	20
žiadna z potrieb	15	13

3 DISKUSIA

Poskytovanie ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom je neoddeliteľnou súčasťou teoretickej a praktickej výučby študentov lekárskych a nelekárskych študijných odborov. Na základe analýzy údajov dotazníka konštatujeme, že respondenti nášho prieskumu vnímajú umieranie a smrť, ako prirodzenú súčasť života, čo hodnotíme, ako pozitívny fakt, aj napriek skutočnosti, že niektorí respondenti sa otázkou smrti a umierania vôbec nezaoberajú. Marková (2010) uvádza, že to, ako vnímajú umierajúceho pacienta sestry, často ovplyvňuje ich prvý kontakt s umierajúcim pacientom, ktorý často prichádza počas ich študentskej praxe. Autorka ďalej uvádza, že na základe výsledkov výskumu z 30 sestier, iba 1 sestra si svoj zážitok s umierajúcim pacientom nepamätala. Z výsledkov nášho prieskumu ďalej uvádzame, že respondenti sú erudovaní v oblasti problematiky umierania. Avšak náročné je pre nich určiť fázu umierania, v ktorej sa umierajúci pacienti nachádzali. Z výsledkov analýzy tiež konštatujeme, že študenti sú emočne vyťažení počas poskytovania paliatívnej ošetrovateľskej starostlivosti, najčastejšie pociťujú smútok. Je potrebné, aby študenti boli pripravení poskytovať ošetrovateľskú starostlivosť ťažko chorým a umierajúcim

pacientom po stránke praktickej, ale je dôležitá aj ich osobnostná pripravenosť a emočná zrelosť. Tiež sme zistili, že za najnáročnejšiu oblasť v rámci uspokojovania potrieb ťažko chorým a umierajúcim pacientom určili respondenti oblasť psychologickú, ako najmenej náročnú oblasť spirituálnu. Ďalej sme zistili, že v rámci biologickej oblasti respondenti určili potrebu tíšenia bolesti, ako najnáročnejšie uspokojovanú potrebu. V rámci psychologickej oblasti respondenti uviedli, ako najnáročnejšiu potrebu bezpečia a istoty. V sociálnej oblasti uviedli, ako najnáročnejšiu uspokojovať potrebu prítomnosti blízkej osoby. Cinová, Ondriová (2012) poukazujú na fakt, že paliatívny pacient je ošetrovateľský náročnejší. Z výsledkov analýzy nášho prieskumu sme zistili, že respondenti považujú za najnáročnejšie pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom zvlášť komunikáciu. Kabelka (2017) zdôrazňuje, že komunikácia v paliatívnej ošetrovateľskej starostlivosti je základom ošetrovateľskej starostlivosti. Cinová a Ondriová (2012) apelujú na to, že neoddeliteľnou súčasťou paliatívnej starostlivosti je zachovanie úcty ku každému človeku. Z výsledkov analýzy nášho prieskumu vyplýva, že respondenti považujú, ako najčastejší etický problém pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom nevhodnú komunikáciu zdravotníckych pracovníkov s umierajúcim pacientom, čo považujeme za negatívne zistenie.

3.1 Odporúčania pre prax

Na základe výsledkov analýzy navrhujeme odporúčania pre *vzdelávacie inštitúcie:* výraznejšie sa zamerať u vysokoškolských študentov nelekárskych študijných programov ošetrovateľstva na nácvik verbálnej a neverbálnej komunikácie s umierajúcimi pacientmi; počas vedenia klinických cvičení apelovať na študentov k vnímaniu špecifických potrieb umierajúcich pacientov, a tým prispôsobiť efektívnejšiu ošetrovateľskú starostlivosť umierajúcim pacientom; v rámci výučby študentov ošetrovateľstva, využívať na riešenie ošetrovateľských a etických problémov u ťažko chorých a umierajúcich pacientov cvičné kazuistiky v rámci virtuálneho prostredia; organizovať na akademickej pôde prednášky, semináre, workshopy zamerané na problematiku paliatívnej ošetrovateľskej starostlivosti a pre *vysokoškolských študentov v študijnom odbore ošetrovateľstvo:* uvedomiť si potrebu byť erudovaný v oblasti poskytovania ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom; pre kvalitné poskytovanie ošetrovateľskej starostlivosti počas absolvovania klinickej praxe; byť etický sensitívny pri poskytovaní ošetrovateľskej starostlivosti ťažko chorým a umierajúcim pacientom; poznať špecifické potreby umierajúcich pacientov a poskytovať ošetrovateľskú starostlivosť ťažko chorým a umierajúcim pacientom so zreteľom na špecifické potreby umierajúcich pacientov; poznať práva a fáza umierania umierajúcich pacientov a následne ich rešpektovať v klinickej praxi; počas klinickej študentskej praxe spracovávať ošetrovateľské kazuistiky zamerané aj na pacientov v terminálnych fázach ochorenia.

4 ZÁVER

Paliatívna starostlivosť je poskytovaná tým najkrehkejším pacientom, ktorí si vyžadujú láskavé slovo, blízkosť, empatiu, dôstojné zaobchádzanie nevynímajúc uspokojovanie potrieb, ktoré sú na konci života odlišné a špecifické. Náročnosť poskytovania paliatívnej starostlivosti spočíva v prispôsobení ošetrovateľskej starostlivosti jednotlivým špecifickým potrebám umierajúcich pacientov. Tak, ako je náročné poskytovanie paliatívnej starostlivosti pre zdravotníckych pracovníkov, niet pochýb, že je náročné aj pre študentov ošetrovateľstva, ktorí sú uplatňovaním filozofie paliatívnej starostlivosti konfrontovaní už počas absolvovania študentskej klinickej praxe. Z tohto dôvodu je potrebné, aby sa v rámci vzdelávania budúcich zdravotníckych pracovníkov oveľa intenzívnejšie apelovalo na ich profesionálnu odbornú

prípravu, nevynímajúc tiež formovanie ich osobnostných a charakterových čŕt či etickej vnímavosti.

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DOPRAVNÉ VZDELÁVANIE V AUTOŠKOLÁCH V ČESKEJ REPUBLIKE Z POHĽADU MLADÝCH ŠOFÉROV

PERSPECTIVES ON TRAFFIC EDUCATION IN DRIVING SCHOOLS AMONG YOUNG DRIVERS IN THE CZECH REPUBLIC

Beáta Suriaková, Matúš Šucha

Abstrakt

Štatistiky dopravnej nehodovosti dlhodobo poukazujú na problém mladých šoférov, ktorí patria medzi najrizikovejších účastníkov cestnej premávky. Naprieč krajinami nájdeme rôzne prístupy s cieľom znížiť nehodovosť, pričom medzi intervencie môžeme zaradiť napríklad vzdelávanie šoférov. Naším cieľom bolo zmapovať skúsenosti 595 českých mladých šoférov s absolvovaným vzdelávaním v autoškole. Výsledky naznačujú, že výučba v jednotlivých autoškolách nie je jednotná a každá autoškola sa zameriava na iný rozsah tém. Zmapovali sme aké témy, spojené s rizikovým správaním šoférov a psychologickými aspektami šoférovania, sa v autoškolách vyučujú a ako efektívne ich výučbu hodnotia respondenti. Súčasne sme mapovali oblasti, ktoré respondentom v autoškole chýbali. Výsledky môžu prispieť k vytvoreniu intervencií vedúcich k zvýšeniu dopravnej bezpečnosti v českom prostredí.

Kľúčové slová: *mladí šoféri, začínajúci šoféri, autoškoly, dopravné vzdelávanie*

Abstract

Traffic accident statistics have consistently highlighted the issue of young drivers, who are considered to be one of the highest-risk groups of road users. Various interventions, including driver education programs, have been implemented across different countries to mitigate accidents. The purpose of this study was to examine the experiences of 595 young drivers in the Czech Republic regarding their driving school education. It found variations in the curriculum and topics covered among different driving schools. The study also assessed the effectiveness of evaluation methods used by driving schools and identified areas where respondents desired further emphasis. Additionally, we explored the areas in which respondents expressed a desire for further emphasis. These findings have the potential to inform the development of interventions aimed at enhancing road safety within the Czech context.

Key words: *young drivers, novice drivers, driving schools, traffic education*

1 TEORETICKÝ ÚVOD

O doprave môžeme hovoriť ako o vysoko sociálnom systéme, v ktorom je človek v hlavnej a riadiacej úlohe. Na tomto dopravnom systéme sa tak podieľa takmer každý z nás, obzvlášť na oblasti cestnej dopravy. Dôležitosť ľudskej úlohy v oblasti dopravnej bezpečnosti potvrdzujú české štatistiky nehodovosti, ktoré ukazujú, že v roku 2022 bolo ľudským faktorom zapríčinených až 84 % všetkých zaznamenaných dopravných nehôd (Policie České republiky, 2023). Hoci počet dopravných nehôd má medziročne klesajúcu tendenciu, dlhodobo ostávajú dopravné nehody najčastejšou príčinou úmrtia mladých ľudí (WHO, 2022), pri zvyšovaní dopravnej bezpečnosti si zvýšenú pozornosť odborníkov zaslúžia mladí šoféri, ktorí sú považovaní za jednu z najrizikovejších skupín v doprave. Pri porovnaní počtu držiteľov vodičského oprávnenia, veku a počtu zavinených dopravných nehôd v roku 2020 sa ako najčastejší vinníci ukázali šoféri vo veku 18 až 24 rokov, ktorí spôsobili najvyšší podiel

celkového počtu dopravných nehôd a taktiež nehôd s vážnymi a fatálnymi následkami (BESIP, 2021). Oproti iným skupinám šoférov predstavujú mladí šoféri zvýšené riziko pre seba, spolujazdcov aj ďalších účastníkov cestnej premávky.

Táto skupina účastníkov cestnej premávky sa vyznačuje neskúsenosťou, ktorá sa prejavuje v podceňovaní a neuvedomovaní si nebezpečenstva a voľbe nevhodných stratégií v kritických situáciách (Lee et al., 2008; McDonald et al., 2014; McKnight & McKnight, 2003), tiež je pre nich charakteristické rýchle učenie s väčšou náchylnosťou k chybám (Glendon, 2011), stále vyvíjajúce sa kognitívne funkcie, ktoré sú zodpovedné okrem iného aj za úspešné spracovanie a dokončenie náročných komplexných činností, medzi ktoré sa šoférovanie najmä v začiatočníckej fáze radí (Di Meco et al., 2021; Ledger et al., 2019; McKnight & McKnight, 2003; Zicat et al., 2018). Šoférske správanie je ovplyvnené aj sociálnym prostredím, v ktorom človek vyrastal (Rehnová & Černochová, 2013) a tiež rovesníkmi, ktorých pozoruje alebo ktorí tvoria posádku automobilu (Huang & Winston, 2011; Klauer et al., 2011; Rice et al., 2003). V rizikovosti šoférskeho správania sa premieta aj ľudská individualita v podobe osobnostných rysov (Castellà & Pérez, 2004; Huang & Winston, 2011; Machin & Sankey, 2008; Vassallo et al., 2007), impulzivity, nižšej schopnosti vnímať riziko, preceňovaní vlastných schopností (Observatoř bezpečnosti silničního provozu, 2007) a postojov k dopravnému správaniu (Machin & Sankey, 2008; Ulleberg & Rundmo, 2003; Zicat et al., 2018).

Rôzne krajiny prijímajú opatrenia na zníženie nehodovosti mladých šoférov a zlepšenie dopravnej bezpečnosti. Tieto opatrenia zahŕňajú napríklad vekové obmedzenia, nulovú toleranciu alkoholu pri jazde, rýchlostné limity, supervíziu skúsenejších šoférov, obmedzenie nočnej jazdy a prítomnosť mladých pasažierov (Keskinen & Hernetkoski, 2011). Okrem iného zohrávajú dôležitú úlohu pri dosahovaní vyššej dopravnej bezpečnosti aj proces získavania vodičského oprávnenia a vzdelávanie šoférov, ktoré podľa aktuálnych poznatkov kladie dôraz na dopravnú bezpečnosť a zohľadňuje multidisciplinárny prístup, ktorý zahŕňa pedagogiku a psychológiu (Keskinen & Hernetkoski, 2011).

Nastavenie vzdelávania, výcviku a procesu získavania vodičského oprávnenia sa líši naprieč krajinami. Môžeme sa stretnúť s jednofázovými, dvojfázovými alebo odstupňovanými systémami udeľovania vodičského oprávnenia, pričom každý systém má svoje špecifiká, z ktorých plynú výhody aj nevýhody (Engström et al., 2003). V Českej republike je zaužívaný spôsob jednofázového vzdelávania, ktoré je presne definované zákonom a skladá sa z teoretickej výučby a praktického výcviku. Vzdelávanie je ukončené skúškou, ktorá pozostáva z testu znalostí a šoférovania v cestnej premávke (Zákon č . 247/2000 Sb.). Nad rámec tohto vzdelávania môže šofér dobrovoľne absolvovať ďalšie doplnkové kurzy a tréningy na zlepšenie šoférskych zručností, takisto môže byť účastníkom vzdelávacích dopravno-bezpečnostných prednášok s rôznym tematickým zameraním.

K tomu aby sa stal človek dobrým šoférom nestačia iba nadobudnuté vedomosti a osvojené zručnosti. Preto sa v súčasnosti pre výcvik a vzdelávanie šoférov dostáva čoraz viac do popredia model GDE (Goals for Driver Education) zameraný na správanie šoférov, ich výcvik, rozvoj schopností a ďalšie dôležité oblasti výcviku a výuky. Zameriava sa na identifikáciu vodičských schopností a schopností, ktoré je potrebné získať, aby sa z človeka stal bezpečný vodič a tiež identifikáciu faktorov, ktoré ovplyvňujú proces učenia sa pri dosahovaní týchto schopností a zručností (Rodwell et al., 2018). Model usporadúva správanie šoféra do hierarchie. Nižšie dve úrovne sa týkajú ovládania vozidla a zvládania nárokov cestnej premávky. Na vyšších dvoch priečkach stoja životný štýl, životné ciele, hodnoty a postoje šoféra. Predpokladá sa, že vyššie úrovne riadia a kontrolujú správanie nižšej úrovne, pričom sú tieto úrovne vzájomne prepojené a závislé. Akákoľvek zmena na jednej úrovni vedie k zmenám na ostatných úrovniach. Tieto úrovne sú prepojené s dimenziami, ktoré zohľadňujú aj vedomie vlastných charakteristík, schopností či rizík. Spojením 4 úrovní a 3

dimenzií vznikla matica, v ktorej jednotlivé bunky definujú rámec kompetencií, ktoré šofér potrebuje k bezpečnému šoférovaniu. Matica môže byť podkladom pre vytýčenie cieľov a náplne šoférskeho vzdelávania a výcviku. K zefektívneniu výučby je potrebné venovať pozornosť čo najväčšiemu rozsahu matice (Šucha, 2019).
Za problematický považujeme dôraz, ktorý sa v autoškolách kladie predovšetkým na prvé dve úrovne GDE modelu, pričom zahraničné výskumy ukazujú, že zaradenie ďalšej fázy vzdelávania alebo výcviku a cielenie na vyššie úrovne GDE vedú k zvýšeniu dopravnej bezpečnosti (Mynttinen et al., 2010; Cutello et al., 2020). Prvým krokom k tvorbe systematických zmien a inovácií je výborná znalosť a porozumenie reálnemu aktuálnemu stavu súčasného systému. Vo vyhláškach a osnovách môžeme nájsť obsah, s ktorým by sa mal počas výučby a tréningu v autoškole stretnúť každý budúci šofér, no teória a prax nemusia byť totožné. Preto sme sa rozhodli zmapovať skúsenosti českých začínajúcich šoférov s absolvovaným vzdelávaním a výcvikom v autoškole.

2 METODOLOGICKÝ RÁMEC

Cieľom prezentovaného výskumu, ktorý bol realizovaný a prezentovaný v rámci magisterskej diplomovej práce je zodpovedať otázku *„Ako mladí začínajúci šoféri v Českej republike hodnotia absolvované šoférske vzdelávanie?“* Zaujíma nás ich subjektívna skúsenosť a pripravenosť do praxe so zameraním predovšetkým na psychologické aspekty šoférovania a oblasti, ktoré sú úzko prepojené so zvyšovaním dopravnej bezpečnosti. V tomto výskume sme zvolili kvantitatívny prístup s využitím dotazníkového šetrenia.
Pre tento účel bol využitý dotazník vlastnej konštrukcie, ktorý mapoval základné demografické údaje, šoférske skúsenosti, hodnotenie vlastných schopností a tiež zhodnotenie absolvovaného šoférskeho vzdelávania v autoškole. Dotazník bol zostavený tak, že jednotliví respondenti odpovedali na rôzny počet otázok, nakoľko sa im zobrazovali iba otázky relevantné k predchádzajúcim odpovediam (napr. respondentovi, ktorý zatiaľ nebol účastníkom dopravnej nehody sa nezobrazovali otázky o následkoch dopravnej nehody), pričom maximálny počet zodpovedaných otázok bol 81, z toho 3 kontrolné. Do dotazníku boli zahrnuté aj otázky, ktoré nie sú využité v rámci tohto výskumu, ale budú využité v ďalších prácach.
Dotazník bol administrovaný a distribuovaný výhradne online, a to predovšetkým prostredníctvom sociálnych sietí. Okrem priamej inzercie sme sa obrátili na autoškoly a stredné školy s prosbou o propagáciu medzi svojimi študentmi. Zber dát prebiehal v dvojmesačnom období od decembra 2020 do februára 2021. So všetkými dátami a údajmi, ktoré sme získali z dotazníka, sme v rámci administrácie a následného spracovania výsledkov pracovali ako s anonymnými. Nepracovali sme so špecifickými údajmi, na základe ktorých by bolo akýmkoľvek spôsobom možné zistiť identitu respondenta. Účasť respondentov na výskume bola dobrovoľná. Pred zapojením do výskumu bol každý účastník informovaný o pravom účele, povahe a kritériách výskumu a takisto bol informovaný o anonymite a výskumnom využití získaných dát. S ohľadom na možnú citlivosť niektorých tém, ktoré sa v dotazníku vyskytli (napr. účasť na dopravnej nehode) a možnosti rozrušenia, prípadne retraumatizácie respondenta sme sa rozhodli na záver dotazníka pridať informácie o možnosti kontaktovať odbornú pomoc osobne alebo dištančne (s odkazom na online psychologické poradne). Pre prípad akýchkoľvek otázok alebo postrehov sme na úvod aj záver dotazníka uviedli našu emailovú adresu, cez ktorú sa s nami mohli respondenti skontaktovať.

3 VÝSKUMNÝ SÚBOR

Cieľovú populáciu tvorili mladí šoféri vo veku od 18 do 24 rokov, ktorí získali vodičské oprávnenie skupiny B v Českej republike pred 9 až 18 mesiacmi. Spodnú vekovú hranicu sme zvolili na základe minimálneho veku potrebného pre získanie vodičského preukazu skupiny B

v Českej republike (Zákon č. 361/2000 Sb.) a hornú hranicu sme stanovili po vzore OECD a BESIP na 24 rokov (BESIP, 2021; OECD/ECMT Transport Research Centre et al., 2006). Cieľovú populáciu sme sa rozhodli ešte viac špecifikovať, aby sme zabezpečili, že respondenti už mali čas získať skúsenosti v cestnej premávke a mohli posúdiť, čo im absolvovanie autoškoly poskytlo, prípadne čo im chýbalo a zároveň sme zohľadnili, že časový odstup od absolvovania autoškoly by nemal byť príliš dlhý, aby sme minimalizovali možnosť skreslených spomienok.
Dotazník bol vyplnený 597 respondentmi, avšak 2 respondenti boli pri kontrole záznamov vyradení, nakoľko prvý neudelil súhlas so spracovaním odpovedí pre výskumné účely. Druhý respondent bol vylúčený, pretože správne zodpovedal len 1 z 3 kontrolných otázok. Pri analýze dát sme tak pracovali so súborom 595 odpovedí. V našom výskumnom súbore bolo 403 žien, 188 mužov a 4 respondenti zvolili inú možnosť. Vekový priemer súboru je 19,5 roka (SD = 1,04). Najpočetnejšie boli zastúpení 19-roční respondenti (55 %), oproti tomu boli najmenej zastúpení respondenti vo veku 23 rokov (1 %). Náš výskum zahŕňa 440 študentov vysokých škôl, 110 študentov stredných škôl, 17 študentov vyšších odborných škôl, 1 študenta inej (bližšie nešpecifikovanej) školy a 27 pracujúcich. Z hľadiska času, ako dlho sú respondenti držiteľmi vodičského oprávnenia boli najpočetnejšie zastúpení mladí šoféri, ktorí absolvovali autoškolu pred 18 (33 %) a 9 (15 %) mesiacmi.

3.1 Šoférske skúsenosti

Z hľadiska frekvencie šoférovania môžeme výskumný súbor rozdeliť do 5 skupín. Takmer denne šoféruje 33 % našich respondentov. Najväčšia časť výskumného súboru, a to 36 %, šoféruje aspoň raz týždenne. Minimálne raz mesačne šoféruje 17 % respondentov. Výnimočne, respektíve menej často ako raz za mesiac, sadá za volant 10 % nášho výskumného súboru a 4 % respondentov uviedli, že nešoférujú vôbec.
Okrem frekvencie šoférovania sme zisťovali aj celkový počet najazdených kilometrov. Najviac respondentov, a to 36 %, odpovedalo, že majú odjazdených viac ako 2000 km. Do rozmedzia 1001 až 2000 najazdených sa radí 14 % respondentov. Do ďalšej kategórie, ktorá zahŕňa šoférov, ktorí doteraz najazdili medzi 501 a 1000 km, spadá 20 % respondentov. Menej šoférskych skúseností získalo 22 % respondentov, ktorá majú najazdených medzi 101 a 500 km. Len minimum skúseností po získaní vodičského oprávnenia nadobudlo 8 % respondentov, ktorí odjazdili len menej ako 100 kilometrov.
Výskumy ukazujú, že pasažieri môžu mať na správanie šoféra významný vplyv v pozitívnom aj negatívnom smere v závislosti na tom, kto posádku tvorí. Preto sme zisťovali, či šoféri v dobe vypĺňania dotazníka jazdia pod dohľadom niekoho skúsenejšieho. 67 % respondentov odpovedalo, že nejazdí pod supervíziou skúsenejšieho šoféra. Zvyšných 33 % respondentov uvádza, že väčšinou jazdia s dohľadom. Zistili sme, že výrazne najčastejšie robia svojim deťom dohľad rodičia, ktorí boli uvedení až v 70 % odpovedí. Za nimi nasledujú partneri (15 %), súrodenci (7 %), ďalší členovia rodiny (7 %) a na poslednom mieste sa umiestnili kamaráti (6 %). Následne sme zisťovali, kto tvorí posádku auta bez ohľadu na to, čí šoférovi robia dozor alebo nie.
Zo získaných dát sme zistili, že celkom 12 % respondentov bolo účastníkom dopravnej nehody v pozícii šoféra automobilu. Pri bližšom skúmaní sme zistili, že 9 % respondentov bolo účastníkom nehody práve raz, 2 % dvakrát a 1 % trikrát. Ďalej sme zistili, že zo všetkých dopravných nehôd boli respondenti v našom výskumnom súbore označení za vinníkov dopravnej nehody v 33 % dopravných nehôd. Ani jedna z týchto nehôd nemala za následok úmrtie alebo ťažké zranenie niekoho z účastníkov. V jednom prípade došlo k ľahkým zraneniam a v ostatných prípadoch boli spôsobené iba materiálne škody.

4 VÝSLEDKY

Naším hlavným cieľom je zmapovať súčasnú situáciu výučby v autoškolách s dôrazom na témy, ktoré sa vzťahujú k psychologickým aspektom alebo témam, ktoré súvisia s najčastejšími príčinami dopravných nehôd. Zaujíma nás, či sa respondenti s jednotlivými témami v autoškole stretli a pokiaľ áno, ako efektívne boli z ich subjektívneho pohľadu tieto témy vyučované. Efektivita bola hodnotená na 6-stupňovej škále, pričom hodnota 1 znamená veľmi neefektívnu výučbu a hodnota 6 veľmi efektívnu výučbu.

Z výsledkov prezentovaných v tabuľke 1 môžeme vidieť, že najviac respondentov sa venovalo téme dodržiavania maximálnej povolenej rýchlosti a znalosti dopravných predpisov. Naopak najmenej respondentov sa stretlo s témou potlačovania agresivity pri šoférovaní a zvládaniu silných emócií. Respondenti ako najefektívnejšiu ohodnotili oblasť výučby a výcviku zameranú na dodržiavanie maximálnej povolenej rýchlosti a ako najmenej efektívnu hodnotili výučbu zameranú na zvládanie silných emócií pri šoférovaní.

Téma	**Relatívny počet respondentov, ktorí sa téme venovali**	**Priemer hodnotenia efektívnosti (SD)**
Znalosť dopravných predpisov o cestnej premávke	97 %	4,29 (1,36)
Dodržiavanie maximálnej povolenej rýchlosti	99 %	5,03 (1,23)
Prispôsobenie rýchlosti s ohľadom na druh vozidla, stav vozovky, náklad, klimatické podmienky	95 %	4,23 (1,50)
Prevencia a zvládanie únavy za volantom	52 %	3,62 (1,57)
Plánovanie jazdy	42 %	3,85 (1,59)
Zvládanie silných emócií pri šoférovaní	35 %	3,51 (1,57)
Potlačovanie agresivity pri šoférovaní	34 %	3.57 (1,52)
Zvládanie nárokov spolujazdcov	44 %	3,72 (1,50)
Vplyv alkoholu a návykových látok	84 %	4,78 (1,41)
Doba, ktorú pôsobí alkohol na človeka	59 %	4,24 (1,51)
Doba, ktorú pôsobia na človeka návykové látky (iné ako alkohol)	51 %	4,11 (1,55)
Venovanie plnej pozornosti šoférovaniu	93 %	4,79 (1,26)
Nepoužívanie mobilných telefónov alebo iných zariadení	84 %	4,90 (1,36)

Tabuľka 1 Výsledky hodnotenia vzdelávania v autoškole z pohľadu vyučovaných tém a ich efektívnosti

Každý z respondentov má od absolvovania autoškoly minimálne deväťmesačný odstup. V tomto čase mali mladí šoféri priestor nadobudnúť nové skúsenosti, aplikovať to, čo sa naučili v autoškole a zistiť, ako ich výučba a výcvik pripravili do šoférskej praxe. Preto sme respondentom položili otázku, ako hodnotia, že boli po absolvovaní autoškoly, pripravení na vlastnú šoférsku prax. Odpovedať mali na 5-stupňovej škále (1 = nedostatočná pripravenosť, 5 = dostatočná pripravenosť). Priemerná odpoveď sa hodnotou 3,23 (SD = 1,12) blížila stredu. Stredová hodnota 3 bola zároveň v našom výskumnom súbore najčastejšou odpoveďou. Zvolila ju takmer tretina respondentov (32 %). Krajnú hodnotu, ktorá značila nedostatočnú pripravenosť do praxe zvolilo 38 respondentov (6 %). Krajnú hodnotu na opačnej strane škály, a to dostatočnú pripravenosť do praxe, zvolilo 87 respondentov, čo tvorí 15 % výskumného súboru.

Pre doplnenie obrazu o hodnotení absolvovaného vzdelávania nás zaujímalo, čo respondentom v autoškole chýbalo a bolo by potrebné z ich pohľadu doplniť. Priestor na

vyjadrenie dostali v dvoch otvorených dobrovoľných otázkach: „Čo ste v praxi zistili, že Vás v autoškole nenaučili, ale hodilo by sa Vám to?“ a „Čo ďalšie by ste vo výcviku v autoškole uvítali?“. Prvú otázku zodpovedalo 268 respondentov a druhú 214 respondentov. Odpovede z týchto dvoch otázok sme spojili a vytvorili z nich kategórie uvedené v tabuľke 2 zoradené zostupne podľa frekvencie výskytu.

Oblasť	**N**
Ovládanie vozidla	97
Rôzne typy ciest	54
Nácvik šmyku	51
Technická údržba	48
Parkovanie	45
Šoférovanie v rôznych podmienkach	45
Pripravenosť na krízové situácie	37
Väčšia časová dotácia na praktické jazdy	29
Psychologické aspekty šoférovania	27
Prístup inštruktorov	22
Jazda vo viacerých typoch vozidla	18
Teoretická znalosť pravidiel a predpisov cestnej premávky	13
Prvá pomoc	7
Nepísané pravidlá slušného správania na ceste	5
Pôsobenie alkoholu na šoféra	3

Tabuľka 2 Oblasti, na ktoré by sa respondenti v autoškole chceli zamerať viac

5 DISKUSIA

Mladí šoféri patria dlhodobo medzi vysoko rizikových účastníkov cestnej premávky. Ich vysoká nehodovosť s nepomerne vysokým zastúpením ťažkých a fatálnych následkov sú celosvetovým problémom, Českú republiku nevynímajúc (BESIP, 2020b; Český statistický úřad, 2019; Rolison & Moutari, 2020; WHO, 2022). Problematike mladých šoférov sa výskumníci vo svete venujú už niekoľko desaťročí, no v Českej republike nemá takú bohatú výskumnú tradíciu a mnoho tém doteraz nebolo predmetom vedeckého skúmania.

V rámci našej štúdie sme sa venovali skúmaniu mladých českých vodičov, ich skúseností a hodnoteniu absolvovaného vzdelávania a výcviku v autoškolách. Cieľovou skupinou boli mladí šoféri osobných automobilov vo veku od 18 do 24 rokov so šoférskou praxou od 9 do 18 mesiacov. Prostredníctvom online dotazníka sme získali 595 respondentov, ktorí boli súčasťou výskumného súboru. Je dôležité poznamenať, že tento súbor respondentov nie je reprezentatívny pre celú cieľovú populáciu, no napriek prísnym podmienkam zaradenia do výskumu sa nám podarilo osloviť pomerne širokú časť populácie.

Výsledky naznačujú, že výučba v jednotlivých autoškolách nie je jednotná a každá autoškola sa zameriava na iný rozsah tém, čo je v súlade so zisteniami prieskumu k diplomovej práci o aspektoch dopravnej výuky v brnenských autoškolách. Jeho výsledky ukázali, že počet hodín teoretickej výuky sa naprieč autoškolami líši (Bradnová, 2016), z čoho môžeme usudzovať, že je rozdielny aj priestor venovaný dôležitým témam pre výchovu bezpečného šoféra. V našom výskume sme zistili, že z kľúčových tém relevantných k dopravnej bezpečnosti sa najčastejšie vyučujú oblasti dodržiavania maximálnej povolenej rýchlosti, znalosti dopravných predpisov, dôležitosť prispôsobiť rýchlosť s ohľadom na druh vozidla, stav vozovky, náklad či klimatické podmienky a význam venovania plnej pozornosti riadeniu vozidla. Dodržiavanie povolenej rýchlosti a venovanie plnej pozornosti šoférovaniu patria aj medzi oblasti, ktoré

respondenti hodnotili ako najefektívnejšie vyučované. Za nimi v efektívnosti nasledujú vplyv alkoholu a návykových látok na správanie šoféra a nepoužívanie mobilných telefónov pri šoférovaní. Pri oblastiach, ktorým je venovaná veľká pozornosť a sú vyučované pomerne efektívne, sa jedná predovšetkým o témy nevyhnutné pre zvládanie bežných nárokov cestnej premávky z hľadiska dopravného systému a vo väčšine autoškôl je tak dôraz kladený na správne vykonanie jednotlivých úkonov a osvojenie si základných zručností, čo odpovedá prvej a druhej úrovni GDE modelu (Rodwell et al., 2018).

Uvedomujeme si, že bezpečná jazda zahŕňa schopnosť šoféra ovládať vozidlo, adaptovať sa na aktuálne podmienky a mať znalosti o pravidlách dopravného systému, v ktorom sa pohybuje. Do týchto procesov však vstupuje osobnosť, motivácia či aktuálny stav šoféra, no napriek tomu sa vo väčšine autoškôl upriamuje málo pozornosti na psychologické aspekty šoférovania. Zistili sme, že najmenej sa v autoškolách venuje priestor oblastiam ako šoférovo zvládanie silných emócií či agresívnych tendencií, takisto sa venuje málo priestoru stratégiám, ako zvládať nároky spolujazdcov a ako si bezpečne naplánovať jazdu bez zbytočného vystavovaniu sa riziku a ako pri šoférovaní predchádzať únave. Z pohľadu respondentov, ktorí sa týmto témam v autoškole venovali, boli tieto témy zároveň hodnotené ako najmenej efektívne vyučované. Do oblastí, ktorým sa venuje malá pozornosť vo veľkej časti autoškôl patrí aj doba pôsobenia alkoholu a iných návykových látok, a tak mladí šoféri často nemusia vedieť, kedy najskôr je bezpečné opäť riadiť motorové vozidlo. Napriek tomu, že podľa Vyhlášky č.167/2002 Sb. sa jedná o témy, ktorým by sa výučba mala venovať, percento respondentov, ktorí sa s danými témami v autoškole nestretli nás neprekvapilo. Avšak aj na základe doterajších výskumov (Cutello et al., 2020; Mynttinen et al., 2010) sa domnievame, že témy, ktoré sa venujú motivácii, postojom a emočnej stránke vodičov sú ďalším dôležitým krokom pre zvýšenie dopravnej bezpečnosti (nielen) mladých šoférov.

Mladí šoféri z nášho výskumného súboru sa pri hodnotení pripravenosti do praxe po absolvovaní autoškoly v priemere ohodnotili uprostred škály nedostatočná - dostatočná pripravenosť. Z ich doplňujúcich odpovedí predpokladáme, že autoškola ich pripravila na úspešné zvládnutie záverečných skúšok a na mnohé základné úlohy držiteľov vodičského oprávnenia. Avšak, mnohí vo svojej šoférskej praxi objavili oblasti, ktorým by potrebovali počas výučby a výcviku v autoškole venovať pozornosť. Zistili sme, že najčastejšie by absolventi uvítali viac času venovanému lepšiemu ovládaniu vozidla, ako napríklad preradzovanie rýchlosti, brzdenie, cúvanie, rozjazd do kopca či ovládanie svetiel a ďalších prvkov vozidla. Takisto by uvítali možnosť vyskúšať si základnú technickú údržbu vozidla. To, že sa na tieto oblasti nezameriava každá autoškola potvrdzuje aj prieskum brnenských autoškôl, z ktorého vyplýva, že sa rozjazdu v kopci venuje len menej než polovica autoškôl a napríklad výmene kolesa pri defekte len menej než pätina autoškôl (Bradnová, 2016). Nejedná sa síce o reprezentatívny súbor autoškôl so zameraním na všetky oblasti, ktoré sú z pohľadu našich respondentov dôležité, ale považujeme ho za ukážku, že týmto oblastiam, ktoré by mohli viesť k väčšej istote budúcich šoférov, sa v autoškolách nevenuje dostatok priestoru. Ďalej by uvítali aj ďalšie z praktických oblastí výcviku ako je parkovanie, ovládanie vozidla v rôznych klimatických podmienkach, nácvik šmyku.

Význam zapojenia psychologických aspektov do vzdelávania v autoškolách respondenti potvrdili potrebou zaradiť do vzdelávania prípravu na krízové dopravné situácie, ako sú napríklad dopravné nehody. Cítia potrebu byť pripravení v podobných náročných situáciách adekvátne reagovať a postupovať. Respondenti by taktiež vo výučbe ocenili základnú psychologickú prípravu, ktorá by im pomohla vytvoriť si stratégie zvládania stresu, agresivity a silných emócií, ktoré sa môžu pri šoférovaní objaviť. Takisto by uvítali tému, ako zvládať nároky a tlak spolujazdcov, či už sa jedná o rodičov alebo kamarátov. Okrem psychologickej podpory samotných šoférov by bola vítaná aj psychologicko-pedagogická práca s inštruktormi autoškôl a ich pôsobením na študentov.

V našom výskume vidíme niekoľko limitov. Jedným z nich sú limity dotazníkového zberu dát. Náš dotazník je postavený na princípe subjektívneho hodnotenia vlastných skúseností. Na mnohé výsledky sa tak pozeráme najmä z hľadiska názoru mladých českých šoférov. Ďalším z nedostatkov anonymného dotazníkového šetrenia je nemožnosť overiť si pravdivosť informácií, ktoré nám respondenti poskytli. Takisto vidíme ako limit nemožnosť zovšeobecniť nájdené výsledky na celú cieľovú populáciu, nakoľko náš výskumný súbor nebol reprezentatívny. Väčšina respondentov boli vysokoškolskí študenti, ktorí môžu byť oproti ostatným mladým šoférom špecifickí, a tak môžu byť týmto faktorom skreslené výsledky. Uvedomujeme si veľmi nízky podiel mladých pracujúcich v súbore. V ďalších výskumoch vidíme priestor hľadať iné komunikačné kanály, ktoré by oslovili práve túto skupinu a získali by sme tým cenný pohľad širšieho spektra mladých šoférov.
Výstup tohto projektu môže odstrániť absenciu podobných vedeckých výsledkov v Českej republike a zároveň môže napomôcť k ďalším inováciám a intervenciám v oblasti dopravnej bezpečnosti. S výstupmi tohto výskumného projektu ďalej pracujeme v rámci nášho doktorského štúdia, pričom získané poznatky nám pomôžu k vytvoreniu českého dopravno-psychologického programu, ktorý by mohli začínajúci šoféri absolvovať po autoškole. Tvorba a pilotná realizácia programu je predmetom našej dizertačnej práce.

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KVALITA ŽIVOTA RODINY DIEŤAŤA S OCHORENÍM DIABETES MELLITUS

QUALITY OF LIFE OF THE FAMILY OF A CHILD WITH DIABETES MELLITUS

Zuzana Šimová, Andrea Šuličová, Tatiana Šantová, Jana Cinová, Zuzana Novotná, Ľubica Derňárová

Abstrakt

Diabetes mellitus 1. typu je závažné, chronické, celoživotné ochorenie, ktoré je väčšinou diagnostikované v detskom veku a významne ovplyvňuje kvalitu života detí, ale samozrejme aj ich rodičov. Náročný manažment diabetu vyžaduje okrem dodržiavania diabetického liečebného režimu tiež pozitívne psychologické pôsobenie na dieťa, kde zohráva nezastupiteľnú úlohu pevné rodinné zázemie, spolupatričnosť, porozumenie a primeranosť voľnosti. Dôležitá je aj sociálna podpora rodiny a priateľov. Vplyvom chronického ochorenia sa môže narušiť vnútorná súdržnosť rodiny. Ľahšie môže dôjsť k nabúraniu rodinného systému nadmernou záťažou a následne vyústiť do rozpadu rodiny. Pokiaľ je však adaptácia rodiny na takú zmenu ideálna, dôjde k usporiadaniu života rodiny tak, že sú saturované potreby nielen chorého dieťaťa, ale aj ostatných rodinných členov.

Klúčové slova: *Kvalita života. Rodina. Diabetes mellitus. Chronické ochorenie. Dieťa.*

Abstract

Type 1 diabetes mellitus is a serious, chronic, lifelong disease that is mostly diagnosed in childhood and significantly affects the quality of life of children, but of course also their parents. The demanding management of diabetes requires, in addition to adherence to the diabetic treatment regimen, also a positive psychological effect on the child, where a solid family background, togetherness, understanding and reasonable freedom play an irreplaceable role. Social support from family and friends is also important. Due to the influence of a chronic illness, the internal cohesion of the family can be disrupted. It is easier for the family system to be broken by an excessive load and subsequently result in the disintegration of the family. However, if the family's adaptation to such a change is ideal, the family's life will be arranged in such a way that the needs of not only the sick child, but also the other family members are satisfied.

Key words: *Quality of life. Family. Diabetes mellitus. Chronic disease. Child.*

1 VPLYV DIABETES MELLITUS DIEŤAŤA NA KVALITU ŽIVOTA RODINY

Diabetes mellitus 1. typu je chronické ochorenie, ktoré je diagnostikované prevažne v detskom veku. Toto ochorenie prináša psychické a sociálne dôsledky nielen na dieťa, ale rovnako aj na jeho rodičov. Pozitívne vnímanú kvalitu života a prežívanie dlhodobej psychickej subjektívnej pohody detí a dospievajúcich priaznivo ovplyvňujú pozitívne citové vzťahy rodičov k dieťaťu, kladenie primeraných nárokov na dieťa zo strany obidvoch rodičov, kvalita vzťahu medzi rodičmi, vysoká súdržnosť v rodine, otvorenosť v komunikácii a v prejavovaní pocitov, nízka miera konfliktnosti v rodine, jasne formulované pravidlá a povinnosti jednotlivých členov rodiny a rozvíjanie prosociálneho správania v rodine (16).

Dieťa a rodina sa pri ochorení diabetes musia mnoho nového naučiť. U dieťaťa sa jeho možnosti porozumenia choroby a liečebným postupom odvíjajú od veku a zručností. Rodičia aj deti sa učia všetkým zručnostiam a znalostiam potrebným na zvládnutie diabetu a starostlivosti o dieťa v domácom prostredí, ako sú napríklad aplikácia inzulínu, selfmonitoring, rozpoznanie hypoglykémie a poskytnutie prvej pomoci. Nevyhnutné je podať aj zodpovedajúce informácie v škôlke, škole, záujmových krúžkoch, aby sa dieťa mohlo zaradiť čo najlepšie do bežného života, ako pred ochorením (18). Snahou dnešnej starostlivosti o diabetické deti je, aby sa v živote rodiny zmenilo čo najmenej. Sú však zmeny, ktoré nastať musia, sú nevyhnutné, ako je prispôsobenie času s ohľadom na starostlivosť, najmä u malých detí dochádza často k zmenám v zamestnaní matiek, tie často odchádzajú zo zamestnania a starajú sa o dieťa s diabetom. To okrem iného spôsobuje pre rodinu zníženie príjmu, no zároveň si ochorenie vyžaduje aj zvýšené výdavky (11,14).
Chronické ochorenie je niečo, s čím rodina vopred nepočíta, a preto zažíva obavy o zdravie dieťaťa a kvalitu života. Celá rodina môže pociťovať dištanc od ostatných rodín, ktorý je spôsobený odlišným fungovaním rodiny (2). Týmto sa rodič môže dostať do sociálnej izolácie, čo môže mať za následok vznik pocitu neistoty, nízke sebavedomie a sebadôveru, čo môže často viesť k rôznym psychickým ochoreniam. Rodič v kolobehu starostlivosti o vlastné dieťa môže stratiť svoje pracovné návyky a sociálne kontakty (3).
Ochorenie kladie na rodinu nároky, ktorým sa musí rodina prispôsobiť tak, že si rozdelia úlohy v rodine medzi všetkých členov a naučia sa navzájom si poskytovať podporu a pomoc pri riešení spoločných problémoch. Rodina a dieťa musia dodržiavať liečebné a výchovné postupy doporučené lekárom, zaistiť dieťaťu ochranu vždy, keď je to nevyhnutné, kontrolovať dieťa pri dodržiavaní životosprávy a naučiť sa poskytnúť rýchlu pomoc pri náhlej zmene zdravotného stavu ohrozujúceho život, napríklad hypoglykémia (7).
Veľmi dôležitým vzťahom pre takéto dieťa je vzťah so súrodencami, ktorí chránia a pomáhajú sa súrodencovi začleniť do sociálneho prostredia. Častou situáciou v takých rodinách sa stáva, že rodičia dieťa s ochorením preferujú, čím môžu u ostatných súrodencov vyvolať nepriateľstvo. Niekedy súrodenci žiarlia napríklad na čas strávený s rodičmi nutný na liečbu, na čas strávený na kontrolách u lekárov. Súrodenci chorých detí sa môžu často cítiť až ublížene, pretože liečba zasahuje aj do ich života (1). Rodičia by mali preto zachovať rovnako spravodlivý prístup ku všetkým svojim deťom. To ako pristupujú rodičia voči dieťaťu sa odráža aj na postoji súrodencov voči nemu (7).

1.1 Problémy rodiny dieťaťa s ochorením diabetes mellitus

Diabetes mellitus 1. typu je vo väčšine prípadov diagnostikovaný v detstve alebo v dospievaní, preto je nesmierne dôležité sledovať a správne hodnotiť vplyv ochorenia na samotné dieťa a celú jeho rodinu. Liečba diabetu je tak intenzívna a trvalá, že môže narušiť každodenné činnosti dieťaťa a rodiny, môže negatívne ovplyvniť kvalitu života dieťaťa, emocionálny vývoj, sociálnu integráciu a iné nemenej dôležité aspekty života (10).
Rodiny s detským diabetikom sa stretávajú s mnohými problémami. Medzi najčastejšie patria:

- psychická a fyzická záťaž rodičov, ktorá je spôsobená ochorením dieťaťa,
- vysoký stres, ktorý je vyvolaný faktom, že ochorenie je celoživotné,
- rodina často hľadá vinníka, ktorý je zodpovedný za vznik choroby, čím sa narušujú vzťahy v rodine a dieťa začne nezmyselne obviňovať samo seba,
- nedodržiavanie režimových opatrení z rôznych príčin smeruje k zlej kompenzácii,
- finančné problémy kvôli zvýšeniu nákladov na liečbu,
- strata zamestnania rodiča, pracovných zručností, strata sociálnych vzťahov, popieranie reality a strata záujmových činností,

- upnutie sa rodiča, predovšetkým matky, na choré dieťa a prehnaná ochrana dieťaťa. Nevníma potreby ostatných detí a svojho partnera, čo môžu vyústiť do rozpadu manželstva a straty základnej funkcie rodiny,
- výber voľno - časových aktivít a povolania pre dieťa s ohľadom na jeho zdravotný stav,
- izolácia dieťaťa medzi svojimi vrstovníkmi, ale aj izolácia dieťaťa zo strany rodičov bez opodstatnených obáv (7).

2 PRIESKUM U RODIČOV DETÍ S OCHORENÍM DIABETES MELLITUS

Hlavným cieľom štúdie bolo zistiť vplyv ochorenia diabetes mellitus dieťaťa na rodinnú záťaž a kvalitu života rodiny. Ďalej sme chceli zistiť, mieru záťaže rodičov pri starostlivosti o dieťa s ochorením diabetes mellitus vzhľadom na vzdelanie rodičov.

2.1Súbor a metodika

Prieskum sme realizovali vo februári 2023. Na prieskume sa zúčastnilo 78 rodičov detí s ochorením diabetes mellitus. Priemerný vek rodičov bol 41 rokov. Z hľadiska pohlavia bolo 72 žien a 6 mužov. Z hľadiska vzdelania bolo 43 rodičov so stredoškolským vzdelaním a 35 rodičov s vysokoškolským vzdelaním. Na posúdenie kvality života rodiny s dieťaťom, ktoré trpí ochorením diabetes mellitus sme použili dotazník Questionnaire for Parents of Children and Adolescents with Diabetes (8). Dotazníkom rodičia hodnotili oblasti zamerané na záťaž rodiny, zmenu schopností dieťaťa v škole vplyvom diabetu, zdravotný stav dieťaťa a kvalitu života dieťaťa. Otázky boli bodované od 1 do 5 a nižšie skóre indikovalo menšiu rodinnú záťaž alebo lepšiu kvalitu života.

2.2 Kvantitatívna analýza výsledkov

Tabuľka 1 Pociťovanie záťaže rodičov

Dôvody záťaže	Priemer	SD
Uskutočňovanie lekárskych ošetrení/ošetrovateľských úloh	2,6	0,8
Starostlivosť o dieťa a narušenie rodinných zvykov	2,1	0,8
Fyzické a psychické problémy dieťaťa vplyvom ochorenia	2,5	1
Obmedzovanie dieťaťa v sociálnych a v školských aktivitách vplyvom ochorenia	2,5	0,9
Obavy o dlhodobé zdravotné problémy dieťaťa	1,6	0,8

Legenda: 1 – najväčšia záťaž, 2 – veľká záťaž, 3 – priemerná záťaž, 4 – malá záťaž, 5 – žiadna záťaž

Najväčšiu záťaž pociťovali rodičia v oblasti obáv o dlhodobé zdravotné problémy dieťaťa a najnižšiu záťaž v oblasti uskutočňovania lekárskych ošetrení.

Tabuľka 2 Zmena výsledkov dieťaťa v škole od začiatku diabetu

Výsledky	n	%	Priemer	SD
Vylepšené	2	2,6%	3	0,92
Mierne zhoršené	18	23,1%		
Rovnaké	45	57,7%		
Výrazne zhoršené	4	5,1%		
Nepoužiteľné	9	11,5%		
Spolu	**78**	**100%**		

Z analýzy výsledkov vyplýva, že väčšina rodičov detí s diabetes mellitus uvádza rovnaké výsledky detí v škole od začiatku ochorenia.

Tabuľka 3 Kvalita života dieťaťa z pohľadu rodičov

Kvalita života	n	%	Priemer	SD
Veľmi dobrý	14	17,9%	3,8	0,8
Dobrý	34	43,6%		
Stredný	26	33,3%		
Zlý	4	5,1%		
Veľmi zlý	0	0,0%		
Spolu	**78**	**100%**		

Väčšina rodičov hodnotila kvalitu života dieťaťa ako dobrú.

Tabuľka 4 Záťaž ochorenia dieťaťa v súvislosti so vzdelaním rodičov

	SŠ		VŠ	
Dôvody záťaže	**Priemer**	**SD**	**Priemer**	**SD**
Uskutočňovanie lekárskych ošetrení/ošetrovateľských úloh	2,7	0,9	2,5	0,8
Starostlivosť o dieťa a narušenie rodinných zvykov	2,3	1	2	0,6
Fyzické a psychické problémy dieťaťa	2,4	1	2,6	0,9
Obmedzovanie dieťaťa v sociálnych a v školských aktivitách vplyvom ochorenia	2,6	1	2,4	0,8
Obavy o dlhodobé zdravotné problémy dieťaťa	1,6	0,9	1,6	0,9

Legenda: 1 – najväčšia záťaž, 2 – veľká záťaž, 3 – priemerná záťaž, 4 – malá záťaž, 5 – žiadna záťaž

Pri komparácii záťaže v starostlivosti o dieťa s DM vzhľadom na vzdelanie rodičov, sme zistili, že najväčšiu záťaž pociťujú rodičia s vysokoškolským vzdelaním aj so stredoškolským vzdelaním v oblasti obáv o dlhodobé zdravotné problémy.

3 DISKUSIA

Chronické ochorenie, medzi ktoré patrí aj diabetes mellitus, môže spôsobovať trvalé znevýhodnenie v živote dieťaťa. Choroba sa stáva každodennou súčasťou života nielen detí, ale aj ich rodičov a všetci sa s ňou musia naučiť žiť (17). Rodiny, v ktorých sa u dieťaťa zistí chronické ochorenie, sú vystavené veľmi náročnej životnej situácii, na ktorú nie je nikto pripravený. Rodiny v takejto situácii sa musia vyrovnávať so záťažou, musia meniť rebríček hodnôt, zmeniť plány do budúcnosti, zmeniť chod bežných dní (12). Kirk a kol. preukázali, že diabetes sa považuje za veľkú výzvu pre rodiny, ktorá môže viesť k stresu a úzkosti u rodičov detí s diabetes mellitus a tento psychologický problém môže byť rizikovým faktorom nízkej kvality života (9).

Mnohé štúdie potvrdzujú nižšiu kvalitu života detí a dospievajúcich s diabetom v porovnaní s ich zdravými vrstovníkmi. V štúdii Hashemipour-Zavareh a kol. (2020) bolo hodnotených 50 detí s diabetes mellitus a 50 zdravých detí a ich matiek. Zistenia tejto štúdie ukázali, že celkové skóre kvality rodinného života bolo signifikantne nižšie v rodinách diabetických pacientov ako v rodinách zdravých detí z pohľadu vnímania ich matiek (6).

Našim cieľom bolo zistiť, akú mieru záťaže pociťujú rodičia v súvislosti so starostlivosťou o dieťa s diabetom. V sledovanej vzorke rodičia udávali najväčšiu záťaž v súvislosti s obavami o dlhodobé zdravotné problémy dieťaťa. Najmenšiu mieru záťaže rodičia uvádzali v rámci uskutočňovanie lekárskych ošetrení/ošetrovateľských úloh. Naše výsledky sa zhodujú s výsledkami štúdie Ovšonkovej, Mozolovej (2012), ktoré realizovali výskum na vzorke 64 rodičov detí s diabetes mellitus. Výskumom zistili, že najvyššiu mieru záťaže rodičia pociťujú

taktiež v rámci obáv o dlhodobé zdravotné problémy dieťaťa (13). Rovnako aj autori Faulkner, Clark (1998) skúmali kvalitu života rodičov s deťmi a dospievajúcimi s diabetes 1. typu. Autori zistili, že najväčšiu záťaž pociťujú rodičia v rámci obáv o dlhodobé zdravotné problémy dieťaťa v budúcnosti (3).

Škola a povinnosti súvisiace so školou predstavujú pre rodičov veľké obavy preto, lebo rodičia nebudú mať dieťa pod kontrolou a boja sa ako dieťa bude zvládať svoje ochorenie bez ich dohľadu, a ako budú vedieť pedagógovia zareagovať v mimoriadnych situáciách (7). Škvor (2011) uvádza, že dieťa s diabetom má rovnaký výkon ako po intelektovej stránke, tak po telesnej ako ostatní rovesníci. Preto plán výučby a požiadavky na dieťa musia byť rovnaké ako u zdravých detí (15). Zisťovali sme preto, aký vplyv malo ochorenie dieťaťa na výsledky v škole. V rámci hodnotenia vplyvu diabetu na zmeny schopností dieťaťa v škole, väčšina rodičov uviedla, že ich výsledky v škole ostali rovnaké respektíve sa len mierne zhoršili. Tieto výsledky korešpondujú aj s výsledkami štúdie Ovšonkovej, Mozolovej (2012). (13).

Zaujímalo nás ako hodnotia rodičia celkový zdravotný stav ich dieťaťa v súčasnosti. Analýzou údajov sme zistili, že väčšina rodičov hodnotí zdravotný stav ich dieťaťa ako dobrý. Taktiež štúdia Hoey a kol. (2006), ktorá bola realizovaná na vzorke 101 dospievajúcich detí s diabetes mellitus 1. typu a ich rodičov zo 17 krajín potvrdila, že väčšina rodičov ohodnotila celkový zdravotný stav dospievajúcich detí ako dobrý alebo veľmi dobrý (73 %). Len veľmi málo rodičov ohodnotilo zdravotný stav dieťaťa ako zlý (8).

Ďalej sme chceli zistiť, ako hodnotia rodičia kvalitu života ich dieťaťa s ochorením diabetes. U nórskych detí a dospievajúcich s diabetes mellitus bola vykonaná populačná štúdia zaoberajúca sa kvalitou ich života. Z hľadiska pohlavia, matky hodnotili kvalitu života horšie, než otcovia. Rodičia hodnotili kvalitu života horšie, než ich deti. (4). V rámci hodnotenia kvality života dieťaťa s diabetes mellitus v našej štúdii, sme zistili, že rodičia hodnotia kvalitu života svojho dieťaťa najčastejšie ako dobrú. Podobne aj ďalšie štúdie potvrdili, že rodičia detí s diabetes mellitus ohodnotili kvalitu života ich dieťaťa ako veľmi dobrú a dobrú (8,13).

Sledovali sme aj hodnotenie celkového zdravotného stavu ich dieťaťa s diabetes v súčasnosti z pohľadu rodičov. Analýzou údajov sme zistili, že väčšina rodičov hodnotí zdravotný stav ich dieťaťa ako dobrý. Taktiež štúdia Hoey a kol. (2006) potvrdila, že väčšina rodičov ohodnotila celkový zdravotný stav dospievajúcich detí ako dobrý alebo veľmi dobrý (73 %) a len veľmi málo rodičov ohodnotilo zdravotný stav dieťaťa ako zlý (8).

Pri sledovaní vzťahu vzdelania rodičov a mierou pociťovanej záťaže v rámci starostlivosti o dieťa s diabetom sme zistili, že najväčšiu záťaž pociťujú rodičia s vysokoškolským vzdelaním aj so stredoškolským vzdelaním v oblasti obáv o dlhodobé zdravotné problémy dieťaťa a v oblasti starostlivosti o dieťa a narušenia rodinných zvykov V ďalších sledovaných oblastiach sme nezaznamenali výraznejšie rozdiely v miere pociťovanej záťaže vzhľadom na vzdelanie rodičov. O niečo vyššiu záťaž pociťujú vysokoškolsky vzdelaní rodičia v oblasti lekárskych ošetrení a obmedzovaní dieťaťa v sociálnych a školských aktivitách. V štúdii, ktorú realizovala Ovšonková a kol. (2012) taktiež zaznamenali, že rodičia s vyšším vzdelaním dosahovali v oblasti pociťovania záťaže nižšie priemerné skóre a teda aj väčšiu záťaž (13).

4 ZÁVER

Diabetes mellitus je chronické ochorenie, ktoré má dopad na kvalitu života dieťaťa ale aj rodiny. Náročný manažment diabetu vyžaduje okrem dodržiavania diabetického liečebného režimu, tiež pozitívne psychologické pôsobenie na dieťa, kde zohráva nezastupiteľnú úlohu pevné rodinné zázemie. Pri hodnotení rodinnej záťaže v rámci starostlivosti o dieťa s diabetes mellitus sme zistili, že rodičia pociťujú najväčšiu záťaž v oblasti obáv o dlhodobé zdravotné problémy dieťaťa v budúcnosti. V rámci komparácie záťaže vzhľadom na vzdelanie rodičov sme nezaznamenali výraznejšie rozdiely. Rodičia so stredoškolským aj vysokoškolským

vzdelaním pociťujú najvyššiu záťaž v oblasti obáv o dlhodobé zdravotné problémy dieťaťa a v oblasti starostlivosti o dieťa a narušenia rodinných zvykov.

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CREATIVE APPROACH OF HIGHER EDUCATION STUDENTS TO THE USE OF NITRA CASTLE IN THE CONTEXT OF STEAM EDUCATION

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Abstract

Creativity has an important place in the teaching profession and should be developed in the pre-service training of future teachers. In our research, we focused on undergraduate student teachers whose approbation subjects fall within the STEAM concept, since this educational approach is relevant to the needs of society and also has a contribution to the development of critical and creative thinking in primary school students. On the basis of a simple educational problem, we investigated the degree of creative approach based on the number of answers, the number of different answers and the amount of details, the number of original answers. And then we also looked at subjective and objective barriers to problem solving.

Key words: *STEAM. Education. Technology. Nitra Castle. Technology.*

1 INTRODUCTION

In 2020, the World Economic Forum (WEF) defined new education models for the fourth industrial revolution. Innovation and creativity are emerging as key skills. They refer to the constantly changing conditions and the need to generate new ideas, processes and products quickly so that the future human capital, contributing to the future economy (WEF, 2020). At the same time, the OECD concurs and supports the development of key competencies and soft skills for future generations. However, the problem is the lack of implementation of these requirements by higher education institutions. At first glance, it might seem that creativity has no place in science and technology. The opposite is true. New inventions, models and theories require extremely imaginative solutions, but also problem finding and solving, hypothesis generation and modelling are based on creative thinking. The literature generally understands creativity as "the interaction between skills, process, and environment through which an individual or group produces a perceived product that is both novel and useful, as defined in a social context" (Plucker, Beghetto, and Dow, 2004). Several theories of creativity acknowledge the importance and interaction of relevant knowledge and skills, divergent and convergent thought processes, task motivation and a rewarding environment to promote creative engagement in a given task (Amabile, 1983; Amabile and Pratt, 2016; Lucas et al., 2013; Lucas, 2016; Sternberg and Lubart, 1991, 1995; Sternberg, 2006). As a result of economic, technological and societal changes, we can observe a trend where society's demand is changing from a highly specialized expert in technology to a comprehensively developed personality also in the fields of humanities and social sciences with a positive relationship to culture and nature. The current Industry 5.0 directly mentions the human being as a target in industry (Renda, Schwaag Tataj, 2022). Based on the above mentioned facts, we would like to draw attention to STEAM education in the following section. STEAM is an acronym for science, technology, engineering, arts, and mathematics. It is based on the original concept of STEM that emerged in 1998 from the US National Science Foundation (NSF), but originally referred to as STEMTEC (Sireci et al., 2001). The definition of the STEM concept is currently not uniform, often interpreted in different ways. However, from history, two levels can be identified that are interrelated. The first plane is the economy and its demand for human capital. The second plane is education, which creates human capital (Breiner et al., 2012). There is no doubt that the link between education and the economy exists. The

problem is the shortage of STEM graduates even today, which is global in nature, acknowledged by countries such as the USA, the United Kingdom, the European Union (IFO Institute, 2022), which includes Slovakia. Schools and museums should be partners in targeted education, not just as an object of an end-of-year trip. Excursions, drawing and painting courses in nature, interest groups are an appropriate form of education outside school institutions. Unfortunately, there are obstacles that make cooperation between educators and museums difficult. From our subjective point of view, one of the problems is the superficial perception of museums and monuments on the part of educators. The potential of the places in question is often narrowed down to areas related to history or excursions. However, the issue has been addressed more extensively by Dobiasová and Szabóová (2017, pp. 33-34).

1.1 Nitra Castle in the context of STEAM education

Field trips are recommended in primary school subjects, but it is up to the teacher whether to include this form of education in the curriculum. What does STEAM and Nitra Castle have in common? The answer can be found in the methods and forms of STEAM education itself. Its basis is the integration of knowledge and skills into a single unit or subject, whereas our current educational methods and forms do not directly support the linking of knowledge. STEAM even builds directly on linking knowledge to reality, thus integrating educational contexts with social ones. This connection is directly dependent on the educational methods, which are inquiry-based learning, project-based learning, problem-based learning (Tasiopoulou et al. 2022). The renewed state educational program for the subject of technology (by the Ministry of Education, Science, Research and Sport, 2015) provides us with the space for the implementation of an excursion, what kind of excursion it will be and what it will be focused on is left to the creativity of the teacher. In the course description we find the following sentence: "The concept of the course is based on concrete life situations in which man comes into direct contact with human activity and technology in its various forms and broader contexts, and through technical conveniences protects the world and cultural monuments." From our point of view, we see an opportunity to use the Nitra Castle in the following thematic areas and thematic units. In the thematic area of Technology: 5th year - thematic unit: Man and technology (environment - natural - social, relations between them, protection, nature, negative effects of technology); Man and production in practice (craft, craftsman, working tool, working tools, crafts in the past and present). In the 6th year - thematic unit: graphic communication in technology (representation in technology, design, sketch, technical sketch, pictogram, technical drawing, dimension, chalking, types of lines and scale, reading a simple technical drawing). Technical materials and their working processes (wood, metal plastics, their use and working processes). Simple machines and mechanisms (simple machines and mechanisms). Graphic communication in technology (technical documentation of a product, design, technical design of a simple product). Technical materials and working procedures of their processing (technical materials, working procedures). Machines and equipment in the household (machines and equipment). The world of work (labour market -- occupations of people, types of workplaces, work means, work objects, nature and types of work activities, qualification; training opportunities). In the 8th grade - thematic unit: technical creation (constructor, technologist, construction, technology of production design and creation of technical documentation, design). For 9th grade - thematic unit: Creative activity (practical activities aimed at making designed products combined working themes, design and technical drawing of own more complex combined product, design). In the thematic area of Home Economics we see potential in the following units: The world of work (educational opportunities, employment, entrepreneurship). Housework and household maintenance (model building, construction, assembly and disassembly). Handwork (basic tools and instruments for handwork, sewing machine; fabrics,

pattern cutting and its basic use, knitting, working with non-traditional materials, dress culture).

2 METHODOLOGY OF RESEARCH

The research survey was conducted at the beginning of 2023 in 3 groups of students of the University of Constantine the Philosopher in Nitra in the field of study: Teacher Training and Education Science, the total number of the research sample was 64 respondents, more detailed characteristics of the sample of students is presented in Table 1. The data were collected through an online questionnaire, which included question number 1: "Would you use Nitra Castle as part of an excursion in the subject Technology?" to which the respondent could choose from the following answers: yes, maybe, no. After marking the answer, the questionnaire automatically generated a question related to the previous answer. If the respondent answered "yes" in question one, question two read: "If you answered "YES" in the previous question, please give examples of how you can use Nitra Castle in a field trip in the subject Technology. For example, in which educational area or unit and in what way, or what you would focus on." If the answer to question number 1 was "maybe", the wording of the second question was: "If you answered "MAYBE" in the previous question, what reasons led you to this answer? (insufficient information about excursions, you do not currently see the potential of Nitra Castle in teaching the subject of Technology)." The respondent's last option in the first question, could have been the answer "no", followed by the question: "If you answered "NO" in the previous question, for what reasons do you not see the Nitra Castle being used in excursions in the subject of Technology ? (lack of information about the forms of excursion, you do not know how to integrate the object into the educational areas and units of the subject Technology)." The answers to the second question could be entered by the respondents in a free wording field with unlimited number of characters. We then analyzed each response in detail, focusing on the number of responses in each group (yes, maybe, no), the number of different responses and the amount of detail, and the number of original responses.

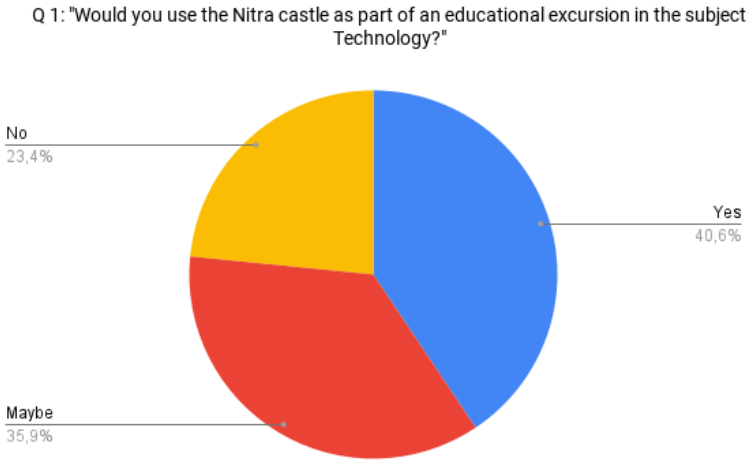
CHARACTERISTICS		**QUANTITY**
FIELD OF STUDY	Teacher of Technical Training	20
	Teacher Training of Fine Arts	7
	Teacher Training of Matematics	2
	Teacher Training of Geography	2
	Teacher Training of Music Arts	2
	Teacher Training of Pedagogy	31
GRADE AND YEAR OF STUDY		
	1. year, first cycle university study	7
	2. year,, first cycle university study	30
	3. year, first cycle university study	25
	1. year, second cycle university study	1
	2. year, second cycle university study	1
TYPE OF STUDY		
	Daily study	64
	Part-time study	0

Tab. 1 Specifics of the respondents

3 RESULTS OF RESEARCH

In the research we were interested in whether university students, future teachers with STEAM orientation, can creatively use the National Cultural Monument Nitra Castle in education, focusing on the excursion from the subject of Technology. In the context of their study in the city of Nitra, we deliberately chose this most important monument of the city of Nitra. Consequently, we wanted to find out how they would lead a given thematic excursion. In the case of "maybe" and "no" answers to question number 1, we were interested in what subjective and objective obstacles arose on the student's side, respectively.

Chart number 1 shows that up to 40.6% of the respondents can definitely use Nitra Castle in an excursion in the subject of technology. The second most frequent option was the answer "maybe" with a share of 35.9% and only 23.4% of the respondents were unable to incorporate an excursion using Nitra Castle in the subject of technology.



Graph 1: Percentage of answers to question 1.

However, from the first question, we are unable to assess the students' creative approach to the problem at hand. Therefore, let's look at the answers from the second question: 'If you answered "YES" in the previous question, please give examples of how you can use Nitra Castle in excursions in the subject Technology. For example, in which educational area or unit and in what way, or what you would focus on."
Student responses were as follows:

A1:	Cathedral tower – bell drive, mechanical traction organ, clockwork.
A2:	Play games that incorporate technical elements and use the field trip for hands-on testing and application of technical skills.
A3:	I don't have more information.
A4:	On how they built it and with what materials.
A5:	To the castle.
A6:	To attract customers and visual stimuli. If something is interestingly lit, landscaped or an optical illusion ...
A7:	For the young.
A8:	different historical techniques can be pointed out, to motivate students.
A9:	History.
A10:	As part of presenting and demonstrating what the castle was built of.
A11:	What the castle is made of, what techniques they use there, what they used and what they didn't.

A12:	Discovering different materials, techniques in building a castle. As the castle has some history, we can take some traditional occupations that made the castle famous. Or imitating the accessories worn by the inhabitants of the castle.
A13:	Depending on the topic that would be current in the group.
A14:	I would focus on the use of materials in the construction of the castle, the activities they had to use to make the castle stand in the form we see it today...
A15:	In terms of technical skills, to tell you more about the construction or the materials. Work-technical area of education.
A16:	Within one class where different types of materials or techniques would be discussed, each class would build something that would ultimately become a castle, maybe even creating the interior of the castle.
A17:	Finding materials in the castle area, describing the history of how the castle was built in the past and how houses are built now, discussing what materials might have been used in the past for construction and what materials are used now.
A18:	Trying to find as many connections to the subject as possible. The excursion doesn't have to be historically focused, feel free to focus on the materials used. The evolution of the materials used. The castle can be a model or an inspiration.
A19:	Demonstration of materials used to build, if there are any historical objects in the castle, show and define the object.
A20:	Didactics tool.
A21:	I would particularly focus on photography.
A22:	Castle construction, safety features, materials.
A23:	Show the construction, materials, how it was built.
A24:	We can use it for information if it was built and what materials it is composed of, etc.
A25:	When was the structure built. To break down what was it built from materials some. Around the castle what is there what materials is it made of. What technique was used etc. a lot of this is what could be focused on.
A26:	The production of wooden joints in the past, methods of woodworking in the past.

Table 1: Answers to the question: "If you answered "YES" in the previous question, please give examples of how you can use Nitra Castle in a field trip in the subject Technology. For example, in which educational area or unit and in what way, or what you would focus on."

If we look at the number of responses, the number of different responses, the number of original responses and the amount of detail. We find that we can divide the answers into 4 groups. The first and most numerous are the answers that mention the theoretical focus on the material and techniques in general that were used in the construction of the object, the number of these answers is 17 (A1, A4, A8, A10, A11, A12, A14, A15, A16, A17, A18, A19, A22, A23, A24, A25, A26). The second group of responses includes mention of activities with pupils or more specific focus on materials and technology, the number of responses is 9 (A12, A14, A16, A17, A18, A21, A22, A25, A26). We consider 2 answers (A1, A6) as original answers and this is due to the fact that answer A1 contains a specific focus on particular parts and mechanisms. Answer A6 is also the only one that has a narrow focus for the field of marketing and visual stimuli or optical illusions. The last, fourth group is the unclear answers of the respondents, despite the positive answer in question number 1, the number of unclear answers is 7 (A2, A3, A5, A7, A9, A13, A20). However, groups 1 to 3 are essential for our research, the results of which are elaborated in Table 2.

	Categories	Quantity
1. group	Nubmer of most frequent answers	17
2. group	Number of different answers - Flexibility	9
3. group	Original answes - Originality	2

Table 2: Number of responses for each category of the survey.

For the next open-ended question: "If you answered "MAYBE" in the previous question, what reasons led you to this answer? (lack of information about excursions, you do not currently see the potential of Nitra Castle in the teaching of the subject Technology)." Respondents answered as follows:

B1:	Insufficient information about the excursions.
B2:	I don't know what is taught in the field of technique.
B3:	We find there items that can be useful in the context of technique.
B4:	I'm not really into technique, but I think those who are into it certainly know that it would have potential.
B5:	I don't know how to teach a technique.
B6:	It could be just an excursion with the theme of the historical development of technology, or the techniques used in the construction and renovation of the castle.
B7:	I'm not entirely sure if this would be possible
B8:	The discovery of the patent, prominent inventors.
B9:	Materials used for the construction of the castle, the history of the castle.
B10:	I don't know Nitra castle well enough to conclude that it could be used in this way.
B11:	Lack of information.
B12:	It is so very nice architecture and enough to observe regarding production and products.
B13:	Lack of information.
B14:	It's very questionable whether there would be anything in the castle for my focus.
B15:	It is hard to say what kind of technical focus we would find at Nitra Castle.
B16:	Excursion of the rooms.
B17:	I do not have sufficient knowledge in the field of teaching technique.
B18:	Not enough information about the excursion.
B19:	I can't think of a meaningful use for it at the moment.
B20:	I can't think of any at the moment.
B21:	Not enough information about the excursion.
B22:	I have no idea what the topic of the excursion would be.

Table 3: Responses to the question: "If you answered "MAYBE" in the previous question, what reasons led you to this answer? (insufficient information about excursions, you do not see the potential of Nitra Castle in teaching the subject of Technology at the moment)."

The total number of answers to the question was 22. After reviewing the answers, we find that 6 respondents (B3, B6, B8, B9, B12, B16) found possibilities to use the Nitra Castle in excursions in the subject of technology, however, in their answers they do not indicate their decision for the answer "maybe". Again, 6 respondents (B2, B4, B5, B14, B15, B17) state that they do not have enough information about the engineer's sweep. We further identify 3 respondents (B1, B18, B21) who indicate that they do not have enough information about the excursion. In the penultimate group we include 6 respondents (B7, B11, B13, B19, B20, B22) whose answer is not sufficiently defined for us, but they mention lack of information, they do

not see the feasibility of an excursion on the subject. The answer of one respondent (B10) is related to the lack of information about the Nitra Castle.

Last open question: "If you answered "NO" in the previous question, for what reasons do you not know how to use Nitra Castle in an excursion in the subject of Technology ? (lack of information about the forms of excursion, you do not know how to integrate the object into the learning areas and units of the subject Technique)."

C1:	I have no idea.
C2:	I can't imagine how this would benefit tech students.
C3:	I found no connection between this subject and the purpose of the excursion.
C4:	I think Nitra Castle is not related to technique subject.
C5:	Because it's not my field.
C6:	Lack of information on forms of excursion.
C7:	I can't imagine the castle as an excursion on the subject of technique.
C8:	I don't have enough information about the technique.
C9:	I can't incorporate the excursion into the technique subject.
C10:	Due to a lack of ideas on the subject.
C11:	I would rather teach students manual skills in this subject. I would choose this excursion in the subject of history.
C12:	I don't know if this is appropriate for the subject of technique.
C13:	I don't have a subject technique
C14:	I don't see any connection with the field of technique subject.
C15:	No.

Table 4: Responses to the question: "If you answered "NO" in the previous question, what are the reasons why you cannot use Nitra Castle in the excursions in the subject Technology ? (lack of information about the forms of excursion, you do not know how to integrate the object into the learning areas and units of the subject Technique)."

The answers could be divided into groups. The first group consists of answers (C1, C15) that are not specified, containing a one-word answer. The second group is made up of respondents (C5, C8, C13) who refer to a lack of information on the subject of technology. The largest group are the answers of respondents (C2, C3, C4, C7, C9, C10, C11, C12, C14) who do not see the use of Nitra Castle in the subject of the technician in the form of an excursion, or do not have an idea for use. The last group includes the answer (C6), which refers to the lack of information about the forms of excursion.

4 DISCUSSION

The results of the questionnaire show the following: 40.6 % of the respondents can, on the basis of their previous experience and knowledge, create an excursion from the subject of technology on the example of the Nitra Castle. Using a questionnaire with a specific question, we tried to show the creative approach of university students. Based on the analysis of open-ended answers, when respondents answered that they know how to create an excursion from the subject of technology in the environment of the Nitra Castle, we found that 65% of the answers were unspecified and focused on the same area - materials and technology, since this topic is the most extensive in the subject of technology, the number of answers is not surprising to us. More specific responses accounted for 35% even though the focus was on materials and technology, respondents elaborated on the focus of the field trip, listed several options, or focused on an activity with students. And responses with an original approach were 8%; these responses were unique in content, focused on a particular topic, and were

narrowly specified. On closer examination of the other options and responses, we also found that in the second supplementary question with the form "maybe" there were 6 responses that offered the possibility of a focus for the excursion, however, it is not clear from the form of the questionnaire why the respondent chose this option, but we can assume that it is due to some form of internal uncertainty. A similar analysis reveals that 4 of the 6 responses are more specified, focusing on a particular area.

5 CONCLUSIONS

In the theoretical part, we approached the issue of STEAM education, where, based on existing experiments in the field of education, it was confirmed that it is possible to develop creative thinking using this concept. At the same time, we know from the available materials from various organizations such as OECD, WEF that there is a need to develop creative thinking at all levels of education. We agree with the statement that the development of creativity should not only be a by-product in teaching, but also one of the main objectives in undergraduate studies. On the basis of the analysis of the National Curriculum, we have demonstrated that there is room for the creation of excursions using the Nitra Castle in the subject of technology. Based on the research through a non-standardized questionnaire, we show that the creative approach of the students to this problem, is not sufficient, due to the rate of unspecified answers. At the same time, the answers show that even the teaching in the form of excursion is not sufficiently adopted among the studied sample of students, since the number of positive answers, in the first question, does not exceed 50%. It is hoped that this non-standard research will highlight the issue of underdevelopment of creative thinking among students in teacher education programmes.

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VZŤAHY MEDZI ODPUSTENÍM DETÍ V OBDOBÍ STREDNÉHO ŠKOLSKÉHO VEKU A ODPUSTENÍM ICH RODIČOV V SÚVISLOSTI S EMPATIOU

ASSOCIATIONS BETWEEN MIDDLE SCHOOL-AGED CHILDREN' FORGIVENESS AND THEIR PARENTS' FORGIVENESS IN CONNECTION WITH EMPATHY

Božena Zelenáková, Lucia Záhorcová

Abstrakt

Primárnym cieľom práce bolo zistiť vzťah medzi odpustením a empatiou u detí a ich rodičov. Výskumný súbor tvorilo 38 detí vo veku od 10 do 12 rokov (*M* = 11,32, *SD* = 0,74) a ich 76 rodičov od 30 do 55 rokov (*M* = 40,63, *SD* = 5,72). Empatia u detí bola meraná pomocou Dotazníka empatie pre deti a dospievajúcich. Situačné odpustenie druhým u detí bolo merané pomocou Obrázkového setu na meranie situačného odpustenia u detí. Empatia rodičov bola zisťovaná pomocou subškály Empatický záujem a dispozičné odpustenie druhým u rodičov bolo merané subškálou Odpustenie iným z Heartlandského dotazníka odpúšťania. Ukázala sa pozitívna súvislosť medzi dispozičným odpustením druhému u matiek a situačným odpustením druhým u ich detí (*r* = 0,34). Dieťa odpúšťa s vyššou pravdepodobnosťou, pokiaľ sa mu vinník ospravedlní a vníma vyššiu ľútosť vykonaného činu u toho, kto sa ospravedlní po previnení.

Kľúčové slova: *odpustenie, empatia, deti, rodičia, odpustenie druhým*

Abstract

The primary objective of the study was to identify the relationship between forgiveness and empathy in children and their parents. The sample consisted of 38 children aged from 10 to 12 years (*M* = 11,32, *SD* = 0,74) and their 76 parents aged from 30 to 55 (*M* = 40,63, *SD* = 5,72). Parents filled out the subscale Empathy concern from the Interpersonal Reactivity Index and the Forgiveness Others subscale from the Heartland Forgiveness Scale. Questionnaires used in children were the Empathy Questionnaire for Children and Adolescents, and the Children's Forgiveness Card Set. Positive association was found between dispositional forgiveness toward others in mothers and situational forgiveness toward others in their children (*r* = 0,34). The child is more likely to forgive if the offender apologizes to them and perceives greater regret for the act committed by the one who apologizes after the offense.

Key words: *forgiveness, empathy, children, parents, forgiveness towards others*

1 ÚVOD

Odpustenie možno definovať ako proces zmiernenia negatívnych emócií, kognícií a správania spôsobených zraňujúcim správaním inej osoby na pozitívnejšie emócie, myšlienky a správanie voči tomuto človeku (Enright, 2001; Karremans, Van Lange, 2008).V priebehu procesu odpúšťania jednotlivec zanecháva alebo zmierňuje bolestivé emócie voči človeku, ktorý ho zranil a snaží sa vidieť druhého v jeho bytostnej ľudskej podstate, so zhovievavosťou a niekedy dokonca láskou (Enright, Gassin, Wu, 1992). Je však potrebné povedať, že pozitívne emócie voči druhému nemusia vždy nastať. Proces odpúšťania môže byť náročný a dlhodobý, v niektorých prípadoch aj celoživotný. Na to, aby bolo odpustenie pre jednotlivca

uzdravujúce, je ho potrebné odlíšiť od podobných pojmov, ako je ospravedlňovanie zraňujúceho skutku, popieranie zranenia či zabudnutie na zranenie a zmierenie s druhým (Enright, 2001). Pri odpustení teda uznávame, že to, čo sa stalo, bolo nesprávne. Nepopierame svoju bolesť, ale prepracovávame ju, na zranenie pritom nezabúdame. Rovnako tak môžeme odpustiť a nezmieriť sa, držať si odstup od druhého človeka či opäť nenadviazať vzťah.

Odpustenie u detí má určité špecifiká (Wal, Karremans, Cillessen, 2017). Porozumenie odpusteniu sa u detí zvyšuje vzhľadom na vek (Riek, DeWit, 2018), vyššiu schopnosť sebaregulácie a emocionálny vývin (Wal, Karremans, Cillessen, 2017). Za najvýznamnejšie faktory vplývajúce na odpustenie u detí odborníci pokladajú: individuálne charakteristiky dieťaťa (Hoyt a kol., 2005), vzťah obete a vinníka, ospravedlnenie, ľútosť vinníka (Smith, Harris, 2012), ale aj faktor rovesníckej skupiny či rodinného prostredia (Hoyt a kol, 2005). V kontexte rozvíjania schopnosti odpúšťať je dôležité povedať, že nadobúdanie sociálno-kognitívnych zručností v domácnosti môže zvýšiť schopnosť odpustiť nielen vo vzťahu rodič-dieťa, ale aj v budúcich vzťahoch dieťaťa (Christensen a kol, 2011; Maio, 2008). Tieto zistenia dokazujú, že odpustenie v rodinnom prostredí môže byť zdieľané a napodobňované (Hoyt a kol., 2005). Na rozhodnutie dieťaťa odpustiť môže mať pozitívny vplyv blízky vzťah s rodičom (Christensen a kol., 2011), kvalita vzťahu s rodičom, vzájomné odpustenie medzi partnermi a v neposlednom rade samotné odpustenie rodičov voči deťom (Mullet, Rivieri, Sastre, 2006).

Rôzni autori zdôrazňujú rozdielne aspekty *empatie* ako viacdimenzionálneho psychologického javu. Na základe vedeckých zdrojov sa dá povedať, že empatia je sociálno-emocionálna reakcia, ktorá zahŕňa proces umožňujúci jednotlivcovi zachytiť afektívne skúsenosti iného človeka. Človek sa vďaka nej môže vcítiť do pocitov iného človeka. Vie na tieto pocity adekvátne reagovať a vo všeobecnosti sa lepšie orientuje v sociálnych situáciách (Roth-Hanania, Davidov, Woodbury-Smith a kol., 2020). V našej práci sa zaoberáme empatickým záujmom, ktorý podľa Davisa (1983) predstavuje empatiu ako „reakciu jednotlivca na pozorované skúseností iného jednotlivca.“ Na jednotlivé aspekty a mieru empatie vplýva viacero faktorov prostredia, ako aj individuálnych predpokladov (Davis, 1983). Vo všeobecnosti ženy dosahujú vyššiu mieru empatie a prirodzene sú niektorí jednotlivci empatickejší ako druhí (Kamas, Preston, 2020; Toussaint, Webb, 2005). Výskumy jasne dokazujú, že empatia stúpa a rozvíja sa spolu s vekom (Cotton, 2001; Hoffman, 2000). Hoffman (2000) tvrdí, že táto schopnosť prichádza vo veku okolo 9 až 10 rokov. Dôležité je spomenúť, že kľúčovým prvkom empatie je rozvoj schopnosti pochopiť postoj druhého a pozerať sa na vec z jeho perspektívy. Rozvoj tejto schopnosti súvisí s rozvojom empatie. U detí sa táto schopnosť intenzívne rozvíja až v školskom veku. Vtedy sa nadobúdanie sociálnych zručností stáva nevyhnutne dôležitým pre ich fungovanie (Hoffman, 2000; Woodbury-Smith a kol., 2020). Okrem toho, ukazujú sa významné dôsledky výchovných praktík rodičov na empatiu dieťaťa i celkové prosociálne správanie. S empatiou sa spájajú hlavne neautoritatívne výchovné štýly, rodičovská vrúcnosť, kvalita vzťahu, starostlivé správanie, komunikácia a zdôvodňovanie následkov správania (Cotton, 2001; Spinrad, Gal, 2018). Dixon (1980) tvrdí, že empatické osoby môžu priviesť deti k snahe byť empatickejšími prostredníctvom túžby podobať sa na nich. Na základe súvislostí empatie a odpustenia, možno povedať, že vplyv rodičov na empatiu dieťaťa zohráva dôležitú úlohu aj v schopnosti dieťaťa odpúšťať. Podpora rozvoja empatie a emocionálnej regulácie u detí zo strany rodičov môže viesť k rozvoju schopnosti odpúšťať (Christensen a kol., 2011).

Existuje množstvo dôkazov o pozitívnej súvislosti odpustenia a empatie (Denham a kol., 2005; Christensen a kol., 2011). Osvojovanie sociálno-kognitívnych zručností, akou je práve empatia, vedie k rozvoju odpustenia (Christensen a kol., 2011), a zároveň kultivovanie schopnosti odpúšťať môže viesť k rozvoju empatie voči človeku, ktorý nás zranil (Enright, 2001). Empatia a emocionálna regulácia tiež môžu do veľkej miery vysvetľovať spojenie

medzi odpustením a kvalitou vzťahu (Christensen a kol., 2011). Poprední odborníci v problematike odpustenia vo svojich modeloch odpustenia zdôrazňujú význam empatie. Vo svojich intervenčných programoch učia klientov pracovať najskôr na empatii voči vinníkovi. Týmto spôsobom umožňujú klientom rozvíjať samotné odpustenie (Enright, 2001; Worthington, 2006).

Na základe vyššie popísaných teoretických a výskumných zistení v našej práci skúmame vzťah medzi odpustením a empatiou u rodičov a ich detí. Predpokladáme pozitívne súvislosti medzi odpustením rodičov a odpustením ich detí, ako aj medzi úrovňou empatie rodičov a úrovňou empatie ich detí. Naším cieľom je tiež preskúmať vzťah medzi schopnosťou odpustiť u det a jednotlivými faktormi odpustenia ako závažnosť zranenia, ľútosť a ospravedlnenie vinníka.

2 METÓDA

2.1 Výskumný súbor

Náš výskumný súbor tvorilo 38 detí vo veku od 10 do 12 rokov (*M* = 11,32 , *SD* = 0,74) a ich 76 rodičov (*M* = 40,63, *SD* = 5,72) z toho 38 matiek (*M* = 39,47, *SD* = 5,75) a 38 otcov (*M* = 41,79, *SD* = 6,09). Výskumný súbor detí tvorilo 20 dievčat (*M* = 11, 55, *SD* = 0,60) a 18 chlapcov (*M* = 11,06, *SD* = 0,80).

2.2 Metódy zberu údajov

Empatia u detí bola meraná pomocou Dotazníka empatie pre deti a dospievajúcich [Empathy Questionnaire for Children and Adolescents] (Overgaauw a kol., 2017), v ktorom deti jednotlivé výroky označovali ako pravdivé, trochu pravdivé a nepravdivé. Situačné odpustenie druhým u detí bolo merané pomocou Obrázkového setu na meranie situačného odpustenia u detí [The Children´s Forgiveness Card Set] (Kemp a kol., 2021) a jednopoložkou škálou z Enrightovho dotazníka odpustenia pre deti [Enright Forgiveness Inventory for Children] (Enright, 2000), ktorú sme použili ako spôsob validizácie metódy Obrázkový set na meranie situačného odpustenie u detí. Celkové skóre z Obrázkového setu na meranie situačného odpustenia pozostávalo z dvoch čiastkových skóre – Skóre triedenia obrázkov a Skóre vzdialeností na čiare. Deťom bol v rámci metódy predpovedaný scenár zranenia, zatiaľ čo v obálkach dostali 15 obrázkov s rôznymi situáciami, správaním a emóciami. Tieto obrázky triedili do dvoch menších obálok na základe toho či by takýmto spôsobom samy jednali alebo sa takto cítili v danej situácií (Skóre triedenia obrázkov). V rámci skórovania metódy sa všetky negatívne obrázky vložené do obálky s čiarkou a všetky pozitívne obrázky vložené do obálky s krížikom hodnotili „-1“. Všetky negatívne obrázky vložené do obálky s krížikom a všetky pozitívne obrázky vložené do obálky s čiarkou sa hodnotili „1.“ Pod každým obrázkom bola tiež 10-centimetrová čiara, na ktorej deti označovali do akej miery sa so správaním/emóciou stotožňujú (Skóre vzdialenosti na čiare). Vzdialenosť na pozitívnych obrázkoch bola považovaná za skóre daného obrázku. Vzdialenosť na negatívnych obrázkoch bola skórovaná reverzne. To znamená, že táto vzdialenosť sa odčítavala od celkovej vzdialenosti čiary (10 cm). Empatia rodičov bola zisťovaná pomocou subškály Empatický záujem [Empathy concern z Interpersonal Reactivity Index] (Davis, 1983) a dispozičné odpustenie druhým u rodičov bolo merané prostredníctvom subškály Odpustenie iným z Heartlandského dotazníka odpúšťania [Heartland Forgiveness Scale] (Thompson a kol., 2005). Obe tieto metódy boli administrované formou dotazníkov s rôznymi výrokmi. Rodičia mali označiť, nakoľko sa s týmito výrokmi stotožňujú. V rámci metódy Obrázkový set na meranie situačného odpustenia u detí sme pracovali aj s faktorom závažnosti zranenia a faktorom ľútosti. V rámci faktora závažnosti zranenia deti na 3-bodovej smajlíkovej škále označovali, aké zlé je podľa nich to, čo vinník urobil (usmiaty smajlík = nie je to zlé; trochu smutný smajlík = je to trochu zlé; uplakaný smajlík – je to veľmi zlé). Faktor

ľútosti vinníka bol administrovaný podobne. Deti na 3- bodovej smajlíkovej škále označovali ako veľmi podľa nich vinníka spôsobené zranenie mrzí (usmiaty smajlík = vôbec ho to nemrzí; trochu smutný smajlík = trochu ho to mrzí; uplakaný smajlík = veľmi ho to mrzí).

3 VÝSLEDKY

V tabuľke č. 1 uvádzame výsledky korelačnej analýzy pre všetky premenné v našom výskume:

Tabuľka č. 1 – Korelačná analýza všetkých premenných

N=38	O-D	F-Lu	F-Za	E-D	E-T	E-M	ST	SV	EFI	O-T
F-Lu	-0,26									
F-Za	-0,10	**0,28***								
E-D	-0,01	-0,07	0,13							
E-T	-0,09	0,21	0,11	-0,07						
E-M	0,03	-0,14	-0,13	-0,10	0,31*					
ST	**0,92****	-0,22	-0,16	0,02	-0,08	0,07				
SV	**0,10****	-0,26	-0,09	-0,03	-0,09	0,03	**0,88****			
EFI	0,22	-0,27	0,24	0,19	0,09	0,17	**0,31***	0,21		
O-T	0,23	0,19	0,20	-0,02	0,19	0,13	**0,33***	0,21	0,26	
O-M	**0,34***	0,13	0,01	-0,09	0,01	-0,02	**0,27***	**0,35***	-0,10	**0,29***

*Poznámka. ** $p \leq 0,01$; * $p \leq 0,05$*
F-Lu – Faktor ľútosti vinníka, F-Za – Faktor závažnosti zranenia, E-D – Empatia u detí, E-T – Empatický záujem u otcov, E-M – Empatický záujem u matiek, ST – Skóre triedenia obrázkov, SV – Skóre vzdialeností na čiare, EFI – položka z Enrightovho dotazníka odpustenia, O-T – Dispozičné odpustenie druhým u otcov, O-M – Dispozičné odpustenie druhým u matiek, O-D – Situačné odpustenie u detí

Výsledky nášho výskumu poukázali na signifikantný pozitívny, stredne silný vzťah medzi situačným odpustením u detí a dispozičným odpustením matky (r = 0,34, p = 0,018).
Ďalšie signifikantne významné vzťahy sa v našom výskume nepotvrdili. Zistili sme, že nie je signifikantný vzťah medzi empatiou a situačným odpustením druhým u detí (p = 0,466). Signifikantný vzťah sme nezistili ani medzi dispozičným odpustením druhým a empatickým záujmom u matiek (p = 0,448), ani medzi dispozičným odpustením druhým a empatickým záujmom otcov (p = 0,129). Signifikantný vzťah sa neukázal ani medzi situačným odpustením u detí a dispozičným odpustením u ich otcov (p = 0,078).). Podobne ani medzi situačným odpustením u detí a dispozičným odpustením u ich otcov (p = 0,078). Tiež sme zistili, že nie je signifikantný vzťah medzi empatiou detí a empatickým záujmom matiek (p = 0,279). Ďalej sa neukázal signifikantný vzťah ani medzi empatiou detí a empatickým záujmom ich otcov (p = 0,348).
Signifikantne významné vzťahy sa neukázali ani medzi odpustením a faktormi zranenia. Zistili sme, že nie je signifikantný vzťah medzi situačným odpustením druhým u detí a mierou závažnosti zranenia (p = 0,283). Nezistili sme pozitívny signifikantný vzťah medzi situačným odpustením druhým u detí a mierou ľútosti vinníka (p = 0,054).
Medzi dievčatami (*Mdn* = 61,75, *Mr* = 18,15) a chlapcami (*Mdn* = 82,0, *Mr* = 21,00) sa v situačnom odpustení na základe Mann-Whitneyho U-testu neukázal významný rozdiel; U = 153,000, p = 0,430. Na základe Mann-Whitneyho U-testu však môžeme konštatovať, že je štatisticky významný rozdiel v empatii medzi dievčatami (*Mdn* = 35,5, *Mr* = 23,85) a chlapcami (*Mdn* = 32,5; *Mr* = 14,67); U = 93,000, p = 0,010. Dievčatá vykazovali vyššiu

mieru empatie oproti chlapcom. Rozdiel medzi skupinami reprezentuje stredne veľký efekt (r = 0,41). Ďalej sa na základe Mann-Whitneyho U-testu ukázalo, že deti v skupine, v ktorej sa vinník ospravedlnil, dosahovali štatisticky významne vyššiu mieru situačného odpustenia (Mdn = 85,2; Mr = 22,88) v porovnaní s deťmi v skupine, kde sa vinník neospravedlnil (Mdn = 50,00, Mr = 15,75); U = 112,500, p = 0,024. Rozdiel medzi skupinami reprezentuje stredne veľký efekt (r = 0,32). V neposlednom rade môžeme na základe Mann-Whitneyho U-testu konštatovať, že miera vnímanej ľútosti vinníka u detí, ktorým bolo povedané, že sa vinník ospravedlnil je štatisticky signifikantne vyššia (Mdn = 3; Mr = 12,00) v porovnaní s deťmi, ktorým bolo povedané, že sa vinník neospravedlnil (Mdn = 1, Mr = 27,83); U = 30,000, p = 0,000. Rozdiel medzi skupinami reprezentuje veľký efekt (r = 0,76).

4 DISKUSIA

Hlavným cieľom tejto štúdie bolo objasniť súvislosti medzi odpustením u detí a ich rodičov. Zisťovali sme tiež vzťah medzi empatiou u detí a ich rodičov, vzájomné súvislosti odpustenia a empatie, a súvislosti medzi odpustením u detí a jednotlivými faktormi previnenia. Naše zistenia diskutujeme v kontexte súčasnej vedeckej literatúry.

Odborníci skúmajúci odpustenie začínajú pracovať s predpokladom, že aj odpustenie a empatia, podobne ako iné psychologické fenomény, sú nepopierateľne ovplyvnené rodinným prostredím (Maio a kol., 2008). Viaceré výskumy tento predpoklad potvrdzujú a upozorňujú na to, že odpustenie u detí naozaj môže byť spojené s prejavmi odpustenia u ich rodičov (Maio a kol. 2008; Mullet, Rivieri, Sastre, 2006; Wall, Karremans, Cillesen, 2017). Hoci otázka o rozdiele vplyvu otca a matky na odpustenie dieťaťa nie je jednoznačne zodpovedaná, viaceré výskumy sa zhodujú na významnejšom vplyve matky na odpustenie dieťaťa (Denham a kol., 2005). Naše výsledky súhlasia s týmito zisteniami a ukazujú na pozitívnu súvislosť medzi schopnosťou odpustenia u matky a odpustením u jej dieťaťa. Napriek tomu, že otcov vplyv je vnímaný ako sekundárny, niektoré štúdie uvádzajú isté súvislostí aj medzi odpustením otca a dieťaťa (Maio a kol., 2008; Mullet, Rivieri, Sastre, 2006). V našom výskume sa odpustenie otca ukázalo ako významné v jednom z čiastkových skóre odpustenia. To znamená, že premenná Skóre triedenia obrázkov narastá spolu s Dispozičným odpustením otca a naopak. Je teda možné, že pri väčšom výskumnom súbore by bol vzťah medzi odpustením otca a dieťaťa potvrdený aj v celkovom skóre. Na základe aktuálnych výsledkov však môžeme, v súlade s literatúrou, konštatovať, že odpustenie otca nemusí byť pre odpustenie dieťaťa rozhodujúce (Maio a kol., 2008; Mullet, Rivieri, Sastre, 2006), ale istú rolu v ňom zohráva. Naše výsledky tak vo všeobecnosti podporujú celkové zistenia, že odpustenie môže byť v rodinnom prostredí zdieľané (Hebl, Enright, 1993; Hoyt a kol., 2005). Nadobúdanie sociálno-kognitívnych zručností v domácnosti môže zvýšiť odpustenie nielen vo vzťahu rodič-dieťa, ale aj v budúcich vzťahoch dieťaťa (Fincham, 2000; Christensen a kol, 2011; Maio, 2008). Mullet, Rivieri a Sastre (2006) toto tvrdenie podporujú svojím zistením, že deti, ktoré vykazujú vyššiu mieru odpustenia, zároveň pociťujú vyššiu mieru odpustenia od svojich rodičov. Tieto zistenia, spoločne s naším, tak prinášajú dôležité informácie z pohľadu terapie odpustením, rodinnej terapie, ale i samotnej výchovy.

Podobne väčšina výskumov ukazuje dôležitú úlohu matky v empatii dieťaťa (Cotton, 2001; Denham a kol., 2005; Maio a kol., 2008). Napriek tomu sa však tento predpoklad v našom výskume nepotvrdil. Významný pozitívny vzťah medzi empatiou matky a empatiou dieťaťa sa neukázal. Dôvodom môže byť opäť veľkosť nášho výskumného súboru, ale aj porovnanie celkovej emocionálnej empatie detí a empatického záujmu rodičov (ako jedného z aspektov celkovej empatie rodičov), vzhľadom na časové možnosti administrácie dotazníka. V tejto súvislosti sa prikláňame k zisteniam výskumu Richaud de Minzi (2013), že vplyv rodičov na empatiu detí sa neukazuje v objektívne merateľnej empatii, ale skôr v jej samotnom vnímaní. To znamená, že hoci deti preberajú predstavy o empatii od svojich rodičov, nemusí sa to

preukázať priamo v miere empatie voči iným. V rámci vzťahu empatie otca a empatie dieťaťa vedecká literatúra zatiaľ neposkytuje jednoznačnú odpoveď, podobne ako pri fenoméne odpustenia. Niektoré štúdie pripisujú väčšiu rolu v empatii matke a tvrdia, že vplyv otca v empatii dieťaťa nie je rozhodujúci (Denham a kol., 2005; Maio a kol., 2008). Výsledky nášho výskumu neukázali štatisticky významný vzťah medzi empatickým záujmom otcov a empatiou ich detí. Musíme však zmieniť, že tieto zistenia môžu byť ovplyvnené práve limitáciami nášho výskumu, predovšetkým veľkosťou výskumnej vzorky.

Výskumy opätovne dokazujú významný pozitívny vzťah medzi empatiou a odpustením u dospelej populácie (Mcdaniel, Miller, Worthington, 2008; Toussaint, Webb, 2005), pri detskej populácií však táto otázka nie je zodpovedaná. Náš predpoklad, že empatia pozitívne súvisí so situačným odpustením druhým u detí sa nepotvrdil. Môže to vyplývať zo základnej limitácie nášho výskumu, ktorou je malý výskumný súbor. Počet rodičov v našom výskume nemôžeme pokladať za dostatočne reprezentatívnu vzorku v rámci tejto problematiky. Zistenia však môžu tiež súvisieť so špecifickosťou detskej výskumnej vzorky, keďže doterajšie zistenia sú odvodené práve zo štúdií na dospelej populácii. Príčinou zamietnutia nášho predpokladu môže byť aj to, že vzťah medzi empatiou a odpustením môže stúpať s rozvíjajúcim sa vekom a životnými skúsenosťami.

Ďalej sme si na základe nedostatku predchádzajúcich výskumov na detskej populácii kládli výskumnú otázku, či budú existovať rozdiely v miere situačného odpustenia medzi dievčatami a chlapcami. Súčasná vedecká literatúra poskytuje minimálne poznatky o medzipohlavných rozdieloch v detskej populácií (Wal, Karremans, Cillessen, 2017; Oostenbroek, Vaish, 2018). Na základe výsledkov sa v našej práci ukázalo, že chlapci dosahovali zanedbateľne vyššiu mieru odpustenia, takže tento výsledok sa nedá považovať za významný. Podporujeme tak zistenia doterajších výskumov, že rozdiely medzi pohlaviami u detí v odpustení sú zanedbateľné (Oostenbroek, Vaish, 2018).

V rámci medzi-pohlavného porovnania empatie sa vo všeobecnosti u dospelej populácie ukazuje vyššia miera u žien v porovnaní s mužmi (Kamas, Preston, 2020; Toussaint, Webb, 2005). Existujúce rozdiely v dospelej populácií však nemusia byť relevantné aj u detí. O medzi-pohlavných rozdieloch v empatii v rámci detskej populácie už existuje niekoľko výskumných zistení (Eisenberg, Lennon, 1983; Feschbach, Feschbach, 1969, Roth-Hanania, Davidov, Waxler; 2011). My sme na základe zistení Feschbachovej a Feschbacha (1969), že dievčatá vo veku od 4 do 7 rokov dosahujú vyššiu mieru empatie, formulovali predpoklad o vyššej miere empatie u dievčat. Tento predpoklad sa potvrdil a dievčatá vykazovali signifikantne vyššiu mieru empatie ako chlapci. Súhlasí to so zisteniami súčasných výskumov, ktoré pripisujú vyššiu empatiu dievčatám, najmä v jej jednotlivých zložkách (Cotton, 2001; Richaud de Minzi, 2013). Tieto rozdiely môžu byť zapríčinené sociálnymi aspektmi (sociálna žiaducnosť či význam vzťahových aspektov u dievčat), na základe ktorých dievčatá empatiu voči iným môžu vnímať ako súčasť svojej identity (Eisenberg, Lennon, 1983).

V našom výskume sme pracovali aj s faktormi vplývajúcimi na odpustenie – s manipuláciou ospravedlnenia vinníka, s faktorom závažnosti zranenia a ľútosti vinníka. Tieto faktory patria u dospelých k najvýznamnejším aspektom pôsobiacim na rozhodnutie odpustiť a jeho samotný proces (Azar, Mullet, Vinsonneau, 1999; Freedman, Zarifkar, 2016; Worthington, 2006). Predchádzajúce výskumy jednoznačne ukazujú, že čím je zranenie závažnejšie, tým je odpustenie náročnejšie (Enright, 2001; Worthington, 2006). Predpokladali sme teda, že vyššia miera závažnosti skutku bude aj u detí spojená s nižšou mierou odpustenia. Neukázal sa však vzťah medzi situačným odpustením u detí a faktorom závažnosti. Rovnako sa nepotvrdil predpoklad, že deťmi vnímaná vyššia miera ľútosti páchateľa bude spojená s vyššou mierou odpustenia. Výskumy napriek tomu ukazujú, že deti ľutujúceho páchateľa vnímajú ako milšieho a takémuto vinníkovi odpúšťajú skôr (Darby, Schlenker, 1982; Drell, Jaswal, 2016).

Pri tomto predpoklade je však dôležité upozorniť na to, že vzťah medzi odpustením u detí a ľútosťou vinníka bol v našom výskume blízko k hranici štatisticky významného vzťahu. Je tak pravdepodobné, že pri väčšom počte účastníkov vo výskume by sa súvislosť medzi situačným odpustením u detí a mierou ľútosti páchateľa potvrdila. Vo všeobecnosti môže zamietnutie týchto predpokladov tiež vyplývať z myslenia detí, pre ktoré je náročnejšie zvážiť všetky aspekty spomenutej situácie v istom časovom limite. Podľa Darbyho a Schlenkera (1982) deti ešte nedokážu pracovať s informáciami tak ako dospelí. Z toho dôvodu posúdenie jednotlivých faktorov v rámci takejto situácie môže byť ovplyvnené ich myslením. V našom výskume sa však potvrdil predpoklad, že deti s vyššou pravdepodobnosťou odpustia vinníkovi, ktorý sa ospravedlní (Freedman, Zarifkar, 2016; Smith, Harris, 2012). Deti, ktorým bolo povedané, že sa vinník ospravedlnil, dosahovali signifikantne vyššiu mieru situačného odpustenia v porovnaní s deťmi bez ospravedlnenia. Výsledky tiež potvrdili súvislosť medzi ospravedlnením vinníka a ľútosťou vinníka. Deti, ktorým bolo v scenári povedané, že vinník sa ospravedlnil vnímali u vinníka štatisticky vyššiu mieru ľútosti spáchaného činu. To potvrdzuje zistenia Drella a Jaswalla (2016), že deti vnímajú prostredníctvom ospravedlnenia aj ľútosť páchateľa. Súhlasí to tiež s tvrdením, že ospravedlňujúceho sa páchateľa deti vnímajú ako ľutujúceho (Drell, Jaswall, 2016).

5 ZÁVER

Výskum poukázal na významné súvislosti medzi odpustením detí a ich rodičov. Konkrétne sa ukázalo, že čím viac dokáže odpúšťať matka, tým vyššiu schopnosť odpustenia vykazuje jej dieťa. Ukázalo sa tiež, že dieťa odpúšťa s vyššou pravdepodobnosťou, pokiaľ sa mu vinník ospravedlní a vníma vyššiu ľútosť vykonaného činu u toho, kto sa ospravedlní po previnení. Vzhľadom na isté nejednoznačnosti vo výsledkoch nášho výskumu je nevyhnutné pokračovať v skúmaní týchto zložitých psychologických fenoménov, predovšetkým na detskej populácii. Naše zistenia môžu slúžiť ako úvod do tejto problematiky (nielen v našich sociokultúrnych podmienkach) a môžu byť bránou k intenzívnejšiemu skúmaniu tejto oblasti psychológie.

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SUBJECTIVE WELL-BEING, GRATITUDE AND FORGIVENESS IN ADOLESCENCE AND EMERGING ADULTHOOD

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Abstract

The paper focuses on the relationship between the measure of subjective well-being, the measure of dispositional gratitude, dispositional forgiveness in 167 respondents in the period of adolescence and emerging adulthood. We used a questionnaire to measure subjective well-being (WHO Regional Office For Europe, 1998), a dispositional gratitude scale (McCullough, Emmons, Tsang, 2002) and the Heartland Forgiveness Questionnaire (Thompson et al., 2005). The existence of a positive relationship between subjective well-being and dispositional gratitude was confirmed, as well as a positive relationship between subjective well-being and overall dispositional forgiveness. A significant positive relationship was also confirmed between subjective well-being and dispositional self-forgiveness, dispositional forgiveness of others, and dispositional forgiveness of the situation. A significant positive relationship was also demonstrated in connection with dispositional gratitude and overall dispositional forgiveness. Furthermore, the relationship between the degree of dispositional gratitude and dispositional self-forgiveness, dispositional forgiveness of others, and dispositional forgiveness of the situation was found. The contribution was created within the Vega grant No. 1/0518/20 Forgiveness from the perspective of psychology - intrapersonal and interpersonal aspects and the relationship with mental health.

Key words: *Adolescence, Dispositional gratitude, Dispositional forgiveness, Subjective well-being, Emerging adulthood*

1 INTRODUCTION

Adolescence and emerging adulthood are periods characterized precisely by the fact that adolescents must adapt to the changes that come with adulthood (Lewis et al., 2015; Gilmore, 2019). Future independence, the expectation of independence from parents, as well as an increased perception of the need for new competences and self-regulation and coping strategies come to the fore.

As a follow-up to one of these tasks – independence, it is obvious that its fulfillment is becoming more and more difficult and complicated with the onset of modern times (Gilmore, 2019; Hochberg, Konner, 2020), not to mention significantly worsened survival within the impact of the Covid-19 pandemic. as well as the situation with the war in Ukraine, which left "traces" on the physical and mental health of the entire population. The adverse effects of the Covid-19 pandemic, intensified by the war conflict in the immediate vicinity of our borders, refer in many works (e.g. Quigley et al., 2022, Kurapov et al., 2022) to adverse effects on psychological well-being, the subjective measure of which naturally decreases temporarily in this turbulent development period of the separation-individuation process (Koepke, Denissen, in Hill, Burrow, Sumner, 2016) according to individual demands and the subjective and objective possibilities of the individual. Therefore, like the authors Mead et al. (2021) we decided to focus our attention on selected protective factors – gratitude, forgiveness, which could not only protect personal well-being, but also positively influence the individual's quality of life. Príspevok vznikol v rámci grantu Vega č.1/0518/20 Odpustenie z pohľadu psychológie-intrapersonálne a interpersonálne aspekty a vzťah s psychickým zdravím.

Well-being, or personal well-being, forms the basis of everyday life and represents the result of our thoughts, experiences and actions. Nevertheless, it is still not explicitly defined.

However, many agree that well-being can be characterized as the occurrence of positive moods and emotions (e.g. happiness), life satisfaction, fulfilling functioning, positive functioning, while negative emotions (e.g. anxiety) are not present (Well-being Concepts, 2018). Currently, the World Health Organization (2021) leans towards an optimistic definition and describes well-being as a positive state experienced by people and the entire society.
According to Blatný (2020), psychological and subjective personal well-being are separate conceptual constructs that are internally dependent on each other and complement each other. The philosophical basis *of subjective well-being* or subjective comfort is the hedonic approach, on the basis of which it is understood as pleasure or happiness, in which a person experiences satisfaction with his own life, experiences positive emotions and, conversely, negative ones are absent (Bradburn, 1969; Diener, 1984). The term psychological well-being can be understood as a set of criteria that are personal and private, while evaluating one's own functioning (Keyes, Lopez 2002).
In the life of an adolescent, mental well-being is an important factor in adaptive development. It is helpful in creating one's identity and also in finding a kind of refuge (Balážová, Uhrecký, 2018). As is the case with psychological well-being, also for experiencing subjective well-being, in addition to relationships in the family, with teachers or peers, fun activities, a sense of freedom and a sense of security proved to be important (Balážová, Uhrecký, 2018).
Gratitude is considered to be one of the most important human virtues. The concept of gratitude is not easily defined, as we can imagine under it an emotion, life orientation, attitude or moral virtue (Wood, Froh, Geraghty, 2010). According to Wood (2014), gratitude can be understood on the one hand as a state that is characterized as a reaction at a certain point in time. On the other hand, we can understand it as a personality trait that is defined based on specific differences in how intensely and how often an individual experiences situational gratitude. We can recognize the difference between situational gratitude and dispositional gratitude on the basis that situational gratitude depends on a specific event, while dispositional gratitude represents a stable affective characteristic that is mostly unaffected by occurring events (Alkozei, Smith, Killgore, 2017).
In relation to adolescents and emerging adults, Froh et al. (2011) spoke about gratitude as a key that can help adolescents escape the negative influences of the present, which include too much emphasis on wealth and materialism. Bausert, Froh (s.a.) and Balthip, Suwanphahu and McSherry (2022) also agree that it has an important position in well-being, health care, and positive adaptation of the adolescent. The fact that gratitude can cause an increase in emotional well-being and social well-being even in adolescents was confirmed in the work of Froh, Bono and Emmons (2010), with the fact that it can later have a positive impact on their future. In a study with a sample of university students by Măirean, Turliuc, and Arghire (2018), trait gratitude was found to be positively correlated with dimensions of psychological well-being. Gratitude is positively related to positive parenting behavior, closeness between parents and children, and dispositional gratitude of parents (Bausert, Ruscio, Froh in Bausert, Froh, s.a.).
Although there is no single definition of *forgiveness*, several authors agree that forgiveness is not the same as forgetting, excusing, tolerating, reconciling, appeasing, or saying "I forgive you" (Kim, Enright, Wong, 2022). However, this way of adjusting to people and events has a positive impact on a person (Drábiková, 2012).
Most often, we can meet the distinction of forgiveness into situational and dispositional. Situational forgiveness is forgiveness from one person to another in specific contexts of interpersonal injustices (Kim, Enright, 2016). In the case of dispositional forgiveness, or otherwise called trait forgiveness, we are talking about the tendency to forgive transgressions despite various circumstances (Allemand et al., 2007). Dispositional forgiveness differs from

situational forgiveness in that dispositional forgiveness occurs in a person who possesses the virtue of forgiveness (Roberts, 1995).
The relationship of these three constructs of positive psychology, i.e. the relationship of dispositional forgiveness and dispositional gratitude to well-being among Filipino adolescents, was followed by Datu (2013), whose results confirmed that self-forgiveness, situational forgiveness, and gratitude were significantly correlated with well-being, with the most significant determinant of well-being was gratitude. In a study by Fincham and May (2019) a significant positive correlation between self-forgiveness and subjective well-being was also found. Between the tendency to forgive and the tendency to be grateful, in young adults, Kumar and Dixit (2014) confirmed a significant positive relationship. In his work, the author of Safaria (2014) found a positive correlation between dispositional gratitude and happiness, which is considered an important aspect of subjective well-being. However, no significant relationship emerged between forgiveness and happiness. This means that well-being is associated with gratitude, but not with forgiveness, in college students. However, in a study by Akhtar, Dolan and Barlow (2017) situational forgiveness proved to be efficient in connection with mental well-being feeling. In a study by Jiang et al. (2016) dispositional gratitude also showed a positive relationship with school well-being, which includes cognitive and affective components of well-being at school. The improvement of adolescent school well-being may also be related to the reduction of materialism (Jiang et al., 2016). The results about the positive relationship between dispositional gratitude and well-being also agree with the work of Hill and Allemand (2011), where it was found in a sample of adults that those who showed dispositional gratitude and forgiveness had a higher level of well-being. Yao et al. (2017) confirmed previous findings in that both interpersonal dispositional forgiveness and intrapersonal dispositional forgiveness are significantly related to adolescent subjective well-being.

Research problem and research objectives

Considering the burden that adolescents and emerging adults experience not only within their transitional period, but also with its increase due to the emerging pandemic and neighboring war, we decided to verify whether gratitude, forgiveness and well-being are helpful for living a more meaningful and happy life of individual in adolescence and emerging adulthood.

Research questions and hypotheses

H1: We assume that there is a positive relationship between the level of experienced subjective well-being and the level of dispositional gratitude in people from adolescence to emerging adulthood (e.g. Bausert, Froh, sa; Safaria, 2014).
H2a: We assume that there is a positive relationship between the level of subjective well-being and the level of overall dispositional forgiveness in the period of adolescence to emerging adulthood (Hill, Allemand, 2011; Akhtar, Dolan, Barlow, 2017).
H2b: We hypothesize that there is a positive relationship between the level of subjective well-being and the level of dispositional self-forgiveness in the period of adolescence to emerging adulthood (Datu, 2013; Yao et al., 2017; Fincham, May, 2019).
H2c: We hypothesize that there is a positive relationship between the level of subjective well-being and the level of dispositional forgiveness of others in people from adolescence to emerging adulthood (Yao et al., 2017).
H2d: We assume that there is a positive relationship between the level of subjective well-being and the level of forgiveness of situations in people from adolescence to emerging adulthood (Datu, 2013).

H3: We hypothesize that there is a positive relationship between the level of dispositional gratitude and the level of overall dispositional forgiveness in people from adolescence to emerging adulthood (Kumar, Dixit, 2014).
Q1: Is there a relationship between the level of dispositional gratitude and the level of individual domains of dispositional forgiveness in people in adolescence and emerging adulthood?

Research file
The overall research sample consisted of 167 respondents aged 15-25 (M = 21.32; SD = 2.64; Mdn = 22). Research participants consisted of 67 (40 %) males (M = 21.48; SD = 3.04; Mdn = 22) and 100 (60 %) females (M = 21.21; SD = 2.35; Mdn = 21). Part of the research were respondents in the period of adolescence and emerging adulthood showing the highest level of education from elementary school to higher education II. degree.

Research procedure
We collected data for our research online through a questionnaire battery during the months of February to March 2023. We worked with the acquired data using the statistical program Jamovi 2.2.5.

Research methods
To determine subjective well-being, dispositional gratitude and dispositional forgiveness in the period of adolescence and emerging adulthood, we compiled the following test battery. To measure subjective well-being, we used a short questionnaire with 5 items rated on a 6-point Likert scale (0 = all the time; 1 = sometimes; 2 = less than half the time...) Five Well-Being Index (WHO-5) (WHO Regional office for Europe, 1998). Respondents rated the items with respect to the last two weeks. Items include e.g. "I felt active and full of energy". Cronbach's alpha value reached 0.83. We used The Gratitude Questionnaire-Six-Item Form (GQ-6) (McCullough, Emmons, Tsang, 2002) to investigate specific differences in the tendency to be grateful in everyday life. It consists of 6 items evaluated on a 7-point Likert scale (1 = strongly disagree to 7 = completely agree). An example of an item from the scale is, for example: "I have so much in my life for which I can be grateful". Cronbach's alpha value is 0.71. We obtained the Slovak versions of both questionnaires by translating the items from the English versions, according to the methodological manual for translating foreign language methodologies. We used the Heartland Forgiveness Scale (HFS) (Thompson et al., 2005) to measure general tendency to forgive. The respondent evaluates 18 items using a 7-point Likert scale (from 1 = almost never applies; to 7 = almost always applies). The items are situated in three dimensions – the tendency to forgive oneself, the tendency to forgive other people and the tendency to forgive uncontrollable situations. The dimension of forgiving oneself includes e.g. item: “I am angry with myself for the bad things I have done”. In our work, we used the Slovak adaptation of the questionnaire from Chlebcová and Greškovičová (2019). Internal consistency for the entire questionnaire and individual domains of the HFS questionnaire represents acceptable values: HFS total dispositional forgiveness $\alpha = 0.81$; HFS self-forgiveness $\alpha = 0.66$; HFS forgiveness of others $\alpha = 0.75$; HFS forgiveness situation $\alpha = 0.63$. To verify the hypothesis H1, we used the Pearson correlation, given the observed assumptions. We confirmed hypothesis 1, and found a statistically significant weak to moderately strong relationship between the level of experienced subjective well-being and the level of dispositional gratitude. We present the results from the correlation analysis in Table no. 1.

Table no. 1 The relationship between subjective well-being and dispositional gratitude

	Subjective well-being	
	r	Sig.
Dispositional gratitude	0.30	< 0.001

Note. N = 167, r = Pearson correlation coefficient

We confirmed hypothesis H2a, as we found a statistically significant weak relationship between subjective well-being and overall dispositional forgiveness.
In hypothesis H2b, where we assumed the existence of a positive relationship between the level of subjective well-being and dispositional self-forgiveness, we confirmed a statistically significant weak to moderately strong relationship.
Furthermore, we hypothesized in H2c that there is a positive relationship between the level of subjective well-being and dispositional forgiveness to others. The existence of a relationship was also confirmed in this case, as we found a significant positive weak relationship between the level of subjective well-being and the level of forgiveness to others. We also used Pearson's correlation coefficient for hypothesis H2d, where we confirmed the existence of a statistically significant weak positive relationship between subjective well-being and the dispositional forgiveness domain. We present the results from the correlation analyzes in Table no. 2.

Table no. 2. The relationship between subjective well-being and dispositional forgiveness

	Subjective well- being	
	r	Sig.
Total disposition forgiveness	0.29	< 0.001
Dispositional self-forgiveness	0.30	< 0.001
Dispositional forgiveness of others	0.17	0.015
Dispositional forgiveness of the situation	0.21	0.003

Note. N = 167, r = Pearson correlation coefficient

We confirmed hypothesis H3, as we found a statistically significant moderately strong relationship between the level of dispositional gratitude and the level of total dispositional forgiveness.
Finally, we posed research question O1, where we focused on the relationship between individual domains of forgiveness and dispositional gratitude. By calculating Pearson's correlation coefficients, we found statistically significant positive very weak relationships between the level of dispositional gratitude and dispositional self-forgiveness and dispositional gratitude and dispositional forgiveness of the situation. We confirmed a moderately strong statistically significant positive relationship between dispositional gratitude and dispositional forgiveness. The results of correlation analyzes are presented in Table no. 3.

Table no. 3 The relationship between dispositional gratitude and dispositional forgiveness

	Dispositional gratitude	
	r	Sig.
Total disposition forgiveness	0.33	< 0.001
Dispositional self-forgiveness	0.16	0.019
Dispositional forgiveness of others	0.38	< 0.001
Dispositional forgiveness of the situation	0.21	0.003

Note. N = 167, r = Pearson correlation coefficient

2 DISCUSSION

The quality of life has been affected by stressful situations in recent years, such as pandemic or war (e.g. Donker, Mastrotheodoros, Branie, 2021; Bačíková, Janovská, 2022; Kurapov et al., 2022), which is closely associated with mental health and well-being (World Health Organization Europe, 2005). The well-being of adolescents also decreased, e.g. forced by isolation during the pandemic, which later turned into isolation increasingly required by adolescents (Sikorska et al., 2021).

The acquisition of adequate subjective well-being, characterized by the experience of happiness, positive emotions and satisfaction with life (Bradburn, 1969; Diener, 1984), also depends on a person's moral traits, the higher or lower level of which is reflected in his level. One of the moral characteristics is dispositional gratitude, which is reflected in addition to mental and physical health (Alkozei, Smith, Killgore, 2017) and in adolescent relationships within the family or peer group, which have a decisive position for the period of adolescence (Bausert, Froh, sa; Walsh , 2020).

As part of our work, we verified the positive relationship between subjective well-being and dispositional gratitude, which we assumed based on the results of Safaria (2014). In addition, we pointed out the fact that gratitude brings an optimistic outlook on life to an adolescent (Bausert, Froh, et al.) and is also a factor helping to avoid the negative aspects of the present time (Froh et al., 2011). Our results suggest that with an increase in the tendency to express gratitude, a person's subjective well-being may increase during this tumultuous period. If a teenager even shows gratitude, it can give him a sense of meaning and fulfillment, which are necessary for achieving adequate well-being (Křivohlavý, 2004). Based on our results, we believe that the development of gratitude in adolescents could lead to avoiding pitfalls not only resulting from the experienced life phase, but also from current events (Froh et al., 2011). Besides, their life would have a happier and more contented quality.

As another salutoprotective factor, we included dispositional forgiveness, which reduces negative feelings such as anger or anxiety (Toussaint et al., 2019; Kaleta, Mróz, 2022). We correlated the level of subjective well-being with all domains of dispositional forgiveness as well as with total dispositional forgiveness, with correlations showing positive statistical significance, although slight variations in the strength of the relationship were demonstrated.

The assumption stated in hypothesis H2a about the existence of a positive relationship between the level of subjective well-being and the level of overall dispositional forgiveness, based on the findings of Hill, Allemand (2011), Akhtar, Dolan and Barlow (2017), was confirmed to us at the level of a weak relationship. This means that with a higher level of subjective well-being of people in the period of adolescence and emerging adulthood, the degree of dispositional forgiveness also increases. We confirmed hypothesis H2b about the existence of a positive relationship between the measure of subjective well-being and dispositional self-forgiveness, in which we based the results of e.g. Datua (2013), Fincham and Maya (2019), on the basis of which we can conclude that higher subjective well-being is associated with a person's tendency to forgive himself for a certain offense he has committed. Similarly, in hypothesis H2c, we confirmed the existence of a relationship between subjective well-being and dispositional forgiveness to others, which is in agreement with the findings of Yao et al. (2017) that an adolescent who has proven to be more prone to reduce negative thoughts or feelings towards the perpetrator, can also be characterized by a higher experience of positive feelings, happiness and satisfaction with one's life. We also confirmed the assumption H2d from the work of Datu (2013) about the relationship between subjective well-being and dispositional forgiveness of a situation at the level of a weak relationship. Since adolescents, regardless of the complexity of the times, encounter many conflicting situations during their stormy period full of significant changes, the tendency to forgive the situation can help them to experience a higher subjective well-being.

In hypothesis H3, we confirmed a positive relationship between dispositional gratitude and overall dispositional forgiveness, which is consistent with the findings of Kumar and Dixit (2014).
As part of the statistical analysis, we correlated all three types of forgiveness with gratitude. For research question O1, correlations between dispositional gratitude and individual domains of dispositional forgiveness, i.e. forgiveness of self, others, and situation, were also shown to be statistically significant. We can state that if a teenager is characterized by a higher tendency to show gratitude, this can also be reflected in his tendency to forgive himself, others and the situation.

3 CONCLUSION

In summary, the results of our research pointed to the fact that the constructs of positive psychology, i.e. dispositional gratitude and dispositional forgiveness, contribute positively to experiencing subjective well-being also among Slovak adolescents and emerging adults.
There are also certain limitations in our work that could partially distort the results of our research. This is a limitation in connection with the Heartland Forgiveness Questionnaire, where within the domain concerning dispositional self-forgiveness and dispositional forgiveness of the situation, the internal consistency we calculated showed a lower value. Another limitation was our strict focus only on subjective well-being. As part of future research, we would therefore recommend focusing on other types of well-being in connection with adolescents and persons emerging as adults, such as e.g. psychological well-being, social well-being or school well-being, as well as other constructs, e.g. loneliness, use of social networks. The results of our work could be implemented in practice in the form of a certain intervention provided in the framework of lectures, workshops or counseling, which would lead adolescents to develop values based on gratitude and forgiveness. These two constructs could thus help to maintain adequate subjective well-being, which would enable the adolescent to smoothly transition into adulthood. As part of the intervention, we would recommend putting emphasis mainly on self-forgiveness, which could be helpful in consolidating identity in this period of adolescence, when identity is being formed (Macaskill, 2012). From our results, it can be assumed that moral personality traits can have a positive impact on subjective well-being.

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SUBJECTIVE WELL-BEING, GRATITUDE AND FORGIVENESS IN ADOLESCENCE AND EMERGING ADULTHOOD

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Abstract

The paper focuses on the relationship between the measure of subjective well-being, the measure of dispositional gratitude, dispositional forgiveness in 167 respondents in the period of adolescence and emerging adulthood. We used a questionnaire to measure subjective well-being (WHO Regional Office For Europe, 1998), a dispositional gratitude scale (McCullough, Emmons, Tsang, 2002) and the Heartland Forgiveness Questionnaire (Thompson et al., 2005). The existence of a positive relationship between subjective well-being and dispositional gratitude was confirmed, as well as a positive relationship between subjective well-being and overall dispositional forgiveness. A significant positive relationship was also confirmed between subjective well-being and dispositional self-forgiveness, dispositional forgiveness of others, and dispositional forgiveness of the situation. A significant positive relationship was also demonstrated in connection with dispositional gratitude and overall dispositional forgiveness. Furthermore, the relationship between the degree of dispositional gratitude and dispositional self-forgiveness, dispositional forgiveness of others, and dispositional forgiveness of the situation was found. The contribution was created within the Vega grant No. 1/0518/20 Forgiveness from the perspective of psychology - intrapersonal and interpersonal aspects and the relationship with mental health.

Key words: *Adolescence, Dispositional gratitude, Dispositional forgiveness, Subjective well-being, Emerging adulthood*

1 INTRODUCTION

Adolescence and emerging adulthood are periods characterized precisely by the fact that adolescents must adapt to the changes that come with adulthood (Lewis et al., 2015; Gilmore, 2019). Future independence, the expectation of independence from parents, as well as an increased perception of the need for new competences and self-regulation and coping strategies come to the fore.

As a follow-up to one of these tasks – independence, it is obvious that its fulfillment is becoming more and more difficult and complicated with the onset of modern times (Gilmore, 2019; Hochberg, Konner, 2020), not to mention significantly worsened survival within the impact of the Covid-19 pandemic. as well as the situation with the war in Ukraine, which left "traces" on the physical and mental health of the entire population. The adverse effects of the Covid-19 pandemic, intensified by the war conflict in the immediate vicinity of our borders, refer in many works (e.g. Quigley et al., 2022, Kurapov et al., 2022) to adverse effects on psychological well-being, the subjective measure of which naturally decreases temporarily in this turbulent development period of the separation-individuation process (Koepke, Denissen, in Hill, Burrow, Sumner, 2016) according to individual demands and the subjective and objective possibilities of the individual. Therefore, like the authors Mead et al. (2021) we decided to focus our attention on selected protective factors – gratitude, forgiveness, which could not only protect personal well-being, but also positively influence the individual's quality of life. Príspevok vznikol v rámci grantu Vega č.1/0518/20 Odpustenie z pohľadu psychológie-intrapersonálne a interpersonálne aspekty a vzťah s psychickým zdravím.

Well-being, or personal well-being, forms the basis of everyday life and represents the result of our thoughts, experiences and actions. Nevertheless, it is still not explicitly defined.

However, many agree that well-being can be characterized as the occurrence of positive moods and emotions (e.g. happiness), life satisfaction, fulfilling functioning, positive functioning, while negative emotions (e.g. anxiety) are not present (Well-being Concepts, 2018). Currently, the World Health Organization (2021) leans towards an optimistic definition and describes well-being as a positive state experienced by people and the entire society.
According to Blatný (2020), psychological and subjective personal well-being are separate conceptual constructs that are internally dependent on each other and complement each other. The philosophical basis *of subjective well-being* or subjective comfort is the hedonic approach, on the basis of which it is understood as pleasure or happiness, in which a person experiences satisfaction with his own life, experiences positive emotions and, conversely, negative ones are absent (Bradburn, 1969; Diener, 1984). The term psychological well-being can be understood as a set of criteria that are personal and private, while evaluating one's own functioning (Keyes, Lopez 2002).
In the life of an adolescent, mental well-being is an important factor in adaptive development. It is helpful in creating one's identity and also in finding a kind of refuge (Balážová, Uhrecký, 2018). As is the case with psychological well-being, also for experiencing subjective well-being, in addition to relationships in the family, with teachers or peers, fun activities, a sense of freedom and a sense of security proved to be important (Balážová, Uhrecký, 2018).
Gratitude is considered to be one of the most important human virtues. The concept of gratitude is not easily defined, as we can imagine under it an emotion, life orientation, attitude or moral virtue (Wood, Froh, Geraghty, 2010). According to Wood (2014), gratitude can be understood on the one hand as a state that is characterized as a reaction at a certain point in time. On the other hand, we can understand it as a personality trait that is defined based on specific differences in how intensely and how often an individual experiences situational gratitude. We can recognize the difference between situational gratitude and dispositional gratitude on the basis that situational gratitude depends on a specific event, while dispositional gratitude represents a stable affective characteristic that is mostly unaffected by occurring events (Alkozei, Smith, Killgore, 2017).
In relation to adolescents and emerging adults, Froh et al. (2011) spoke about gratitude as a key that can help adolescents escape the negative influences of the present, which include too much emphasis on wealth and materialism. Bausert, Froh (s.a.) and Balthip, Suwanphahu and McSherry (2022) also agree that it has an important position in well-being, health care, and positive adaptation of the adolescent. The fact that gratitude can cause an increase in emotional well-being and social well-being even in adolescents was confirmed in the work of Froh, Bono and Emmons (2010), with the fact that it can later have a positive impact on their future. In a study with a sample of university students by Măirean, Turliuc, and Arghire (2018), trait gratitude was found to be positively correlated with dimensions of psychological well-being. Gratitude is positively related to positive parenting behavior, closeness between parents and children, and dispositional gratitude of parents (Bausert, Ruscio, Froh in Bausert, Froh, s.a.).
Although there is no single definition of *forgiveness*, several authors agree that forgiveness is not the same as forgetting, excusing, tolerating, reconciling, appeasing, or saying "I forgive you" (Kim, Enright, Wong, 2022). However, this way of adjusting to people and events has a positive impact on a person (Drábiková, 2012).
Most often, we can meet the distinction of forgiveness into situational and dispositional. Situational forgiveness is forgiveness from one person to another in specific contexts of interpersonal injustices (Kim, Enright, 2016). In the case of dispositional forgiveness, or otherwise called trait forgiveness, we are talking about the tendency to forgive transgressions despite various circumstances (Allemand et al., 2007). Dispositional forgiveness differs from

situational forgiveness in that dispositional forgiveness occurs in a person who possesses the virtue of forgiveness (Roberts, 1995).
The relationship of these three constructs of positive psychology, i.e. the relationship of dispositional forgiveness and dispositional gratitude to well-being among Filipino adolescents, was followed by Datu (2013), whose results confirmed that self-forgiveness, situational forgiveness, and gratitude were significantly correlated with well-being, with the most significant determinant of well-being was gratitude. In a study by Fincham and May (2019) a significant positive correlation between self-forgiveness and subjective well-being was also found. Between the tendency to forgive and the tendency to be grateful, in young adults, Kumar and Dixit (2014) confirmed a significant positive relationship. In his work, the author of Safaria (2014) found a positive correlation between dispositional gratitude and happiness, which is considered an important aspect of subjective well-being. However, no significant relationship emerged between forgiveness and happiness. This means that well-being is associated with gratitude, but not with forgiveness, in college students. However, in a study by Akhtar, Dolan and Barlow (2017) situational forgiveness proved to be efficient in connection with mental well-being feeling. In a study by Jiang et al. (2016) dispositional gratitude also showed a positive relationship with school well-being, which includes cognitive and affective components of well-being at school. The improvement of adolescent school well-being may also be related to the reduction of materialism (Jiang et al., 2016). The results about the positive relationship between dispositional gratitude and well-being also agree with the work of Hill and Allemand (2011), where it was found in a sample of adults that those who showed dispositional gratitude and forgiveness had a higher level of well-being. Yao et al. (2017) confirmed previous findings in that both interpersonal dispositional forgiveness and intrapersonal dispositional forgiveness are significantly related to adolescent subjective well-being.

Research problem and research objectives

Considering the burden that adolescents and emerging adults experience not only within their transitional period, but also with its increase due to the emerging pandemic and neighboring war, we decided to verify whether gratitude, forgiveness and well-being are helpful for living a more meaningful and happy life of individual in adolescence and emerging adulthood.

Research questions and hypotheses

H1: We assume that there is a positive relationship between the level of experienced subjective well-being and the level of dispositional gratitude in people from adolescence to emerging adulthood (e.g. Bausert, Froh, sa; Safaria, 2014).
H2a: We assume that there is a positive relationship between the level of subjective well-being and the level of overall dispositional forgiveness in the period of adolescence to emerging adulthood (Hill, Allemand, 2011; Akhtar, Dolan, Barlow, 2017).
H2b: We hypothesize that there is a positive relationship between the level of subjective well-being and the level of dispositional self-forgiveness in the period of adolescence to emerging adulthood (Datu, 2013; Yao et al., 2017; Fincham, May, 2019).
H2c: We hypothesize that there is a positive relationship between the level of subjective well-being and the level of dispositional forgiveness of others in people from adolescence to emerging adulthood (Yao et al., 2017).
H2d: We assume that there is a positive relationship between the level of subjective well-being and the level of forgiveness of situations in people from adolescence to emerging adulthood (Datu, 2013).

H3: We hypothesize that there is a positive relationship between the level of dispositional gratitude and the level of overall dispositional forgiveness in people from adolescence to emerging adulthood (Kumar, Dixit, 2014).
Q1: Is there a relationship between the level of dispositional gratitude and the level of individual domains of dispositional forgiveness in people in adolescence and emerging adulthood?

Research file
The overall research sample consisted of 167 respondents aged 15-25 (M = 21.32; SD = 2.64; Mdn = 22). Research participants consisted of 67 (40 %) males (M = 21.48; SD = 3.04; Mdn = 22) and 100 (60 %) females (M = 21.21; SD = 2.35; Mdn = 21). Part of the research were respondents in the period of adolescence and emerging adulthood showing the highest level of education from elementary school to higher education II. degree.

Research procedure
We collected data for our research online through a questionnaire battery during the months of February to March 2023. We worked with the acquired data using the statistical program Jamovi 2.2.5.

Research methods
To determine subjective well-being, dispositional gratitude and dispositional forgiveness in the period of adolescence and emerging adulthood, we compiled the following test battery. To measure subjective well-being, we used a short questionnaire with 5 items rated on a 6-point Likert scale (0 = all the time; 1 = sometimes; 2 = less than half the time...) Five Well-Being Index (WHO-5) (WHO Regional office for Europe, 1998). Respondents rated the items with respect to the last two weeks. Items include e.g. "I felt active and full of energy". Cronbach's alpha value reached 0.83. We used The Gratitude Questionnaire-Six-Item Form (GQ-6) (McCullough, Emmons, Tsang, 2002) to investigate specific differences in the tendency to be grateful in everyday life. It consists of 6 items evaluated on a 7-point Likert scale (1 = strongly disagree to 7 = completely agree). An example of an item from the scale is, for example: "I have so much in my life for which I can be grateful". Cronbach's alpha value is 0.71. We obtained the Slovak versions of both questionnaires by translating the items from the English versions, according to the methodological manual for translating foreign language methodologies. We used the Heartland Forgiveness Scale (HFS) (Thompson et al., 2005) to measure general tendency to forgive. The respondent evaluates 18 items using a 7-point Likert scale (from 1 = almost never applies; to 7 = almost always applies). The items are situated in three dimensions – the tendency to forgive oneself, the tendency to forgive other people and the tendency to forgive uncontrollable situations. The dimension of forgiving oneself includes e.g. item: “I am angry with myself for the bad things I have done”. In our work, we used the Slovak adaptation of the questionnaire from Chlebcová and Greškovičová (2019). Internal consistency for the entire questionnaire and individual domains of the HFS questionnaire represents acceptable values: HFS total dispositional forgiveness $\alpha = 0.81$; HFS self-forgiveness $\alpha = 0.66$; HFS forgiveness of others $\alpha = 0.75$; HFS forgiveness situation $\alpha = 0.63$. To verify the hypothesis H1, we used the Pearson correlation, given the observed assumptions. We confirmed hypothesis 1, and found a statistically significant weak to moderately strong relationship between the level of experienced subjective well-being and the level of dispositional gratitude. We present the results from the correlation analysis in Table no. 1.

Table no. 1 The relationship between subjective well-being and dispositional gratitude

	Subjective well-being	
	r	Sig.
Dispositional gratitude	0.30	< 0.001

Note. N = 167, r = Pearson correlation coefficient

We confirmed hypothesis H2a, as we found a statistically significant weak relationship between subjective well-being and overall dispositional forgiveness.
In hypothesis H2b, where we assumed the existence of a positive relationship between the level of subjective well-being and dispositional self-forgiveness, we confirmed a statistically significant weak to moderately strong relationship.
Furthermore, we hypothesized in H2c that there is a positive relationship between the level of subjective well-being and dispositional forgiveness to others. The existence of a relationship was also confirmed in this case, as we found a significant positive weak relationship between the level of subjective well-being and the level of forgiveness to others. We also used Pearson's correlation coefficient for hypothesis H2d, where we confirmed the existence of a statistically significant weak positive relationship between subjective well-being and the dispositional forgiveness domain. We present the results from the correlation analyzes in Table no. 2.

Table no. 2. The relationship between subjective well-being and dispositional forgiveness

	Subjective well- being	
	r	Sig.
Total disposition forgiveness	0.29	< 0.001
Dispositional self-forgiveness	0.30	< 0.001
Dispositional forgiveness of others	0.17	0.015
Dispositional forgiveness of the situation	0.21	0.003

Note. N = 167, r = Pearson correlation coefficient

We confirmed hypothesis H3, as we found a statistically significant moderately strong relationship between the level of dispositional gratitude and the level of total dispositional forgiveness.
Finally, we posed research question O1, where we focused on the relationship between individual domains of forgiveness and dispositional gratitude. By calculating Pearson's correlation coefficients, we found statistically significant positive very weak relationships between the level of dispositional gratitude and dispositional self-forgiveness and dispositional gratitude and dispositional forgiveness of the situation. We confirmed a moderately strong statistically significant positive relationship between dispositional gratitude and dispositional forgiveness. The results of correlation analyzes are presented in Table no. 3.

Table no. 3 The relationship between dispositional gratitude and dispositional forgiveness

	Dispositional gratitude	
	r	Sig.
Total disposition forgiveness	0.33	< 0.001
Dispositional self-forgiveness	0.16	0.019
Dispositional forgiveness of others	0.38	< 0.001
Dispositional forgiveness of the situation	0.21	0.003

Note. N = 167, r = Pearson correlation coefficient

2 DISCUSSION

The quality of life has been affected by stressful situations in recent years, such as pandemic or war (e.g. Donker, Mastrotheodoros, Branie, 2021; Bačíková, Janovská, 2022; Kurapov et al., 2022), which is closely associated with mental health and well-being (World Health Organization Europe, 2005). The well-being of adolescents also decreased, e.g. forced by isolation during the pandemic, which later turned into isolation increasingly required by adolescents (Sikorska et al., 2021).

The acquisition of adequate subjective well-being, characterized by the experience of happiness, positive emotions and satisfaction with life (Bradburn, 1969; Diener, 1984), also depends on a person's moral traits, the higher or lower level of which is reflected in his level. One of the moral characteristics is dispositional gratitude, which is reflected in addition to mental and physical health (Alkozei, Smith, Killgore, 2017) and in adolescent relationships within the family or peer group, which have a decisive position for the period of adolescence (Bausert, Froh, sa; Walsh , 2020).

As part of our work, we verified the positive relationship between subjective well-being and dispositional gratitude, which we assumed based on the results of Safaria (2014). In addition, we pointed out the fact that gratitude brings an optimistic outlook on life to an adolescent (Bausert, Froh, et al.) and is also a factor helping to avoid the negative aspects of the present time (Froh et al., 2011). Our results suggest that with an increase in the tendency to express gratitude, a person's subjective well-being may increase during this tumultuous period. If a teenager even shows gratitude, it can give him a sense of meaning and fulfillment, which are necessary for achieving adequate well-being (Křivohlavý, 2004). Based on our results, we believe that the development of gratitude in adolescents could lead to avoiding pitfalls not only resulting from the experienced life phase, but also from current events (Froh et al., 2011). Besides, their life would have a happier and more contented quality.

As another salutoprotective factor, we included dispositional forgiveness, which reduces negative feelings such as anger or anxiety (Toussaint et al., 2019; Kaleta, Mróz, 2022). We correlated the level of subjective well-being with all domains of dispositional forgiveness as well as with total dispositional forgiveness, with correlations showing positive statistical significance, although slight variations in the strength of the relationship were demonstrated.

The assumption stated in hypothesis H2a about the existence of a positive relationship between the level of subjective well-being and the level of overall dispositional forgiveness, based on the findings of Hill, Allemand (2011), Akhtar, Dolan and Barlow (2017), was confirmed to us at the level of a weak relationship. This means that with a higher level of subjective well-being of people in the period of adolescence and emerging adulthood, the degree of dispositional forgiveness also increases. We confirmed hypothesis H2b about the existence of a positive relationship between the measure of subjective well-being and dispositional self-forgiveness, in which we based the results of e.g. Datua (2013), Fincham and Maya (2019), on the basis of which we can conclude that higher subjective well-being is associated with a person's tendency to forgive himself for a certain offense he has committed. Similarly, in hypothesis H2c, we confirmed the existence of a relationship between subjective well-being and dispositional forgiveness to others, which is in agreement with the findings of Yao et al. (2017) that an adolescent who has proven to be more prone to reduce negative thoughts or feelings towards the perpetrator, can also be characterized by a higher experience of positive feelings, happiness and satisfaction with one's life. We also confirmed the assumption H2d from the work of Datu (2013) about the relationship between subjective well-being and dispositional forgiveness of a situation at the level of a weak relationship. Since adolescents, regardless of the complexity of the times, encounter many conflicting situations during their stormy period full of significant changes, the tendency to forgive the situation can help them to experience a higher subjective well-being.

In hypothesis H3, we confirmed a positive relationship between dispositional gratitude and overall dispositional forgiveness, which is consistent with the findings of Kumar and Dixit (2014).
As part of the statistical analysis, we correlated all three types of forgiveness with gratitude. For research question O1, correlations between dispositional gratitude and individual domains of dispositional forgiveness, i.e. forgiveness of self, others, and situation, were also shown to be statistically significant. We can state that if a teenager is characterized by a higher tendency to show gratitude, this can also be reflected in his tendency to forgive himself, others and the situation.

3 CONCLUSION

In summary, the results of our research pointed to the fact that the constructs of positive psychology, i.e. dispositional gratitude and dispositional forgiveness, contribute positively to experiencing subjective well-being also among Slovak adolescents and emerging adults.
There are also certain limitations in our work that could partially distort the results of our research. This is a limitation in connection with the Heartland Forgiveness Questionnaire, where within the domain concerning dispositional self-forgiveness and dispositional forgiveness of the situation, the internal consistency we calculated showed a lower value. Another limitation was our strict focus only on subjective well-being. As part of future research, we would therefore recommend focusing on other types of well-being in connection with adolescents and persons emerging as adults, such as e.g. psychological well-being, social well-being or school well-being, as well as other constructs, e.g. loneliness, use of social networks. The results of our work could be implemented in practice in the form of a certain intervention provided in the framework of lectures, workshops or counseling, which would lead adolescents to develop values based on gratitude and forgiveness. These two constructs could thus help to maintain adequate subjective well-being, which would enable the adolescent to smoothly transition into adulthood. As part of the intervention, we would recommend putting emphasis mainly on self-forgiveness, which could be helpful in consolidating identity in this period of adolescence, when identity is being formed (Macaskill, 2012). From our results, it can be assumed that moral personality traits can have a positive impact on subjective well-being.

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ODPUSTENIE V SÚVISLOSTI SO ŽIVOTNOU SPOKOJNOSŤOU A HARMÓNIOU

FORGIVENESS IN RELATION TO LIFE SATISFACTION AND HARMONY

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Abstrakt

Práca sa zameriava na preskúmanie vzťahu medzi tendenciou odpúšťať sebe, druhým a situáciám, so životnou spokojnosťou a harmóniou v živote a následne bola komparovaná tendencia odpúšťať a harmónia v živote na základe pohlavia. Rovnako boli porovnávané všetky 3 premenné v súvislosti s vekom v dvoch vekových skupinách. Na meranie premenných sme využili Heartlandský dotazník odpúšťania (Thompson, Snyder, Hoffman, 2005), Škálu životnej spokojnosti (Diener et al., 1985) a Škálu harmónie v živote (Kjell et al., 2016). Bola preukázaná pozitívna koreláciu medzi odpustením, životnou spokojnosťou a harmóniou v živote ale aj medzi spokojnosťou a harmóniou v živote. Ľudia v strednom veku mali väčšiu tendenciu odpúšťať a dosahovali vyššiu mieru spokojnosti so svojim životom ako mladí dospelí. Tieto 2 vekové kategórie sa líšili v dosahovaných mierach harmónie v živote.

Kľúčové slová: *Odpustenie. Harmónia. Heartlandský dotazník odpúšťania. Mladá dospelosť. Životná spokojnosť.*

Abstract

This study focuses on examining the relationship between the tendency to forgive oneself, others and situations, with life satisfaction and harmony in life, and then the tendency to forgive and harmony in life was compared based on gender. All 3 variables were also compared in relation to age in two age groups. We used the Heartland Forgiveness Questionnaire (Thompson, Snyder, Hoffman, 2005), the Life Satisfaction Scale (Diener et al., 1985) and the Harmony in Life Scale (Kjell et al., 2013) to measure the variables. A positive correlation was shown between forgiveness, life satisfaction, and harmony in life, but also between satisfaction and harmony in life. Middle-aged people were more likely to forgive and had higher levels of life satisfaction than young adults. The 2 age groups differed in their measures of harmony in life.

Keywords*: Forgiveness. Harmony. Heartland Forgiveness Scale. Young adulthood. Life satisfaction.*

1 ÚVOD

Odpustenie môžeme definovať ako snahu a ochotu vzdať sa práva na negatívne pocity akými sú hnev, nenávisť, odpor (Thompson et al., 2005). Thompson et al. (2005) upozorňujú na to, že odpustenie nemusí mať za následok transformáciu negatívnych pocitov za pozitívne, ale stačí, keď sa negatívne pocity voči ubližujúcej osobe zmenia za neutrálne a teda, keď ľudia odpustia, uznajú, že došlo k priestupku a potom vykonajú kognitívnu, emocionálnu a/alebo behaviorálnu prácu potrebnú na preformulovanie priestupku tak, aby ich reakcie na priestupok už neboli negatívne. Hlavným znakom odpustenia je vedomá snaha znížiť negatívne emócie a myšlienky voči páchateľovi, bez toho, aby sa človek snažil na čin zabudnúť (Křivohlavý, 2004). Ďalším dôležitým znakom je empatické porozumenie motivácii vinníka (Křivohlavý, 2004). Křivohlavý (2004) tvrdí, že nemusí dôjsť k zmiereniu, no aj napriek tomu, to môže byť

definované ako odpustenie, lebo v odpustení je kľúčový pokoj v mysli a dobrý subjektívny pocit ublíženej osoby. Odpustením sa nedá nazvať ignorovanie činu, odškodnenie, zmierenie medzi osobami a dokonca to nie je ani zaujatie povýšeneckého postoja k osobe, ktorá niečo spáchala, pretože odpustenie je čin, týkajúci sa len osoby, ktorej bolo ukrivdené (Křivohlavý, 2004).

Odpustenie, tak ako s ním narábame my v našom výskume, je multidimenzionálny konštrukt a predmetom odpustenia môže byť sama osoba, iná osoba alebo situácia, ktorá je mimo kontroly kohokoľvek (napríklad choroba, „osud“ alebo prírodná katastrofa) (Thompson et al., 2005). Odpustenie sebe zahŕňa rovnaké komponenty ako odpustenie druhým, len s tým rozdielom, že osoba zanecháva negatívne pocity voči samej sebe a snaží sa mať súcit a empatiu so samým sebou za zlé skutky, ktoré spáchala (Enright, 1996). Odpustenie sebe je dôležité, keď človek urobil niečo, čím ublížil druhému alebo aj samému sebe a je si vedomý povahy a rozsahu svojich činov, kvôli čomu môže následne zažiť oslabujúce pocity viny, hanby, sebanenávisť alebo nejakú podobnú negatívnu reakciu (Hall, Fincham, 2005). Thompson et al. (2005) zadefinovali novú dimenziu odpustenia a tým je odpustenie situáciám, nad ktorými človek nemá kontrolu. Jednotlivci môžu obviňovať okolnosti súvisiace s chorobou alebo nehodou. Dokonca môžu obviňovať život, nespravodlivý svet alebo osud. Za tieto situácie môže človek viniť aj seba, alebo iného človeka, pretože môže mať pocit, že správanie osoby mohlo ovplyvniť danú situáciu. Napríklad jednotlivec, ktorý zažil dopravnú nehodu, môže cítiť potrebu viniť priateľa za to, že mu v tom čase navrhol ísť autom. Rovnako osoba môže viniť seba za to, že nespravila kroky na zabránenie nehode a tiež to môže dávať za vinu krutému svetu, ktorý je vinný za okolnosti, ktoré spôsobili nehodu (Thompson et al., 2005).

Worthington (1998) vyvinul intervenciu na podporu odpustenia, ktorá sa skladá z niekoľkých fáz. Prvou fázou je zaoberanie sa konfliktom, ktorý sa stal, ide aj o sústredenie pozornosti na vlastné emócie a objektívne uchopenie konfliktu. Křivohlavý (2004) však tvrdí, že po krivde môže ublížená osoba túžiť po odplate a pomste. Reakcia hnevu a nenávisti býva prvotným spôsobom akým sa osoba vyrovnáva s krivdou. Osoba sa uzatvára do svojho vnútra a neustále si opakuje krivdu, ktorá sa jej stala, negatívne emócie voči vinníkovi sa v osobe kumulujú. Táto fáza vždy predchádza odpusteniu, ale nie je pravidlo, že ublížená osoba aj odpustí. Druhou fázou je empatia, čiže porozumenie situácii z pohľadu vinníka a väčšia empatia voči nemu. Tretím krokom, ktorý by mal podľa Worthingtona (1998) nastať je uzatvorenie záväzku vzdať sa snahy po odplate a pomste. Ďalšou fázou, v poradí štvrtou, je rozhodnutie odpustiť, darovať odpustenie vinníkovi, kedy si osoba môže spomenúť na to, ako ona sama niekomu ublížila a bolo jej odpustené. Posledná fáza je udržanie odpustenia, lebo aj napriek tomu, že osoba odpustí, môžu sa znova vynoriť negatívne pocity spojené s krivdou a preto ublížená osoba nemôže poľaviť v odpustení (Worthington, 1998).

Druhá nami skúmaná premenná bola spokojnosť so životom. Ide o kognitívny komponent subjektívnej pohody a predstavuje kognitívne a globálne hodnotenie kvality života človeka ako celku (Pavot, Diener, 1993). Spokojnosť so životom nie je počas života lineárna a ovplyvňujú ju mnohé faktory (Ree, Elessie, 2011). V psychológii sa veľmi diskutuje o tom, ako súvisí spokojnosť so životom s vekom. Niektorí autori prijímajú model písmena U, ktorý znázorňuje, že celková, ale aj čiastková životná spokojnosť klesá od dospievania po koniec tridsiatych alebo začiatok štyridsiatych rokov a potom sa postupne zvyšuje do polovici sedemdesiatych rokov (Gerdtham a Johannesson, 2001; Hayo a Seifert, 2003; Blanchflower a Oswald, 2007). Iní autori ako napríklad Frijters a Beatton (2012) nenachádzajú dôkazy o trajektórii životnej spokojnosti počas života v tvare písmena U. Ďalšou veľmi podstatnou informáciou, ktorá vyplýva z niektorých výskumov je, že spokojnosť so životom vôbec nesúvisí s vekom, alebo s inými vonkajšími okolnosťami (Myers, Diener, 1996), ale osoby sú buď spokojné, alebo nespokojné so svojim životom, na základe ich osobnostných čŕt (Costa, McCrae, 1980). Dokonca teória adaptácie, hovorí, že aj napriek rôznym okolnostiam v živote,

ktoré môžu spôsobiť výkyvy v životnej spokojnosti sa človek napokon prispôsobí a vráti sa na základnú úroveň spokojnosti (Kahneman, in Ree, Elessie, 2011). Pri skúmaní vzťahu medzi spokojnosťou a vekom je však dôležité zvážiť rôzne vplyvy ako napríklad generáciu, do ktorej patria respondenti. Mnoho zo spomenutých autorov (napríklad Ree, Elessie, 2011; McAddams, 2012; Frijters a Beaton, 2012) skúmali životnú spokojnosť ako súčet spokojností s rôznymi oblasťami v živote pričom my, v našom výskume používame Škálu spokojnosti so životom, ktorá meria celkovú spokojnosť a je vytvorená tak, aby respondent určil, čo je pre neho v živote podstatné.

Koncept harmónie v živote, ktorému sme sa v našej práci venovali, predstavuje individuálnu harmóniu v živote, ktorá, zahŕňa globálne a celkové hodnotenie toho, či život človeka zahŕňa rovnováhu, vedomé bezodsudzujúce prijatie, zapadnutie do svojho života a zladenie s ním (Garcia, Al Nima, Kjell, 2013). Pojem konkrétnejšie odráža vnímanie harmónie na vnútornej úrovni, ako vnútorný pokoj, sebaprijatie, vyrovnanosť a pocit rovnováhy (Delle Fave et al., 2011). Harmónia je spojená so sekundárnou kontrolou. Pri primárnej kontrole sa osoba zameriava na zmenu prostredia. Pri sekundárnej kontrole osoba prijíma a prispôsobuje sa prostrediu bez toho, aby ho menila (Kjell, 2011). Harmónia je vyjadrením procesu prijatia a prispôsobovania sa za účelom dosiahnutia vnútorného pokoja a rovnováhy alebo homeostázy vo vnútri a mimo seba (Nima et al., 2020).

Harmónia v živote a spokojnosť so životom sú dopĺňajúce sa konštrukty, ktoré sa však od seba aj odlišujú, pretože obe spadajú pod kognitívnu zložku subjektívnej pohody, pričom životná spokojnosť kladie dôraz na hodnotenie porovnávajúce skutočné a očakávané životné podmienky, zatiaľ čo harmónia v živote kladie dôraz na psychickú flexibilitu a rovnováhu v živote (Kjell et al., 2016). Kým životná spokojnosť zahŕňa hodnotenie človeka na dosiahnutie ideálnych podmienok, harmónia v živote predstavuje zmysel pre rovnováhu s okolím (Kjell et al., 2016).

Výskumný problém a ciele výskumu

Prvým cieľom nášho výskumu je zamerať sa na vzťah odpustenia a jeho jednotlivých dimenzii so životnou spokojnosťou a harmóniou v živote. Rovnako chceme skúmať koreláciu medzi harmóniou v živote a životnou spokojnosťou. Odpustenie ešte nebolo skúmané v súvislosti s harmóniou v živote, čo je pomerne nový konštrukt a preto by sme tento vzťah chceli preskúmať na slovenskej vzorke. Našim druhým zámerom je porovnať 3 dimenzie odpustenia, životnú spokojnosť a harmóniu v živote medzi mladými dospelými a ľuďmi v strednom veku. Rovnako by sme chceli porovnať odpustenie ale aj harmóniu na základe pohlavia, pretože výsledky výskumov sú nejednoznačné.

Výskumné otázky a hypotézy

Na základe výskumného problému, teoretického pozadia a výskumných zistení sme si formulovali nasledovné výskumné otázky a hypotézy:

H1a-H1c: Predpokladáme štatisticky významný, pozitívny vzťah medzi všetkými dimenziami odpustenia a životnou spokojnosťou.

H2: Predpokladáme štatisticky významný pozitívny vzťah medzi životnou spokojnosťou a harmóniou v živote.

H3: Predpokladáme, že ľudia v strednom veku budú dosahovať štatisticky významne väčšiu celkovú tendenciu odpúšťať ako mladí dospelí.

H3a:Predpokladáme, že ľudia v strednom veku budú dosahovať štatisticky významne väčšiu tendenciu odpúšťať sebe ako mladí dospelí.

H3b:Predpokladáme, že existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v tendencii odpúšťať iným.

H3c: Predpokladáme, že existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v tendencii odpúšťať situáciám.
H4a- H4c:Predpokladáme, že existuje štatisticky významný rozdiel medzi mužmi a ženami vo všetkých dimenziách odpustenia.
H5: Predpokladáme, že ľudia v strednom veku budú viac spokojní so životom ako mladí dospelí.
O1: Existuje štatisticky významný vzťah medzi dimenziami odpustenia a harmóniou v živote?
O2: Existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v miere harmónie v živote?
O3: Existuje štatisticky významný rozdiel medzi mužmi a ženami v miere harmónie v živote?

Výskumný súbor
Náš výskumný súbor tvorilo 260 respondentov vo veku od 20 do 50 rokov (M=33,6; SD=10,6). Priemerný vek mužov (N=130) bol 33,3 (SD=10,8) a žien (N=130) bol 33,9 (SD=10,5) roka.

Postup výskumu
Zber dát prebiehal pomocou vytvorenej batérie dotazníkov, ktorý bol distribuovaný online cez Google Formulár v mesiacoch február 2023 až marec 2023. Batériu dotazníkov sme distribuovali pomocou sociálnych sietí a e-mailu. Výskumný súbor bol vybraný prostredníctvom metódy snehovej guľe. Respondenti boli informovaní o tom, že účasť vo výskume je dobrovoľná a anonymná. Jedinou požiadavkou na zaradenie sa do výskumu bolo vekové rozmedzie od 20 do 50 rokov, pretože sme v našom výskume porovnávali 2 vekové kategórie a to mladú dospelosť (vek od 20 do 35 rokov) a stredný vek (vekové rozmedzie od 35 do 50 rokov).

Výskumné metódy
Ako prvé sme zisťovali sociodemografické údaje respondentov. Na meranie odpustenia sme použili Heartlandský dotazník odpúšťania (HFS- Heartland Forgiveness Scale; Thompson, Snyder, Hoffman, 2005). Ide o sebavýpoveďový dotazník dizajnovaný na posúdenie dispozičného odpustenia. Pozostáva z 18 položiek, ktoré sa skladajú z troch, šesť položkových subškál na meranie odpustenia sebe, druhým a situáciám. Účastníci odpovedajú na 7-bodovej Likertovej škále od 1= takmer nikdy pre mňa neplatí po 7= takmer vždy pre mňa platí. Príkladom položky, ktorá meria odpustenie sebe je: „Cítim voči sebe zášť za negatívne veci, ktoré som urobil“. Celkové skóre v tomto dotazníku ukazuje, akú má človek tendenciu odpúšťať. Jednotlivcove skóre pre tri dimenzie naznačujú, aká je tendencia osoby odpustiť sebe, iným ľuďom a situáciám, ktoré sú mimo kohokoľvek kontroly. Celkové skóre môže byť v rozsahu 18 až 126. Skóre pre jednotlivé dimenzie môže byť v rozsahu 6 až 42. Vyššie skóre poukazuje na vyššiu úroveň odpúšťania a nižšie skóre naznačuje nižšiu úroveň odpúšťania. Životná spokojnosť bola meraná pomocou Škály životnej spokojnosti [SWLS – Satisfaction with Life Scale; Diener, Emmons, Larsen, Griffith, 1985), ktorá hodnotí kognitívny aspekt osobnej pohody. Škála pozostáva z 5 položiek, ktoré respondenti hodnotia pomocou sedembodovej stupnice v rozsahu od „úplne nesúhlasím“ (1) po „úplne súhlasím“ (7). Položky sa sčítajú a ich súčet vyjadruje celkové skóre v rozsahu od 5 (nízka spokojnosť) do 35 (vysoká spokojnosť). Vzorové položky zahŕňajú tvrdenie, napr. „Som spokojný s podmienkami svojho života“ alebo „Zatiaľ som získal dôležité veci, ktoré som v živote chcel“ (Diener et.al., 1985). Harmónia sa merala pomocou Škály harmónie v živote (HiL – The Harmony in Life Scale; Kjell, Daukantaite, Hefferon, Sikström, 2016). Táto škála kladie dôraz na psychologickú rovnováhu a flexibilitu v živote. Túto škálu sme si vybrali kvôli tomu, že dopĺňa Škálu spokojnosti so životom. Pozostáva z 5 položiek a respondenti tieto položky hodnotia na 7 bodovej Likertovej stupnici od 1-úplne súhlasím po 7-úplne nesúhlasím. Položky sa

sčítajú a vznikne celkové skóre, ktoré môže byť v rozsahu od 5 do 35 bodov. Príkladom položky z tohto dotazníku je, napr : „Môj životný štýl mi umožňuje byť v súlade s mojím prostredím (Kjell, et al., 2016).

Výsledky

V H1a - H1c: sme predpokladali sme štatisticky významný, pozitívny vzťah medzi všetkými dimenziami odpustenia a životnou spokojnosťou.

Na overenie hypotézy H1 a, b, c bol použitý Pearsonov korelačný koeficient na základe zistenia o dodržaní normálnej distribúcie premenných. Vyfiltrovali sme nájdené vzdialené hodnoty. Hypotéza 1 a aj jej podhypotézy sa potvrdili. Zistili sme štatisticky významný, pozitívny stredne silný vzťah medzi celkovým odpustením a životnou spokojnosťou ($r = 0,48$; $p < 0,001$). Štatisticky významný, pozitívny stredne silný vzťah sa potvrdil aj medzi 39 odpustením sebe ($r = 0,43$; $p < 0,001$), druhým ľudom ($r = 0,36$; $p < 0,001$) a situáciám ($r = 0,41$; $p < 0,001$) so životnou spokojnosťou.

V H2: sme predpokladali sme štatisticky významný pozitívny vzťah medzi životnou spokojnosťou a harmóniou v živote.

Na základe posúdenia Q-Q grafov a hodnôt šikmosti a špicatosti sme zistili, že normálna distribúcia premenných bola dodržaná, a tak sme pre posúdenie hypotézy H2 zvolili Pearsonov korelačný koeficient. Zistili sme, že životná spokojnosť a harmónia v živote spolu štatisticky významne pozitívne korelujú, pričom silu tohto vzťahu môžeme popísať ako veľmi silnú ($r = 0,76$; $p < 0,001$).

V O1: sme sa pýtali na existenciu štatisticky významného vzťahu medzi dimenziami odpustenia a harmóniou v živote? Na získanie odpovede pre O1, sme si najprv odfiltrovali vzdialené hodnoty a potom sme použili Pearsonov korelačný koeficient, pretože bola dodržaná normálna distribúcia oboch premenných. Zistili sme štatisticky významný vzťah medzi celkovým odpustením ($r=0,45$; $p < 0,001$), odpustením sebe ($r = 0,42$; $p < 0,001$), odpustením iným ($r = 0,34$; $p < 0,001$), situáciám ($r = 0,42$; $p < 0,001$) a harmóniou v živote. Pričom sila vzťahu vo všetkých dimenziách bola stredne silná.

V H3: sme predpokladali, že ľudia v strednom veku budú dosahovať štatisticky významne vyššiu mieru celkovej tendencie odpúšťať ako mladí dospelí.

V H3a: sme predpokladali, že ľudia v strednom veku budú dosahovať štatisticky významne vyššiu tendenciu odpúšťať sebe ako mladí dospelí.

V H3b: sme predpokladali, že existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v tendencii odpúšťať iným.

V H3c: sme predpokladali, že existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v tendencii odpúšťať situáciám.

Výsledky k hypotézam H3, H3a, H3b a H3c uvádzame v Tabuľke 1.

Tabuľka 1 Výsledky k hypotézam H3, H3a, H3b a H3c

	Mladí dospelí			Stredný vek				Výsledok t-testu		
Závislá premenná	N	M	SD	N	M	SD	t	df	p	d
Odpustenie celkovo	127	80,02	12	130	83	15,5	-1,66	242	**0,049**	-0,21
Odpustenie sebe	124	26	4,77	130	27,6	5,2	-2,5	252	**0,007**	-0,31
Odpustenie iným	130	27,8	5,93	130	27,6	7,18	0,25	249	0,799	0,03
Odpustenie situáciám	128	26,9	5	128	28,2	5,56	2,02	254	**0,044**	-0,25

Poznámka: N - počet, M - priemer, SD - štandardná odchýlka, df - stupne voľnosti, p - štatistická významnosť, d - Cohenovo d

V H4a - H4c: sme predpokladali, že existuje štatisticky významný rozdiel medzi mužmi a ženami vo všetkých dimenziách odpustenia.

Pri overovaní hypotézy 4 a, b, c sme postupovali nasledovne. V prvom kroku sme si odfiltrovali vzdialené hodnoty. Zistili sme, že bola dodržaná normálna distribúcia premennej v oboch pohlaviach, a preto sme použili Studentov parametrický t-test. Posúdili sme Levenov test homogenity, a keďže bola dodržaná rovnosť rozptylov, pracovali sme so Studentovým t-testom. Hypotéza 4 a jej podhypotézy sa nám nepotvrdili, nezistili sme žiadny štatisticky významný rozdiel medzi mužmi a ženami v sledovaných dimenziách odpustenia.

V H5: sme predpokladali, že ľudia v strednom veku budú viac spokojní so životom ako mladí dospelí.

Pri overovaní hypotézy 5, sme v prvom kroku vyfiltrovali vzdialené hodnoty pre obe vekové kategórie (N=2). Posúdili sme distribúciu premennej v oboch vekových kategóriách, a na základe výsledku Levenovho testu sme použili Studentov t-test. Zistili sme, že hypotéza 5 sa nám potvrdila. Zistili sme, že respondenti v strednom veku (N=128; M=23,9; SD=5,86) dosahujú štatisticky významne vyššiu mieru spokojnosti so životom ($t(256) = -1,75$; $p = 0,041$) v porovnaní s mladými dospelými (N= 130; M=22,5; SD= 6,71). Tento rozdiel je malý (d=0,22).

V O2: sme zisťovali, či existuje štatisticky významný rozdiel medzi mladými dospelými a ľuďmi v strednom veku v miere harmónie v živote?

Našli sme vzdialené hodnoty a tak sme ich následne odfiltrovali (N=4). Posúdili sme dodržanie normálnej distribúcie dát v oboch skupinách, a zistili sme, že normálna distribúcia premennej bola dodržaná. Na základe nedodržania rovnosti rozptylov sme použili Welchov parametrický t-test. Zistili sme že mladí dospelí (N=130; M=22,9; SD=6,39) sa štatisticky významne líšia v dosahovaných mierach harmónie v živote ($t(244) = -3,82$; $p < 0,001$) oproti ľudom v strednom veku (N=126; M=25,6 ; SD=5,04). Tento rozdiel je malý až stredný (d= 0,48).

V O3: sme zisťovali, či existuje štatisticky významný rozdiel medzi mužmi a ženami v miere harmónie v živote? Zvolili sme Studentov parametrický t-test, pretože hodnoty premennej harmónia v živote boli v oboch skupinách normálne distribuované. Zistili sme, že medzi ženami (N=130; M=23,8; SD=6,36) a mužmi (N=130; M=24,2; SD=5,94) neexistuje štatisticky významný rozdiel v dosahovaných mierach harmónie so životom ($t(258) = -0,46$; $p =0,643$).

2 DISKUSIA

V prvej hypotéze sme predpokladali vzťah medzi odpustením a jeho dimenziami so životnou spokojnosťou. Zistili sme, že všetky dimenzie odpustenia pozitívne stredne silno korelujú so životnou spokojnosťou. Tieto výsledky sú podobné zisteniam z väčšiny iných výskumov. Szcześniak a Soares (2011), ale aj Eldeleklioglu (2015) zistili, že medzi odpustením a životnou spokojnosťou existuje pozitívny vzťah. Pričom tieto dva výskumy použili na meranie odpustenia odlišné meracie nástroje. Eldeleklioglu (2015) a Ayten a Ferhan (2016) dokonca preukázali pozitívny kauzálny účinok odpustenia na životnú spokojnosť. Kaleta a Mróz (2018) použili rovnaký nástroj na meranie odpustenia ako my, a zistili, že celkové odpustenie pozitívne a významne koreluje so životnou spokojnosťou. Naše zistenia sa líšili len v sile vzťahu, pretože my sme preukázali, že medzi všetkými dimenziami odpustenia a životnou spokojnosťou existuje stredne silný vzťah a v ich výskume bol stredne silný vzťah len medzi odpustením sebe a životnou spokojnosťou. Odpustenie druhým, v ich výskume štatisticky významne korelovalo so životnou spokojnosťou, pričom sila vzťahu bola malá. Pri posudzovaní vzťahu medzi odpustením situáciám a životnou spokojnosťou bol zistený len zanedbateľný vzťah. Môžeme konštatovať, že väčšina výskumov dokazuje, že odpustenie pozitívne koreluje so životnou spokojnosťou (napríklad Allemand, 2008). Tento vzťah môže

byť spôsobený tým, že osoba už v sebe nepestuje žiadny hnev voči človeku, ktorý jej ublížil, cíti voči nemu väčšie pochopenie a empatiu a tým sa pravdepodobne stáva pokojnejšou a spokojnejšou aj s vlastným životom.

Tým, že súvislosť medzi tendenciou odpúšťať a harmóniou v živote nebola preskúmaná, stanovili sme si výskumnú otázku O1 a zistili sme, že existuje medzi týmito konštruktami štatisticky významný stredne silný pozitívny vzťah. Životná spokojnosť dopĺňa konštrukt harmónie v živote (Kjell et al., 2016) a súvisí s odpustením, preto by sme mohli očakávať, že bude existovať pozitívny vzťah aj medzi odpustením a harmóniou. Odporúčame, aby bol tento vzťah ešte hlbšie preskúmaný aj inými výskumníkmi na Slovensku. Dôvodom je limitácia s pomerne malým počtom respondentov v našej vzorke. Za ďalšiu limitáciu považujeme aj skutočnosť, že sme sa zamerali len na respondentov vo vekovom rozpätí od od 20 do 50 rokov. Pri analyzovaní H2 sme preukázali veľmi silný vzťah medzi životnou spokojnosťou a harmóniou v živote. Kjell a kolektív (2016) zistili, že tieto dva konštrukty spolu úzko súvisia a dopĺňajú sa. Obidva konštrukty spadajú pod kognitívnu zložku subjektívnej pohody ale koncept harmónie v živote predstavuje individuálnu harmóniu v živote, ktorá zahŕňa globálne a celkové hodnotenie toho, či život človeka zahŕňa rovnováhu, vedomé bezodsudzujúce prijatie, zapadnutie do svojho života a zladenie s ním. (Garcia, Al Nima, Kjell, 2013). Životná spokojnosť kladie dôraz na hodnotenia porovnávajúce skutočné a očakávané životné podmienky, zatiaľ čo harmónia v živote kladie dôraz na psychickú flexibilitu a rovnováhu v živote (Kjell et al., 2016). Pre ďalší výskum by mohlo byť zaujímavé skúmať rôzne druhy harmónie, napríklad harmóniu v partnerských vzťahoch vo vzťahu k životnej spokojnosti a nakoniec porovnať a vysvetliť, ktorá harmónia koreluje najviac so životnou spokojnosťou a kvôli čomu. Zistili sme, že so stúpajúcim vekom stúpa aj tendencia odpúšťať sebe a celková tendencia odpúšťať. No v tendencii odpúšťať iným sme nezistili žiadne rozdiely medzi mladými dospelými a ľuďmi v strednom veku, zatiaľ čo v tendencii odpúšťať situáciám, sme preukázali rozdiely medzi vekovými kategóriami. Naše výsledky vo všetkých dimenziách odpustenia okrem odpusteniu situáciám kopírovali zistenia od Kaleta a Mróza (2018), ktorí použili rovnako ako my Heartlandský dotazník odpúšťania. Autori vo svojom výskume zistili, že celkové odpustenie a odpustenie sebe bolo vyššie u ľudí v strednom veku. V dimenzii odpustenie iným a situáciám nezistili žiadny rozdiel medzi mladými dospelými a ľuďmi v strednom veku. Výsledky, ktoré sme preukázali, sa nepriamo zhodujú aj so zisteniami od Ghaemmaghami, Allemand a Martin (2011) pretože zistili, že mladí ľudia používali viac negatívnu stratégiu odpustenia ako pomsta a vyhýbanie sa páchateľom, ale nenašli vekové rozdiely s pozitívnou stratégiou odpustenia (benevolencia). Psychosociálna teória Eriksona (in Kaleta, Mróz, 2018) tvrdí, že v strednom veku prechádza človek konfliktom medzi generativitou a stagnáciou, a človek v tomto veku by sa mal viac zamerať na starostlivosť o druhých, i na to, čo môže druhým ponúknuť a myslíme si, že by sa mal znova preskúmať rozdiel medzi mladými dospelými a ľuďmi v strednom veku v tendencii odpúšťať druhým, pretože sa domnievame, že úspešné rozšírenie sebapoňatia o ostatných môže súvisieť s rastúcou tendenciou odpúšťať druhým.

Na základe stanovenej hypotézy H4 sme zistili, že muži a ženy sa vôbec nelíšili v žiadnej z dimenzii odpustenia. Potvrdili sme tým zistenia od Toussainta a Webba (2005). Avšak predpokladali sme, že medzi mužmi a ženami bude rozdiel v tendencii odpúšťať, pretože aj keď sa líšia zistenia v tom, kto odpúšťa viac, vo väčšine výskumov boli preukázané medzipohlavné rozdiely v odpúšťaní (napríklad Orathinkal et al., 2008; Ayten, Ferhan, 2016; Kaleta, Mróz, 2022). Domnievame sa, že keby náš výskum zahŕňa širšiu vekovú škálu bolo by možné vidieť pohlavné rozdiely v tendencii odpúšťať. Ako sme už uviedli, naše výsledky môžu byť skreslené malou výskumnou vzorkou a taktiež spôsobom zberu údajov(metódou snehovej gule), ktorou boli respondenti zapájaní do výskumu.

Na základe stanovej hypotézy 5 sme zistili, že ľudia v strednom veku sú viac spokojní so svojim životom ako mladí dospelí. Toto zistenie je v súlade s inými výsledkami autorov, ktorí tvrdia, že čiastková životná spokojnosť klesá od dospievania po koniec tridsiatych alebo začiatok štyridsiatych rokov a potom sa postupne zvyšuje do polovice sedemdesiatych rokov (Gerdtham a Johannesson, 2001; Hayo a Seifert, 2003; Blanchflower a Oswald, 2007). Avšak my sme skúmali celkovú životnú spokojnosť a potvrdili sme zistenia Dienera a Myearsa (1996), ktorí tiež zistili, že starší ľudia sú spokojnejší so životom v porovnaní s mladými ľuďmi. Naše zistenia sú však v rozpore s výskumami, ktoré zistili, že spokojnosť so životom vôbec nesúvisí s vekom, alebo s inými vonkajšími okolnosťami (Myers, Diener, 1996; Costa, McCrae, 1980). Z toho vyvodzujme, že spokojnosť so životom môže ovplyvňovať množstvo faktorov, ktoré je nutné zvážiť a preskúmať, nielen vek respondentov.
Neexistujú žiadne výskumy, ktoré by skúmali existenciu medzipohlavných a vekových rozdielov v harmónii v živote. Museli sme teda stanoviť výskumné otázky na základe ktorých sme zistili, že muži a ženy sa nelíšia v dosahovaných mierach harmónie v živote, a teda môžeme predpokladať, že harmónia v živote nezávisí od pohlavia. Spokojnosť so životom a harmónia v živote sú dopĺňajúce sa konštrukty, ktoré spolu veľmi silno pozitívne korelujú. Spokojnosť v živote sa počas života mení. Niektorí autori prijímajú model písmena U (Gerdtham a Johannesson, 2001; Hayo a Seifert, 2003; Blanchflower a Oswald, 2007). Podobný trend sme preukázali i my, či už v životnej spokojnosti, alebo v harmónii v živote. Môže to byť spôsobené práve tým, že vekom síce ubúdajú človeku sily a zhoršuje sa zdravie, avšak tento pokles vo fyzickom zdraví býva často vyvážený zlepšením v iných oblastiach, ako je práca, spoločenský život a využívanie voľného času a domnievame sa, že preto môže byť človek spokojnejší a ochotnejší prijímať rôzne podmienky svojho života.

3 ZÁVER

Naša práca poukazuje na dôležitosť odpustenia v živote. Tento konštrukt sme merali nielen cez celkovú tendenciu odpúšťať, ale aj cez ďalšie dimenzie tendencie odpúšťať. Osobitne prínosný je koncept odpustenie situáciám, pretože ide o variant odpustenia, ktorý človek nemôže ovplyvniť, čo väčšina škál merajúca koncept odpustenia nemeria. Téma odpustenia nie je nová a bola skúmaná viackrát, dokonca aj v súvislosti so životnou spokojnosťou, avšak táto práca ako jedna z mála, popisuje jej vzťah aj k menej prebádanému konceptu, ktorým je harmónia v živote.
Z našich výskumných zistení môžeme konštatovať, že čím je vyššia tendencia odpustiť, tým narastá aj spokojnosť človeka s vlastným životom a pociťovanie harmónie. Zistili sme pozitívny veľmi silný vzťah medzi životnou spokojnosťou a harmóniou v živote. Na základe našich zistení sa nám podarilo preukázať, že ľudia v strednom veku majú väčšiu tendenciu odpustiť celkovo, sebe ale aj situáciám. Môžeme konštatovať, že ľudia v strednom veku sú spokojnejší so svojím životom, v porovnaní s mladými dospelými, a tieto dve vekové kategórie sa líšia v dosahovaných mierach harmónie v živote. Chceli by sme apelovať na iných autorov, ale aj na poradenských psychológov a psychoterapeutov, aby sa naďalej venovali týmto konceptom pozitívnej psychológie, pretože sa zdá, že sú v našich životoch esenciálne a myslíme si, že psychoedukácia verejnosti v týchto témach, by bola pre spoločnosť prínosom.
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SOCIAL AND DEMOGRAPHIC VARIABLES IN THE CONTEXT OF THE DISCRIMINATORY TENDENCY TOWARDS TRANSGENDER PEOPLE IN THE CZECH RESEARCH SAMPLE

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Abstract

The study aims to identify differences in discriminatory tendencies towards transgender people in the context of social and demographic variables in the Czech population. The study involved 2976 respondents representing all regions of the Czech Republic. The mean age was 28.35 years (SD = 8.597). Two methods were used in the research. The first method was a socio-demographic data questionnaire (Lenghart & Čerešník, 2022a), which was used to collect baseline socio-demographic data of the participating male and female respondents. The second method was the Attitudes Towards the LGBTQIA+ Community and Selected Identities method (Lenghart & Čerešník, 2022b), which is a set of international methods (Hill & Willoughby, 2005; Hoffarth et al., 2016; Morrison & Morrison, 2002). Six questions from the method were used to identify the extent of discrimination against transgender men and women. We found the most significant discrimination against transgender women in all areas surveyed. We also found that gender and sexual orientation have the strongest effect in the context of the discriminatory tendency towards transgender people. In the area of residence, the effect was identified only in the discriminatory tendency towards transgender men.

Keywords: *discriminatory tendency, prejudice toward transgender people, discrimination of transgender men, discrimination of transgender women, Czech adults*

1 INTRODUCTION

The exploration of attitudes toward sexual and gender minorities is represented by many scholarly studies (e.g., Drabish & Theeke, 2022; Bränström et al., 2021). In addition to attitudes toward gays and lesbians, attitudes toward transgender people are increasingly interested in international studies (Hatch et al., 2022; Patterson et al., 2019). Studies in the Czech Republic focus little on research on attitudes toward transgender minority. Research examining attitudes towards the LGBTQ+ community mainly includes results that link attitudes towards sexual and gender identities as a whole, e.g., the survey "Být LGBT+ v Česku" (Výzkum veřejného ochránce práv, 2019). Although the results of this survey also contain data focusing on discrimination against transgender people, they contain information that is the subjective testimony of LGBT people. The survey, conducted in 2021 by Nielsen Admosphere and the results published in 2022, showed that out of a total of 500 respondents, 31% expressed a positive attitude, 35% expressed a negative attitude, and 34% expressed a neutral attitude toward transgender issues. The survey also showed that younger people (aged 15 to 34) have a more positive perception of transgender people than older people (aged 35 and above). In this case, age plays a significant role in the direction of positive and negative attitudes towards transgender people, which is also declared by foreign research findings (e.g., Parker et al., 2022). Although age as a variable has been examined concerning attitudes towards transgender people, the area of other social and demographic characteristics that play a significant role in the degree of discriminatory tendencies towards this cohort of the population is significantly underrepresented. Therefore, our study aims to identify differences in discriminatory tendencies towards transgender people in the population of Czech adults in the context of selected social and demographic characteristics.

Foreign research findings state that gender, sexual orientation, and the residence respondents come from are playing a significant role in producing the discriminatory tendency towards LGBTQIA+ people globally. Studies show that cisgender women exhibit lower rates of discriminatory tendencies towards transgender people compared to cisgender men (Gerhardstein & Anderson, 2010; Hatch et al., 2022; Nagoshi et al., 2008). These findings are also supported by a study conducted by Donaldson et al. (2017), who found that men show a higher tendency to transnegativity than women. In the context of gender and high rates of discrimination by men, sexual orientation also plays a significant role in predicting rates of discriminatory tendency. Research findings have found (e.g., Konopka et al., 2021) that heterosexual people exhibit higher rates of discriminatory tendencies and prejudice toward transgender people compared to other sexual identifications under the LGB acronym. Research has shown that people who identify under the LGB acronym (lesbian women, gay men, bisexual people) have more positive attitudes toward transgender people than heterosexual people (Norton & Herek, 2013).

There is relatively little research on the residence from which people come. In its 2019 report, the Movement Advancement Project reports that LGBTQIA+ people face higher rates of discrimination and less systemic support in rural settings than in urban ones. Rural residents are, on average, less supportive of legal and policy protections for LGBT people. High levels of discriminatory bias against transgender people by rural residents are also declared in other research findings (Kosciw et al., 2009; Swank et al., 2013).

Current study

Based on the research findings analyzed above, we established six research hypotheses:

H1 We assume residence differences in discriminatory tendencies toward transgender men to the disadvantage of rural men.

H2 We assume residence differences in discriminatory tendencies toward transgender women to the disadvantage of rural men.

H3 We assume intersex differences in discriminatory tendencies against transgender men to the detriment of men.

H4 We assume intersex differences in discriminatory tendencies against transgender women to the detriment of men.

H5 We assume differences in the context of sexual orientation in the discriminatory tendencies towards transgender men to the detriment of heterosexual people.

H6 We assume differences in the context of sexual orientation in the discriminatory tendencies towards transgender women to the detriment of heterosexual people.

2 METHODS

2.1 Research sample and procedure

The research was carried out through voluntary sampling of 2976 male and female respondents representing all regions of the Czech Republic. Respondents completed a series of questionnaires via the online platform Google Forms, which included informed consent and consent to processing personal data solely for research purposes. Of the total sample, 1859 respondents came from urban areas, and 1117 from rural areas. There were 1857 males and 1119 females. Regarding sexual orientation, 870 men identified as heterosexual, 436 as gay, 375 as bisexual men, 794 as heterosexual women, 215 as lesbian, and 286 as bisexual women. In the context of age, we divided respondents into four primary age groups: late adolescence (ages 18 to 20), which included 411 respondents; young adulthood (ages 21 to 34), which included 1981 respondents; middle adulthood (ages 35 to 49), which included 488 respondents; and late adulthood (ages 50 and older), which included 96 respondents.

2.2 Measures

Two methods were used in the research study. The first method is a socio-demographic data questionnaire (Lenghart & Čerešník, 2022a), through which basic and demographic variables such as age, gender, sexual orientation, and area of residence were collected.

The second method was the Attitudes Towards the LGBTQIA+ Community and Selected Sexual and Gender Identities Scale (Lenghart & Čerešník, 2022b), which is a compilation of foreign methods (Hill & Willoughby, 2005; Hoffarth et al., 2016; Morrison & Morrison, 2002). Six items were drawn from the questionnaire to measure the extent of discriminatory tendencies towards transgender men (e.g., "It is immoral for a woman to present herself as a man in public.") and transgender women (e.g., "If I met a man wearing high-heeled shoes, tights, and makeup, I would consider beating her/him up."). The response scale is a 5-point Likert scale on which respondents indicate how much they agree or disagree with the statements. Higher scores indicate a higher degree of discriminatory tendency and vice versa.

3 RESULTS

IBM SPSS Statistics 23.0 software was used to analyze the data. The non-parametric Mann-Whitney U-test statistic was used to compare the groups in the context of residence, gender, and sexual orientation. The non-parametric statistical Kruskal-Wallis H-test was used to compare groups in the area of age groups.

The first area of investigation was to identify differences based on the residence from which respondents came (Table 1). In this area, statistical significance was identified between rural and urban people towards transgender men ($U(N = 2976) = 909349.500$, $p < 0.000$, $Z = -6.407$, $d = 0.206$), but not towards transgender women ($U(N = 2976) = 1023735.500$, $p = 0.500$, $Z = -0.674$, $d = 0.023$). People from rural areas show higher levels of discriminatory bias towards transgender men ($M = 4.96$, $SD = 2.893$) compared to people who live in urban areas ($M = 4.46$, $SD = 2.652$).

Table 1: Differences in the context of residence in discriminatory tendencies toward transgender people

	Rural		Urban		U	p	d
	M	SD	M	SD			
TM	4.96	2.893	4.46	2.652	909349.500	0.000***	0.209
TF	4.97	2.709	4.75	2.364	1023735.500	0.500	0.023

Note. *** p <0.001; M = mean; SD = standard deviation; U = result of Mann-Whitney U-test; d = effect size; p = significance; TM = transgender men; TF = transgender women

Mann-Whitney U-test showed significant differences between the sexes (Table 2). Men showed a higher discriminatory tendency towards transgender women ($M = 4.98$, $SD = 3.021$) compared to women ($M = 4.08$, $SD = 2.132$) ($U(N = 2976) = 868506.500$, $p < 0.000$, $Z = -8.471$, $d = 0.278$). Intersex differences in the discriminatory tendency towards transgender women were also identified ($U(N = 2976) = 797429.000$, $p < 0.001$, $Z = -11.220$, $d = 0.398$), with men showing higher rates of discriminatory tendency ($M = 5.25$, $SD = 2.755$) compared to women ($M = 4.13$, $SD = 1.807$).

Table 2: Sex differences in discriminatory tendencies toward transgender people

	Men		Women		U	p	d
	M	SD	M	SD			
TM	4.98	3.021	4.08	2.132	868506.500	0.000***	0.278
TF	5.25	2.755	4.13	1.807	797429.000	0.000***	0.389

Note. *** p <0.001; M = mean; SD = standard deviation; U = result of Mann-Whitney U-test; d = effect size; p = significance; TM = transgender men; TF = transgender women

Age differences were identified in both study areas (Table 3). People in late adolescence showed higher rates (M = 4.71, SD = 2.359) of the discriminatory tendency toward transgender men compared to people in young adulthood (M = 4. 62, SD = 2.852), middle adulthood (M = 4.67, SD = 2.703), and late adulthood (M = 4.36, SD = 2.738) (H(3, N = 2976) = 10.541, p = 0.014, η2 = 0.003). Significant differences were also identified in discriminatory tendencies toward transgender women (H(3, N = 2976) = 26.342, p < 0.001, η2 = 0.008). People in late adulthood showed higher rates of discriminatory bias (M = 5.14, SD = 2.482) toward transgender women compared to people in late adolescence (M = 4.70, SD = 2.325), young adulthood (M = 4.76, SD = 2.494), and middle adulthood (M = 5.10, SD = 2.567).

Table 3: Age differences in discriminatory tendencies toward transgender people

	Late adolescence		Young adulthood		Middle adulthood		Late adulthood		H	p	η2
	M	SD	M	SD	M	SD	M	SD			
TM	4.71	2.359	4.62	2.852	4.67	2.703	4.36	2.738	10.541	0.014*	0.003
TŽ	4.70	2.325	4.76	2.494	5.10	2.567	5.14	2.482	26.342	0.000***	0.008

Note. *** p <0.001; * p <0.05; M = mean; SD = standard deviation; H = result of Kruskal-Wallis H-test; η2 = effect size; p = significance, TM = transgender men; TŽ = transgender women

The final area of investigation was to identify differences in the context of sexual orientation (Table 4). We identified that heterosexual people showed higher rates of discrimination (M = 5.53, SD = 3.207) towards transgender men compared to LGB people (M = 3.53, SD = 1.395) (U (N = 2976) = 627305.500, p < 0.001, d = 0.786). The same trend was identified for discriminatory tendency towards transgender women (U (N = 2976) = 1488633.500, p < 0.001, d = 0.659). Heterosexual people dominated (M = 5.63, SD = 2.793) and outnumbered LGB people (M = 3.82, SD = 1.572) in the discriminatory tendency toward transgender women.

Table 4: Differences in the context of sexual orientation in discriminatory tendencies toward transgender people

	Heterosexual people		LGB people		U	p	d
	M	SD	M	SD			
TM	5.53	3.207	3.53	1.395	627305.500	0.000***	0.786
TŽ	5.63	2.793	3.82	1.572	1488633.500	0.000***	0.659

Note. *** p <0.001; M = mean; SD = standard deviation; U = result of Mann-Whitney U-test; d = effect size; p = significance; TM = transgender men; TF = transgender women; LGB = lesbian, gay, and bisexual people

4 DISCUSSION

The study aimed to identify differences in discriminatory tendencies towards transgender people in the sample of Czech adults in the context of selected social and demographic characteristics. The first set of hypotheses was the assumption of a higher level of discriminatory tendency towards transgender men and transgender women to the disadvantage of people from rural areas (Hypothesis 1-2). This hypothesis was only confirmed regarding discriminatory tendency toward transgender men but not transgender women. In this case, we accept Hypothesis 1 but not Hypothesis 2. A study by Bauer et al. (2015) in Canada found that transgender people living in rural areas were more likely to face discrimination and barriers than those living in urban areas. In addition, transgender men in rural areas reported more discrimination than transgender women. This could be due to traditional gender roles and expectations in rural communities, which may lead to greater stigmatization of transgender men who are perceived as deviant from traditional masculinity. Another cause may be found in the difference between rural and urban environments. Rural environments

have a low population density compared to urban environments, which leads to a higher density of acquaintances (Moore, 2001). There is relatively good mutual familiarity and frequent social interactions in which individual anonymity is lost, thereby reinforcing cultural and ideological homogeneity within which there is little internal racial, ideological, or sexual diversity (Kazyak, 2011). When people depart from this homogeneity, there is a reduction in community solidarity. This reduction in solidarity arises from the departure from conservative and traditional cultural perceptions fixed in the community and members' unwillingness to change it (Greenberg et al., 2007; Snyder & McLaughlin, 2009) compared to perceptions in urban areas. These homogenous, conservative, and traditional cultural perceptions lead to the creation of social norms that oversee the community but also dictate what is acceptable in the community, how its members should behave, and what identity they should form, which can lead to the erasure, denial, and discriminatory actions of alternative sexual and gender identities (Yost & Chmielewski, 2011).

The high effect of gender roles and biased perceptions on prejudice is also related to the examined differences in the context of gender (Hypotheses 3, 4) and sexual orientation (Hypotheses 5, 6), the hypotheses of which have been identified and confirmed, and therefore we accept these sets of hypotheses. The results in these groups of hypotheses are consistent with the conclusions reported in the introduction (Gerhardstein & Anderson, 2010; Hatch et al., 2022; Konopka et al., 2021; Nagoshi et al., 2008; Norton & Herek, 2013). Findings from studies support the assumption that those who have experienced gender discrimination (primarily women) are more likely to endorse a transgender identity and the assertion that society has not gone far enough when it comes to the acceptance of transgender people (McCann et al., 2021). In the context of sexual orientation, research shows that LGB individuals have a better understanding of the stigma and discrimination that accompanies membership in a sexual minority group, leading to greater empathy and support for other marginalized groups such as transgender individuals (e.g., Herek & McLemore, 2013) compared to their heterosexual peers. Research conducted by Hackimer et al. (2021) found that LGB people who report lower levels of being influenced by traditional gender roles show lower levels of discriminatory tendencies towards transgender people compared to heterosexual people.

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SPECIFICS OF BOUNDARY MAINTENANCE IN THE CLIENT-PROFESSIONAL RELATIONSHIP IN THE HARM REDUCTION APPROACH

Filip Gerec

Abstract

A professional in the Harm Reduction approach can be put in a special situation where it is possible to perceive the essence that he too is only human and will overstep his boundaries in certain specific situations. He may make a slip where he tries to put himself in the position of a controller of the situation, or in the position of an over-moralist, a rescuer or also an exaggerated expert with difficult language, or he just wants to advise the client all the time, he does not listen to the client, and this is what can lead to the client's goal not being fulfilled or the client feeling unheard and having many unanswered questions inside him. However, such situations can be prevented through communication with professionals, through regular supervision, which can be done by the staff in the Harm Reduction approach. Participants in the qualitative research described what boundary situations they have experienced during their practice, as well as the ways in which they try to manage and overcome these situations.

Keywords*: Harm reductio. Boundaries in relationship. Professional worker.*

1 THEORETICAL BACKGROUND

Newcombe (1992) defined one of the very unique and earliest definitions of the term Harm Reduction, explaining that the term refers to social policies that prioritize goals aimed at reducing the negative impacts of substance use. Harm Reduction thus presents its essence in this definition as a major actor in abstinence-based drug policy. It differentiates the harms that are perpetrated at different levels, whether individual, community or societal, and also focuses on different typologies of harms ranging from health harms to social harms to economic harms.

In theoretical sources, one of the most up-to-date definitions is that of the International Harm Reduction Association, the so-called IHRA (2022). This definition can be structurally understood as the position of the International Harm Reduction Association. The Association understands the term Harm Reduction to mean those programmes, concepts and activities that are primarily aimed at reducing the health, social and economic harms of the use of psychoactive substances of legal or illegal undertones without necessarily minimising their quantity.

The professional staff working in the Harm Reduction approach represent a professional multidisciplinary team. As everywhere, the priority is to create the most natural environment in the facility or institution where clients, drug users will feel safe, accepted and will not struggle with feelings of any discrimination or judgement. Only in such an environment do the clients of the Harm Reduction approach feel truly accepted and, in particular, do not feel pressured by the organisation but, on the contrary, consider the low-threshold facility to be an environment where they are free to use different services on the basis of friendly communication and assistance. The professional workers who carry out the activities within the Harm Reduction approach are vaccinated against Hepatitis A and B and have also had to undergo specific types of training for the profession before starting (STORM Association Manual, 2010). Although the Harm Reduction approach entails a multidisciplinary

collaboration of different professionals, for the purpose of this article we have chosen to focus our attention on the social worker in Harm Reduction.

According to Ščasný (2012), the primary area in which the social worker engages in the Harm Reduction approach is social counselling. Social counseling in low-income center locations is carried out through an interview (conversation) where it involves and carries an assessment of the situation, offers specific advice to the client, informs the client, and offers direct or indirect solutions that aim to minimize or completely eliminate the client's serious situations.

Kalousek (2007) adds that the most primary and fundamental value of streetwork with clients who inject drugs is the capacity to provide quality injecting materials. The second value and priority is the social worker him/herself. The role of the outreach social worker becomes a cocktail of professional and personality traits that he can offer his client. His role and the position in which the social worker finds himself reckons with his specific qualities and skills, but also with the likelihood of mistakes and limitations. The social worker must be aware of his strengths and weaknesses and adapt his actions accordingly. As a priority, he must take into account that his clients will regard him as an outsider. In the eyes of his clients, the social worker is a person from outside the community, but from the perspective of injecting drug users, he is a safe person.

Ambrózová (2006) highlights situations where it is the social worker in the Harm Reduction approach that can be placed in a particular situation where it is possible to perceive the essence that they too are only human and it can happen that in certain specific situations they overstep their professional role or their boundaries. However, there can be a mistake where the social worker can make a slip in this approach where he tries to put himself in the role or position of a controller of the situation or in the position of an overly moralist, a rescuer or also an overly expert with a difficult language or he just wants to advise the client all the time, he doesn't listen to the client and this is what can lead to the client's goal not being met or the client feeling unheard and having a lot of unanswered questions inside him or her. The social worker should follow individual social work methodologies, which Štefáková (2016, p. 21) defines as "a set of methods, techniques, rules and procedures together with the definition of their interconnectedness, continuity and the possibilities of their application to practical social work". By adhering to them, possible boundary crossing is eliminated.

Staníček (2007) explains the fact that such situations can be prevented through communication with experts and also through regular supervision that workers in the Harm Reduction approach can receive. It is the supervision that can point out inappropriate forms of worker behaviour and can also help to eliminate them to a bare minimum. Such lapses can often lead to the client being at risk or the client's situation worsening. There are various forms of danger that can arise from working with people who are drug users, as the social worker is in an area with potential drug scene dangers, often even hidden ones.

2 BOUNDARIES IN RELATION TO HARM REDUCTION CLIENTS

We used a qualitative research design, collecting data in the form of semi-structured interviews with staff from OZ Prima. Five participants agreed to be interviewed and also met the deliberate criterion selection. To conduct the interviews, the workers were offered to be interviewed physically, on the premises of OZ Prima, or then through a virtual method via the Zoom application. All OZ Prima workers chose to be interviewed virtually via Zoom for the purposes of the interview. Once the empirical data collection stage was completed, we proceeded to its analysis and subsequent interpretation. For the purpose of conducting this stage, we first transcribed our interviews in the form of verbatim transcription in MS Word. We then transferred these transcripts into Atlas.ti, where we thoroughly analyzed our participants' statements. We focused our attention on whether and what kind of borderline situations our participants experienced during their internship at Prima OZ. In addition to

specific situations, the participants also told us about the ways in which they try to cope with and overcome these situations. In this research area, we created 1 concept, 2 categories, 2 subcategories, and 16 codes. The following table provides an overview of them.

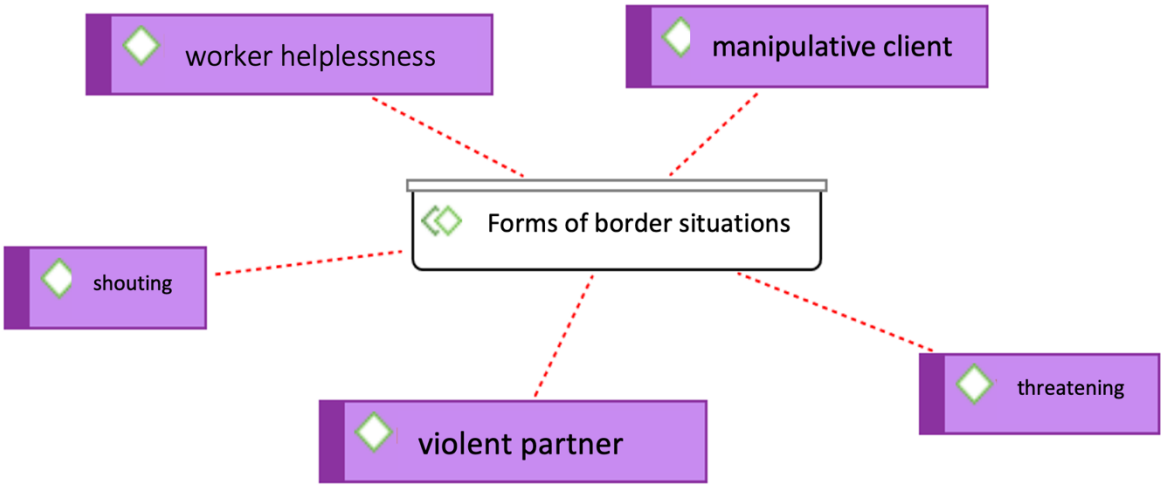
Table 1: Boundaries in the relationship with the client

Concept	Categories	Subcategories	Codes
Boundaries in the relationship with the client	Border situations	Forms of border situations	manipulative client
			threatening
			the client's violent partner
			the client screamed
			helplessness of the worker
		Dealing with border situations	stabilisation and reassurance of the client
			supervision
			calling the police
			not to solve personal problems
			keep calm
	Maintaining boundaries in the client relationship		confrontation
			rational justification
			temporary ban on access to services
			compromise
			generally applicable rules
			defective phonograph record technique

Source: own elaboration, 2023

Within the category 'Borderline Situations', we first identified the forms in which borderline situations occur for our participants, so we created a sub-category 'Forms of Borderline Situations'. We grouped 5 codes into this sub-category - worker helplessness, manipulative client, threatening, violent partner, shouting.

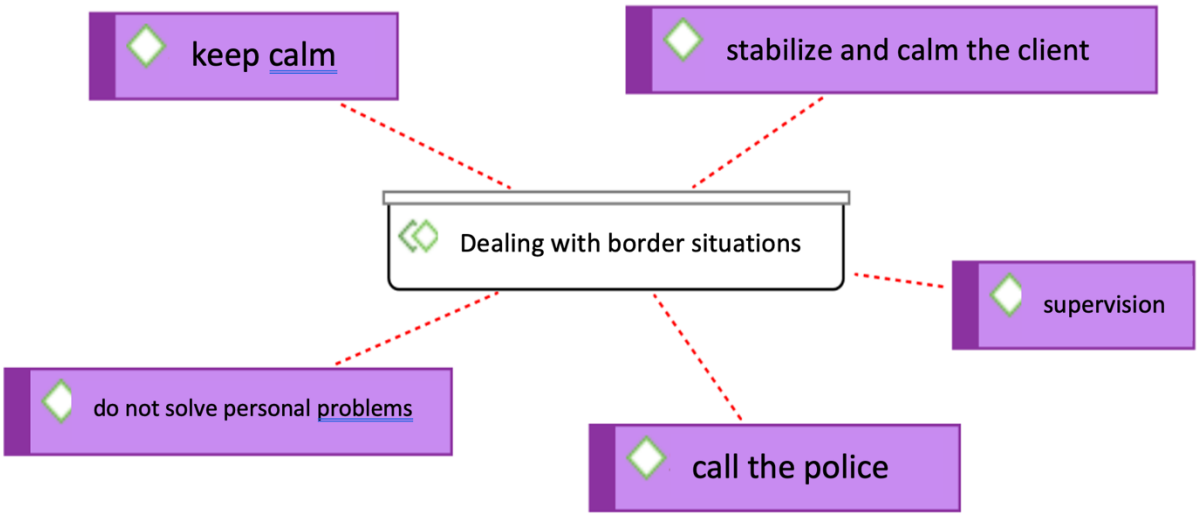
Picture 1: Forms of border situations



Source: own elaboration, 2023

P2 expressed his feeling of helplessness when providing help to a client by saying, "The situations that catch me off guard are the ones where I don't even know what to say and the client comes to me and he's having a really shitty day, this happened, this happened, this happened, and I just look at him and in my head I'm like I don't really know what to say to him about this. And I'll actually communicate it to them like that too, that I don't know what to say, that it's really not an easy situation'.
P3 considers manipulative client behaviour to be a borderline situation. He said: "I actually find it very difficult to work with manipulative people...we have one client like that...I remember in the winter there were these ten, fifteen minute conversations on those services...that he would push me into a corner, I couldn't get over him quasi".
We also included threatening situations among the borderline situations, based on P4's statement, "for example, I had someone tell me that they were going to wait for me outside and hit me on the head or stab me with a knife". However, P4 never experienced any physical assaults from clients during his practice at OZ Prima. P5 also encountered threats when a client had a jealous and violent partner who tried to get into the K-centre during a meeting between P5 and the client.
P1 recalled a situation where a client yelled at him. He says: "she was obviously irritated, maybe she was having some kind of withdrawal...she was yelling at us a lot for something like she didn't need to do at all".
Consequently, we also included the sub-category "Dealing with border situations" in the category "Border situations" because some participants also talked about their strategies and approaches they used to try to resolve the situations. In this sub-category we included the codes - keep calm, stabilize and calm the client, supervision, call the police, do not solve personal problems.

Picture 2: Dealing with border situations

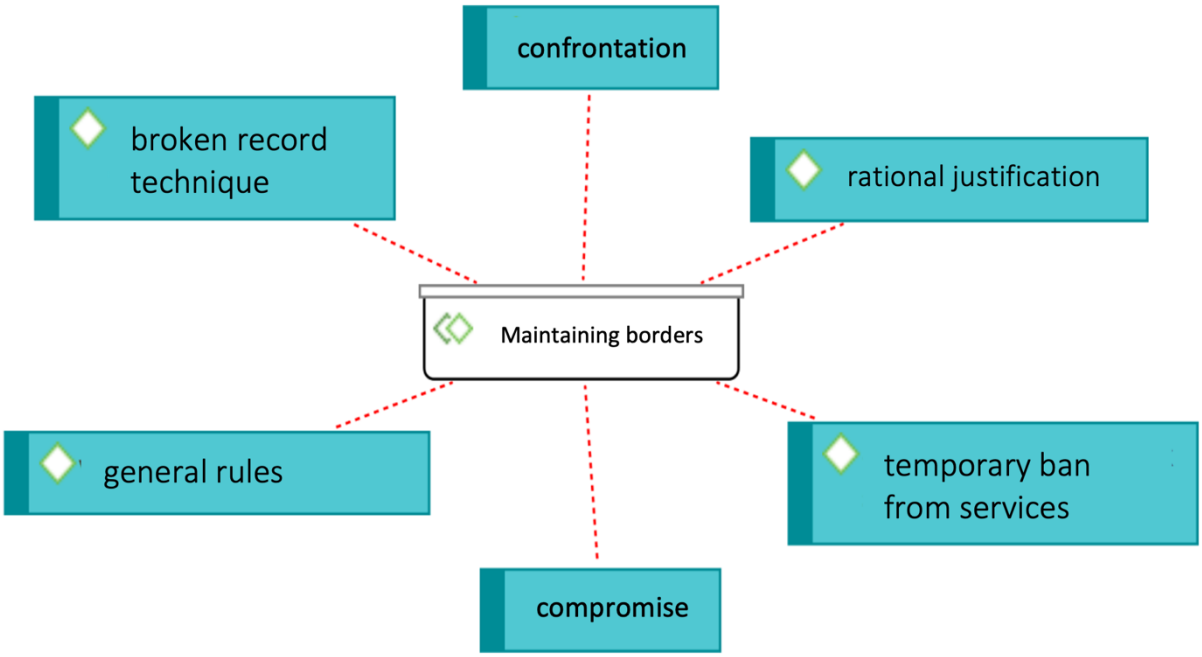


Source: own elaboration, 2023

P1 recommends, in borderline situations, first and foremost to maintain inner calm and also to continue communicating calmly. He says: "The only thing really is to remain calm, to speak in a calm voice...if the client responds to that by saying they need to calm down and want to talk to us normally then we carry on". P2, who besides himself also tries to calm down his client, also leans towards a calm solution to the situation: 'at least I try to stabilise the client in that situation and calm him down a little bit'. In P5's case, however, the client could not be calmed down for a long time, so he proceeded to inform the client that if he did not stop, he would call the police. Here, however, he explains, "of course we don't call the cops or

anything like that because that would make our confidence with our clients fall so far that we could wrap this place up in a month".
P3 also found supervision to be an important and useful way of dealing with borderline situations, in which he dealt with "how do I make myself comfortable in that situation".
Also interesting was the perspective of P1, who also suggested as a solution to borderline situations that the worker in such situations should also not be influenced by their own personal problems: 'then it's still important not to get dragged into such situations by your own stuff...after all, as everybody has something...personally exacerbated by some period or something...so you don't get dragged into that...it's a no-go zone altogether'.
Following on from the previous question, we asked participants "How do you maintain boundaries in your relationship with clients?". We included six codes in the category of "Maintaining Boundaries" based on their statements - broken record technique, temporary ban from services, confrontation, general rules, rational justification, compromise.

Picture 3: Maintaining borders



Source: own elaboration, 2023

P2 and P3 admit that they make minor compromises in maintaining boundaries. As they themselves say: "it can be such small concessions, but they don't hurt anyone" (P2), "here and there a half-step here and there will let through some of that mental adjustment...but then it doesn't happen again the second time".
In some situations, P2 and P4 say, it is necessary to confront the client about what he is saying or how he is behaving. "You need to communicate to them that I know what you're doing and it's not going to work like that, there's a boundary, a rule" (P2). P4 gave us a specific example: 'for example, they bring that bottle...we say according to our methodology that there is a maximum of 150 needles because that's how it's measured...and he says there are 200 needles. And when I tell him no, he gets angry because he's convinced there are 200. So then we're not looking for that consensus...we'll say 150 at the most or he'll pour them out and recalculate them...but they don't want to do that anymore".
P4 also uses the so-called broken gramophone record technique: 'I'll repeat it to him several times in a calm way so that he realises it because in his anger he might not realise the words, so I'll say it once, give him space to calm down and if I need to, I'll say it to him again'.

A rarer way of maintaining boundaries in the client-worker Harm Reduction relationship is to impose a temporary ban on access to the services provided. P5 told of a client who "was given a stop sign for two weeks...so a stop sign is that the client is told that they won't be able to use our services for two weeks, they're told what it's for...we only use it in extreme emergencies but it used to work very well".

For P1 and P3, boundary maintenance is relatively straightforward. P3 relies on adherence to generally applicable rules: 'We have such very basic rules that clients know, they know they have to follow them, it's also posted on our notice board...we inform them about it'. P1 in turn is helped by the rational justification that any boundary crossing may not immediately help the client: "for me it's so very rational that I know that I'm going to help them more by doing that, that there's just no point in doing it any other way...and those boundaries have to be there. And the fact that there is a feeling that if I cross them I will help him more, that is just a feeling and there is no rational reason for it".

Each target group in the helping professions is characterised by certain characteristics that influence the course of mutual cooperation. The target group for Harm Reduction workers are mainly active drug users, whose cognitive and behavioural aspects may be influenced by their current substance use status, withdrawal syndrome, current adverse or crisis life situation.

Our research findings indicated that Harm Reduction workers may find themselves in a variety of boundary situations when working with clients. These boundary situations may be triggered or influenced by external or internal factors, namely:

- on the client's side (manipulative behaviour, threatening, shouting, etc.),
- on the part of the Harm Reduction worker (feeling powerless to help, etc.),
- the client's social environment (violent partner, etc.).

Successfully overcoming and eliminating an unexpected, stressful or even threatening situation in the helping professions is not easy. We believe that the successful resolution of such situations could be facilitated primarily by lifelong, continuous education and training of helping professionals, in our case Harm Reduction workers, who, before they start their practical work, would have completed available self-discovery and self-development activities, such as social-psychological training or psychotherapy, which, in our opinion, could contribute to easier overcoming and resolution of diverse borderline situations, even before they arise. Moreover, we feel that such trainings or therapies can help the helping worker to process his/her personal problems and adverse life situations, which can prevent him/her from mirroring them later in the relationship with the client.

In the event that a Harm Reduction worker finds themselves in a boundary situation with a client, they can use the skills they have learned. We would argue that every support worker should have a wide range of techniques to work towards stabilising and calming the client. If he or she is unable to calm or manage the situation in any way and finds himself or herself in more serious danger, it is appropriate for him or her to contact the police. However, in our view, this should only be done as a last resort and as a very last resort, so as not to lose the client's trust, but also the trust of other clients and potential clients who might become aware of the situation.

Last but not least, and especially in cases where the Harm Reduction worker finds himself in borderline situations too often and fails to manage them successfully, we recommend using the help of a supervisor with whom the Harm Reduction worker can review the chosen actions and strategies and gain new insights and options for dealing with similar situations in the future. Research by Strike et al. (2004) explores the challenges associated with defining boundaries between workers and drug users. Specifically, they explore the multiple and interrelated factors that extend outreach work in needle exchange and harm reduction programs beyond its official scope. Using semi-structured interviews, they surveyed 59 workers in 15 programs in Ontario, Canada, and asked them questions about their operational

policies and routines. Over time, most professional syringe and needle exchange field workers develop a well-defined sense of the activities they consider consistent with the goal of harm reduction, as well as the types of behaviours they consider acceptable and professional on their part. Workers, according to this research, conceptualize their roles to include education and support, but are reluctant to establish a firm definition of their roles. A pragmatic and humble attitude, combined with a strong belief in social justice, encourages workers to seek informal solutions to meet clients' needs that go beyond the established program. As a result, it becomes the norm for workers to go the "extra mile" for their clients. This extra effort is an informal but often regular extension of Harm Reduction's supplemental services. Creating flexible boundaries provides opportunities to meet many client needs and unexpected situations; however, doing something extra strains resources. A minority of workers blur the lines between work and private life. In addition, various personal, social and socio-political forces encourage fieldworkers to constantly redefine the boundaries of their roles and the additional services they provide. Independence, commitment to clients, discretion, lack of guidance, and a health and social services sector that is unresponsive to the needs of drug users create an environment in which fieldworkers can expand the boundaries of their roles and programs with few constraints from their supervisors. According to this research, it is interesting to note that outreach workers for drug users often feel obligated to address a wide range of needs of their clients because others have failed to do so. These syringe exchange programs are currently far beyond their realistic capabilities. According to workers, the work of needle exchange requires "walking a fine line" between being a worker and being a friend. Needle exchange work involves discussing very intimate aspects of clients' lives, and friendships often develop between workers and clients, but where boundaries need to be maintained. Workers can become important confidants to their clients. Some outreach workers feel that managers do not understand the nature of working in a Harm Reduction program and/or what it takes to do quality work for drug using clients. For a small minority of workers, doing something extra is not enough and they become frustrated, disillusioned and end up looking for employment elsewhere. Frustration can also lead to actions that most other workers define as "crossing the line" between acceptable and unacceptable professional behavior. All workers go the extra mile for clients, but only a minority of workers (i.e. less than 10%) cross the line. In general, these activities include blurring the boundaries between private and professional life, trying to 'save' clients and engaging in illegal activities. Most workers do not cross the line very far and only do so in exceptional circumstances when other options have been exhausted.

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DIDACTIC TECHNOLOGIES AND ITS INFLUENCE ON THE EDUCATIONAL PROCESS: A COMPARATIVE STUDY

Miroslav Šebo, Erik Krajinčák, Andrea Šoporová Chochoľáková

Abstract

Didactic technical equipment has a great influence on the educational process. Its importance in the educational process grew even more with the arrival of the Covid-19 pandemic. We deal with the comparison of the use of didactic technology in the educational process during the four waves of the Covid-19 pandemic in this artical. It mainly focuses on students' experiences with the use of various didactic technologies, but also on their shortcomings. The research was carried out on 116 students of the Department of Technology and Information Technologies of the Faculty of Education of the University of Constantine the Philosopher in Nitra. The results of the study show that the technical equipment of many students was sufficient to successfully complete online education. However, some students identified deficiencies in technical means that limited their ability to fully engage into the learning process. These restrictions mainly related to a poorer Internet connection. An interesting finding is that some students expressed their willingness to study online even after the end of the pandemic. These opinions point to the advantages that this form of education brings, such as flexibility and the possibility of self-organization. The study follows on from the article The impact of the pandemic on technical education: a comparative study, by the authors Krajinčák, Šebo, Depešová, which was published in In. Ad Alta : Journal of Interdisciplinary Research (2022).

Key words: *Didactic technologies, education, ICT.*

1 INTRODUCTION

Didactic technologies are a set of tools that the teacher uses in the organization and execution of teaching. Their goal is to support the efficiency and quality of education, to increase the motivation and interest of pupils, to develop their skills and competences. Didactic technology is increasingly oriented towards the online environment currently, which brings new challenges and opportunities for the pedagogical practice. Online education makes it possible to overcome space and time barriers, offer an individually adapted and interactive learning environment, use different types of media and resources. However, online education requires specific didactic techniques that take into account its peculiarities and needs.

In this post, we will deal with didactic technologies for online education, which are based on a socio-constructivist approach. This approach is based on the assumption that learning is a social process that takes place in the interaction between the teacher, students and content. The teacher is a learning facilitator who encourages students to actively engage in the construction of their own knowledge. Students are co-creators of the learning process who collaborate, communicate and reflect on their learning. We will describe their characteristics, goals, advantages and disadvantages, conditions and implementation procedures. Present examples of their application in education at the Department of Technology and Information Technologies, Faculty of Education, University of Konstantin Filozof in Nitra will be listed as well.

2 RESEARCH SAMPLE AND RESEARCH METHODOLOGY

The research was carried out from the academic year 2019/2020 summer semester until the academic year 2021/2022 winter semester. In total, there are four semesters, which also represent four waves of the coronavirus. The entire research took place at the University of

Konstantin the Philosopher in Nitra (UKF in Nitra), specifically at the Department of Technology and Information Technologies.
The study was prepared on the basis of the findings that emerged from four questionnaire surveys. All questionnaires were identical and contained 29 questions. The questionnaire initially focused on the precise categorization of respondents according to gender, year of study, type of study, faculty and department.
The next part of the questionnaire focused on the education during the corona crisis. This section contains 9 questions and is key to our comparative study.
The next section of the questionnaire dealt with technical equipment and experiences with online education. This section also contained 9 questions.
The last section focused on the environment in which teaching took place and its microclimatic conditions. There were 5 questions in this section.
In this post, we focus on the section dedicated to technical equipment and online learning experiences.
All questionnaires were processed using the same statistical methods and then their results were compared and evaluated in a percentage display.
In addition to the questionnaire, we also used the literary method and the method of observation and interview to verify our goals.
116 university students (hereafter only respondents) took part in the research over the course of four semesters.
Of the total sample of 116 respondents, 59% were men (69) and 41% were women (47).
We were also interested in what form of attendance the respondents study. From the answers of the respondents in the questionnaire was clear that the majority of the respondents, up to 78%, studied in the daily form of study. Only 22% of the respondents who filled out the questionnaire studied in an external form of study.
We also investigated the representation of students of individual years of study. All study years were involved in the research, including PhD studies and extension studies. The majority of respondents were from the first year of bachelor's studies (34%), followed by respondents from the second year of bachelor's studies (21%), first year of master's studies (14%), then followed by students of extension studies (10%), third year of bachelor's studies (8 %) and students of the fourth year of bachelor's studies (8%). There were only (5%) respondents from the second year of master's studies. The respondents of PhD studies had the smallest representation (1%).
Based on the previous findings, we can state that in the research, all grades that are educated at the Department of Technology and Information Technologies of the UKF in Nitra are represented. Due to the focus of the department, the respondents are mostly men. The ratio of daily and external forms of study is significantly in favor of the daily form, 78% to 22%. But in general, the representation of daily students in regular education is significantly higher. From the point of view of years, the first year of bachelor's studies has the highest representation. Most of these students are in the department and therefore they have the highest representation in the research sample.

3 RESULTS

The first question in the section of the questionnaire, which dealt with technical equipment and experiences with online education, we found out whether the respondents' technical equipment was sufficient for completing online education (figure 1).
During the first wave, students and also the University of Constantine the Philosopher and Department of technology and information technology were not ready for online education. Therefore, only 31% of respondents answered that they completely agree with the statement that my technical equipment was sufficient to complete the online education. More than half

of the respondents, 54%, agreed with the statement, and only 15% gave an average answer. None of the respondents indicated the option of disagree or completely disagree. It follows that even if the respondents were not perfectly equipped from a technical point of view, their technical equipment was sufficient to handle online education.

For the second wave, the university, the department, as well as the students, were better prepared, and the proportion of *completely agree* answers rose by 16% to a total value of 47%. This increase indicates better technical equipment of the respondents. The results of *agree* responses fell in the second wave to 29%, which is a decrease of 25% compared to the first wave. On the contrary, the proportion of responses rose by 7% on *average* to a total of 22%. In two percent, there were answers that do *not agree*. Nobody chose the *completely disagree* option. It follows from the answers of the respondents that in the second wave of the corona crisis, the technical equipment of the respondents was at a better level than in the first.

The third wave was very similar to the second wave. As seen in Figure 1, the increase or decrease in values was in percent units. According to the answers of the respondents, we conclude that the situation has stabilized in terms of technical equipment.

In the fourth wave, although the sum of *completely agree* responses decreased by 7% to a total of 43%, the sum of *agree* responses increased significantly. The increase in the answers *agree* is by 13% to a final value of 40%. On the contrary, the response *average* dropped by 13% to the final 10%. 3% also received the answers of *disagree* and *completely disagree*. From the results of the analysis of the fourth wave of the pandemic, it follows that the technical equipment of the respondents was the best of all four waves to handle online education.

Analyzing the respondents' answers after each wave, we note that the technical readiness of the respondents for online education gradually improved. The respondents eliminated the shortcomings from the first wave to a significant extent already in the second wave. In the third wave, the results practically did not change, and in the fourth wave, the number of positive answers rose slightly, which represents the best technical equipment of all four waves of the corona crisis.

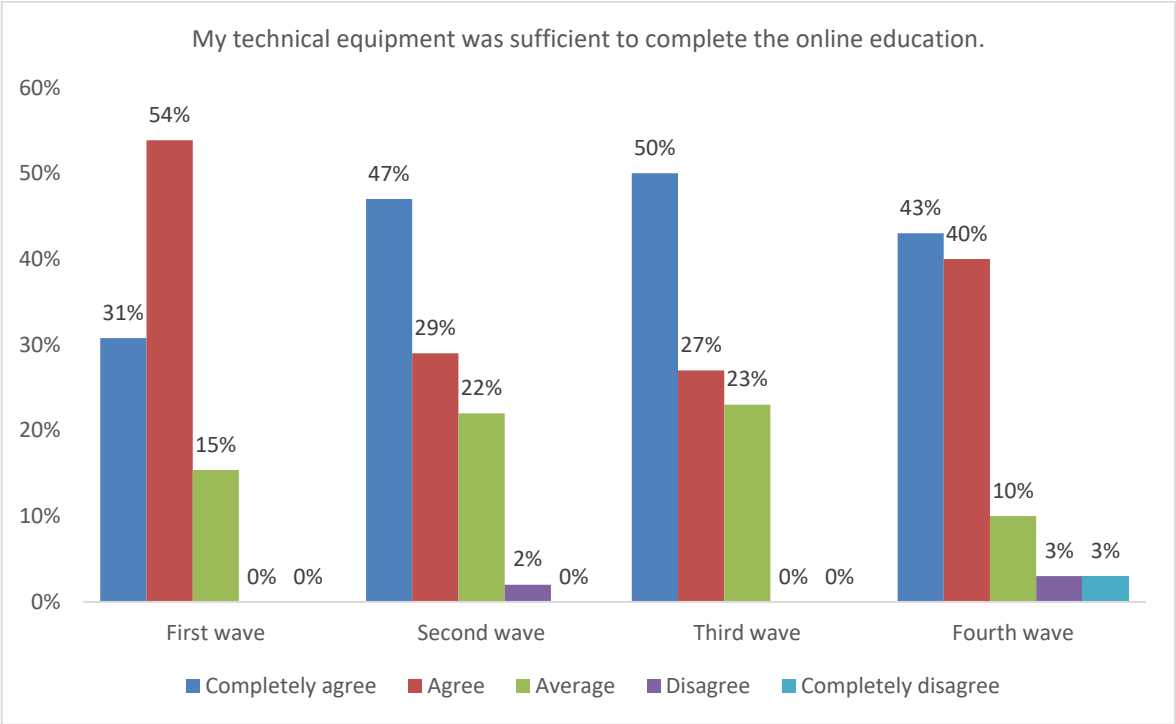

Figure 1 Technical equipment of respondents

In the second question of the questionnaires, we found out what the respondents lacked from the technical side to accomplish online education (figure 2). Respondents could choose from nine options (*web camera, multifunction printer, copier, scanner, printer, better internet, better smartphone, better computer/laptop, nothing*) and could choose multiple answers.

In the first wave, 46% of respondents missed better internet the most. At the beginning of the pandemic, no one was prepared for online education, and until then, the internet that was sufficient for families suddenly became insufficient, considering that the whole family was connecting to the internet at the same time. Internet connection, especially in villages without access to optical Internet, was therefore slow or unstable. In addition to better internet, 23% of respondents lacked a scanner, followed by a printer, copier and webcam, all 15% each. 8% of respondents lacked a better computer, smartphone and multifunction printer. No one has tagged the answer *nothing*.

In the second wave, there was a decrease of 15% in the item better internet to a total value of 31%. We assume that after the first wave, 15% of respondents purchased better internet. Respondents' demand for printers increased by 5% and for better computers by 8%. On the contrary, the demand for a better smartphone fell, only 2% of respondents needed it, and the demand for a scanner also fell by 9% to a total of 14%. Other items decreased by statistically insignificant percentages. Very significantly, up to 18%, the answer nothing increased. This means that 18% of respondents did not miss anything from the technical side of online education.

Paradoxically, the third wave had the biggest impact on better internet among the respondents. Up to 55% of respondents said that there is a lack of better internet. It is an increase compared to the second wave by 24% and it is even 9% more than in the first wave. The explanation can be described on two levels. Firstly, in the summer semester, when there was the third wave of the coronavirus, the Department of Technology and Information Technology taught more demanding subjects in terms of content, but also capacity, which could have an impact on the stability of the connection. Second, more family members were left working online in households and thus the Internet connection became less stable for the needs of online education. The number of requests for a better computer increased, specifically by 7% compared to the second wave, and also more respondents requested a multifunction printer by 3% compared to the second wave. Other technical equipment fell to a value of 5% or 0%. An increase of 5% was recorded by answer nothing. This means that 23% of respondents did not need any new or better technical means for online learning.

The fourth wave had a similar course to the third. A more significant drop occurred only in requests for better internet. The decrease compared to the third wave was 12% to the final 43%. We recorded a similar value in the first wave. Another decrease occurred in the web camera item by 4%. Other items fell by a negligible difference. On the contrary, some items rose. The largest increase was recorded by the multifunction printer item, which rose by 14% to the final 23%. The demand for better internet increased by 7%. Also, the answer nothing increased by 7%. So, in the fourth wave, a total of 30% of respondents were satisfied with their technical equipment.

Analyzing this question, we found that during all the waves of the corona crisis, from the technical side, respondents missed better internet the most, and the demand for a better computer increased with each wave, which could be related to the gradual obsolescence of computers during the four waves.

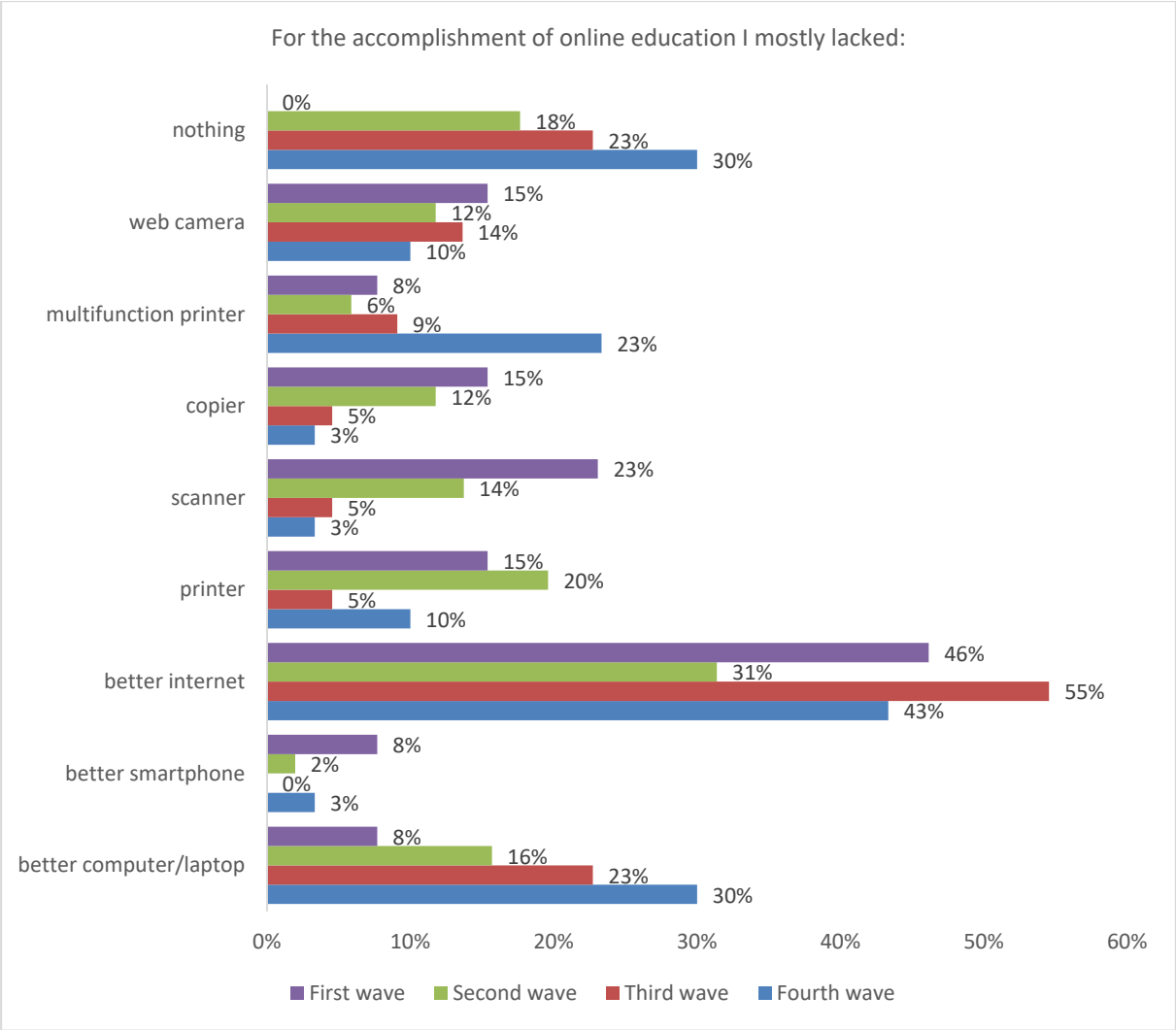

Figure 2 For the accomplishment of online education I mostly lacked:

With the next question of the questionnaire, we found out what the respondents lacked during online education (figure 3). Respondents were given five choices (multiple choices): *experience with online learning*, *experience with new applications*, *better technical equipment*, *better computer experience*, and *nothing*.

In the first wave, the university, as well as the department of technology and information technology, were not yet ready for online education. That is why the teaching did not take place as in other waves, when a uniform system of education with the support of various video-conference systems, e-learning and online communication was already implemented throughout the university. Based on these facts, the unsurprising results of the first wave of the corona crisis are therefore not relevant to the question of what students lacked most in online education. As many as 46% of respondents stated that they did not miss anything. 31% of respondents lacked experience with online education. It is logical that almost one-third of the respondents lacked these experiences, given that apart from e-learning, online education was not applied too often in the pre-covid era at the department. Experience with online education is followed by experience with new applications, which reached 23%. It is logical, since the respondents had no experience with online education, they often had to learn to work with new applications that were intended for online education. Only 8% of respondents said that they lacked better technical equipment. This percentage does not quite correspond to the second question of our post, considering that in some cases the missing technical

equipment was in the range of 8% - 23%, if we take into account only the equipment without the Internet. It is also interesting that none of the respondents stated that they lacked better experience working with a computer.

The second wave started in the winter semester. In this semester, new first-class students came to the department, and the university and the department started taking actions to improve the quality of education. These two factors also had a significant impact on the respondents' answers. The respondents stated that they lacked experience with online education increased significantly (by 16%) to a final 47%. 29% of respondents lacked experience with new applications, which is 6% more than in the first wave. Better technical equipment was missed by 4% more respondents than in the first wave. Even 10% of respondents said that they lack experience in working on a computer. In the first wave, no one lacked these experiences. On the contrary, the answer *nothing* dropped by 13% to the final 33% compared to the first wave.

The third wave was similar to the second wave. In the answers where the respondents lacked experience with online education, experience with new applications and better experience with working on a computer, the difference compared to the second was in the range of 3% - 4%, which is a statistically insignificant difference. A more pronounced deviation of 6% was when answering the option of *nothing*. Up to 15% more respondents (27% in total) said that they lacked better technical equipment for online education. These values already correspond more with the second evaluated question, where the respondents said that in the third wave, they missed a computer the most, in 23%.

In the fourth wave, we noticed a decrease in almost all items. 37% of respondents lacked experience with online education, which is 4% less than in the third wave and 10% less than in the second wave. The response of respondents, that they lacked experience with new applications, decreased by 12%. This value has stabilized at 20%. Likewise, 20% respondents choose the answer saying that they lacked better technical equipment for online education. In question number 2, the respondents answered that they lack technical equipment in the range of 3% - 30%. This indicates a partial penetration of responses. 13% of respondents lacked better experience with working on a computer. It is only 1% more than in the third wave. This option has approximately the same values in the other three waves. In the fourth wave, the answer of *nothing* rose significantly by 20% to a total of 47%. This indicates that almost half of the respondents are ready for online education.

By analyzing and comparing the four waves of the corona crisis, to the question of what the respondents lacked most in online education at the beginning, we conclude that the most respondents lacked experience with online education and experience with new applications. Respondents would also appreciate better technical equipment, but according to the results, this was not a dominant factor that would negatively influence online education. We also appreciate the fact that only a small percentage of respondents said they would need better computer experience. Over the course of the four waves of the corona crisis, the percentages of answers where the respondents did not miss anything changed significantly. In the first wave, it was 46%, which could be caused by the form of education and the unpreparedness of the university and the respondents for online education. In the second wave, only 33% answered that they did not miss anything. In the third wave, there was another drop to 27%, which could have been caused by the obsolescence of the technology and the need to replace it with a newer and more powerful one. This is also confirmed by the respondents' answers, which speak of a gradual increase in the need for better technical equipment in the first three waves. The last fourth wave has stabilized and up to 47% of respondents said that they do not miss anything.

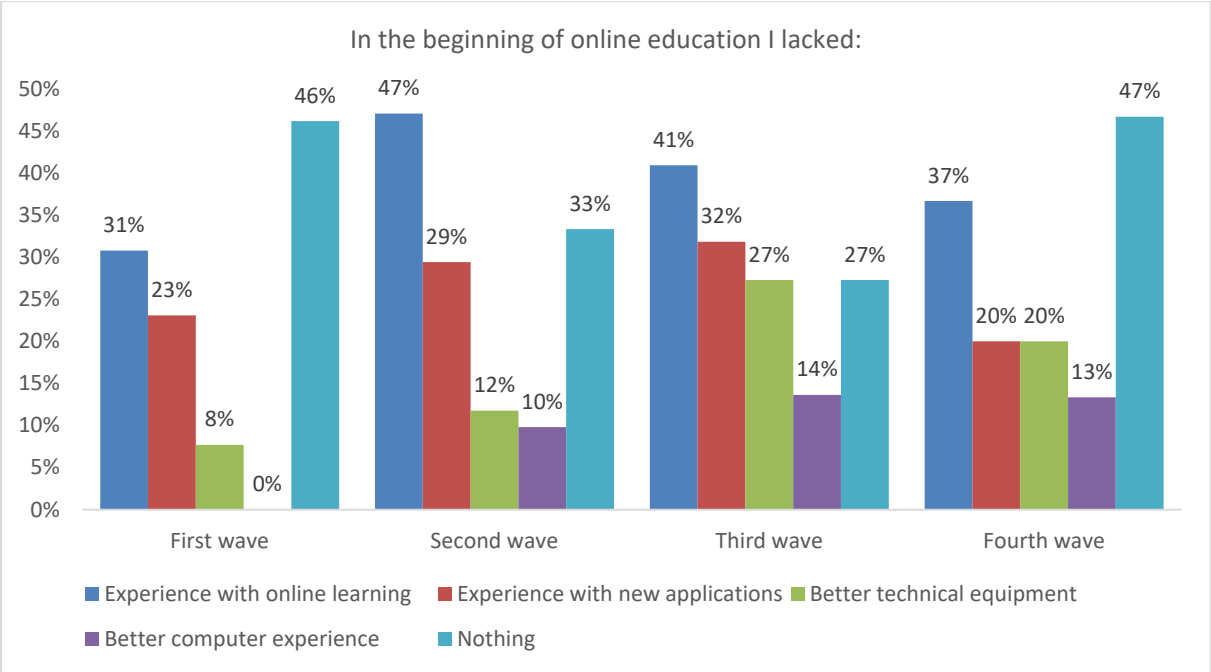

Figure 3 What did the respondents lack during online education.

The next question of the questionnaire looked at the possibilities of using online education even if there was no longer a pandemic. Respondents had a choice of five options: *definitely yes, yes but only for some subjects, average, no* and *definitely not.*

From the results shown in figure 4, we note that the yes answer dominated in all waves, but only for some subjects. On average, about 20% of respondents answered in each wave that they would definitely agree with such a form of education. Based on these answers, we can conclude that the majority of respondents would be in favor of at least some form of online education being used in education. However, we must also state that in the last wave of the corona crisis, aversion to online education has increased significantly. Up to 27% of respondents said that they are definitely against this form of education.

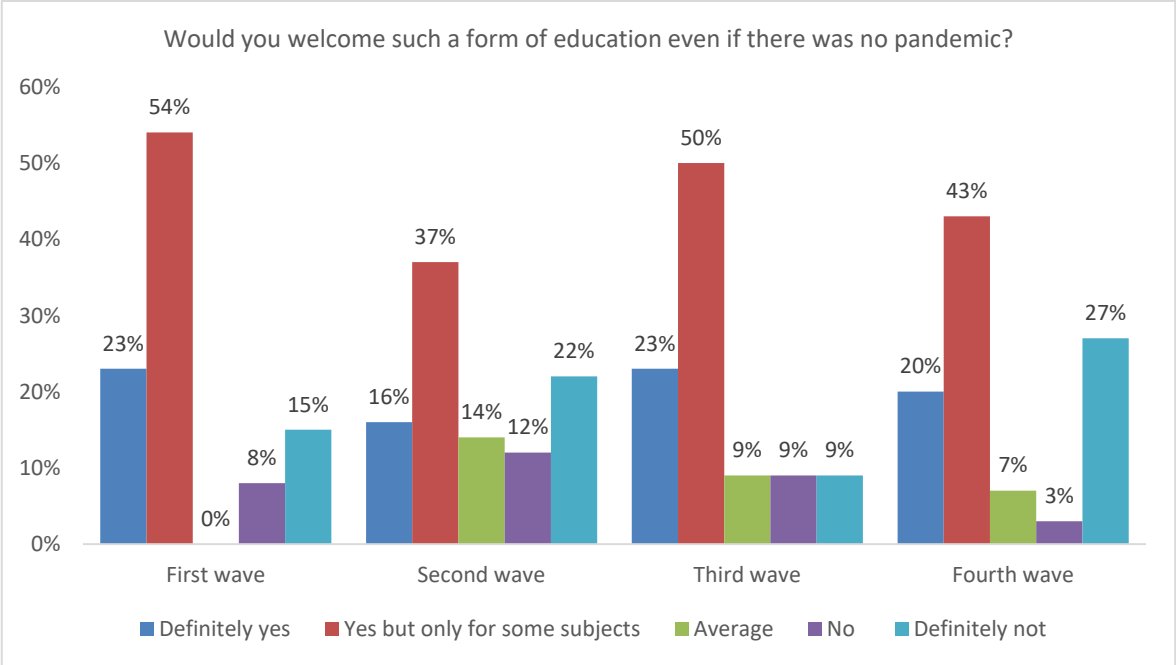

Figure 4 Would you welcome such a form of education even if there was no pandemic?

4 CONCLUSIONS

Between the first and second waves of the corona crisis, a significant shift in education was noted at the Department of Technology and Information Technologies of the University of Konstantin Philosopher in Nitra. In order to improve the quality of education during this period, the management of the university and the Faculty of Education introduced several changes and improvements. Several series of training sessions focused on working with the e-learning system, the MS Teams application and the university video-conference system Meet.UKF were held.

In addition to the readiness of the university and teachers, other factors also had a great impact on the respondents' education. One of them was their technical equipment. The analysis of respondents' answers showed that the technical readiness for online education gradually improved during the four waves of the corona crisis. Deficiencies from the first wave were largely eliminated in the second wave. In the third wave, the results practically did not change, and in the fourth wave, the number of positive answers rose slightly, which represents the best technical equipment of all four waves of the corona crisis.

On the technical side, the most respondents lacked better internet. This demand increased in the second wave compared to the first wave and reached the highest value in the third wave. This can be explained by more demanding classes and a greater burden on the Internet connection in households when more family members were connected online. The demands for a better computer also gradually increased during all the waves.

On the contrary, the requirements for webcam, printer, copier, smartphone and scanner were at a constant level or decreased. We have seen a significant increase in requests for multifunction printers, which may indicate the need for a multipurpose device for online education. An interesting finding is also the fact that a certain proportion of respondents (around 18-30%) did not need any new or better technical means for online education.

Overall, it can be concluded that the respondents gradually improved their readiness for online education from a technical point of view. Their demands for better internet and higher computer quality were more often met in the later waves of the corona crisis.

Besides the technical issues, experience with online learning and experience with new applications were the biggest gaps.

Ultimately, the respondents got used to online education and the research results indicate that the majority of respondents would be willing to accept at least some form of online education as part of education.

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DRAFT MAP OF KEY COMPETENCES FOR PRE-PRIMARY EDUCATION TEACHERS

Beáta Pošteková

Abstract

The issue of competencies of teachers at all levels of education has been addressed by many authors from the perspective of the past and present in the world. Several professional conditions are imposed on teachers to evaluate the educational process. It is necessary for a teacher to have a certain level in professional, diagnostic, emotional and many other competencies and to work on them continuously. Our aim is to propose a universal map of key competences from a review study on the issue of pre-primary education teacher in all qualification levels of education, to show the degree of their importance and to create a profile of the teacher containing exposed competences from the areas of child, educational process and professional development.

Keywords: *teacher, competences, professional development, child, upbringing and education, pre-primary education*

1 INTRODUCTION

In common practice, constant work with competences allows the teacher to apply general experience, to diagnose pupils in education and training, or to use the most effective methods in their creative pedagogical approaches to fulfill their goals. The breakdown and meanings of teacher competences appear in the literature in many characteristics, so we decided to create a map of key competences that can help to navigate the subject better. By comparing several authors, we can draw different conclusions, but we still leave open the division of the competences of the pre-primary teacher, because we consider them to be quite extensive and constantly evolving, which can be manifested, for example, by the latest technologies and digitalization in education, namely the development of digital competences of the teacher.

2 DEFINITION OF THE CONCEPTS OF COMPETENCE AND ITS MERITS IN THE SCHOOL ENVIRONMENT

Education is a dynamic and complex process, therefore every teacher should implement it purposefully, methodically and according to a plan in order to reach the set educational goals in the best possible way and to guarantee their fulfilment by appropriate didactic and educational methods as well as other educational means. The pupil's or children's knowledge and understanding of their potential and how to make the most of it are essential. Since education is intended to be dialectical, the teacher is responsible for ensuring that all its components are in balance and harmony with each other. Among the important circumstances of education are the potential and possibilities of the teacher. It is important to realize that the environment is the fundamental factor that determines how well the educational process works. The learner must be encouraged to participate in other learning activities and to change his/her behaviour in order for the teacher to be satisfied with the quality of his/her educational work. The teacher can achieve this through professional self-reflection.

Competence is considered to be a preferable concept compared to the concepts of attitude, ability, competence, skill or knowledge, mainly because it is understood in society in a broader concept, it consists of the above mentioned concepts and also due to the integrity of the concepts in an international scale (Podhájecká, Guziová, 2012). Competence can be understood in pedagogical terms as the ability, skill, competence to successfully implement a

variety of activities, to solve tasks, especially in work and other life situations (Veteška, Tureckiová, 2008). In Slovak, according to the Synonymic Dictionary of Slovak, competence means competency (Anettová et al., 2000). The English Online Dictionary describes that competency is "the ability to do something well" (https://dictionary.cambridge.org/dictionary/english/competence). The German Synonymic Dictionary attributes five different meanings to Kompetenz, namely knowledge, ability, skill, wealth and authority (https://synonyme.woxikon.de/synonyme/kompetenz.php). In the literature, especially in pedagogy, we encounter different and incorrect use of the terms competence and competency. Each profession defines its own competences for its employees, which enable them to perform their work at a certain level. On the other hand, however, competency may be based on a function or social position in a given profession and so may not be a direct reflection of adequate task mastery. It is necessary to point out the basic differences between the various concepts and to work correctly with the names given.

Competency is a quality, ability or process. Through this process we can develop or improve ourselves. We also consider it as a process of cooperation through which an individual acquires competences that are useable and applicable in practice (Vincent, 2008).

Competencies are essential characteristics of how people behave or think in a variety of situations and how they assimilate change over time (Chouhanm, Srivastava, 2014). Competencies can also be seen as a group of forms of actions in dealing with people that play functions in achieving a needed outcome or action. Competence is an individual's ability to implement or use his or her behaviors, skills, knowledge, and personal qualities to carry out difficult tasks, especially in functions and positions (Bartram, Robertson, & Callinan, 2002). The competencies of a teacher are a set of values, knowledge, skills and attitudes important to the performance of the profession. They are part of the personal, professional, and content components of teaching standards. They are related to subject matter competences; diagnostic and informational competences; social, psychosocial and communicative competences; managerial and normative competences; professional and personality cultivating competences or pedagogical and didactic competences (Průcha, Walterová, Mareš, 2009). A teacher of pre-primary education should also have the following competences, namely pedagogical, didactic, psychodidactic, diagnostic, intervention, psychosocial, communicative, managerial, normative and should be a personality cultivating individual. Every single competence should help the teacher to create the most appropriate conditions for each child for his/her specific development (Doušková, Vančíková, 2007, p. 118).

Due to the demanding nature of these occupations, a broad outlook is required and the considerable expertise places great demands on personal growth and requires a wide range of general knowledge and competencies. Graduates understand the basic pedagogical and psychological principles of their field and are able to apply them realistically. The demands of these professions place considerable demands on personal growth, in addition to requiring a broad general outlook and extensive professional knowledge and competences. Graduates understand the basic pedagogical and psychological principles that underlie their field and are able to apply these principles to solve problems in the workplace. They have an influence on how a person's personality develops cognitively, socially, emotionally and sensorimotorly, which assumes that they know the correct techniques and procedures when working with different age groups. Be mindful of other people's liberties and human rights and use information wisely. They utilize the nuances of educational work and integration of children with physical, sensory or intellectual disabilities. They are able to plan, organise, carry out and evaluate their own work as well as that of their colleagues. They are also prepared to apply the information and skills they have acquired in practice. Graduates' knowledge and skills in the field of hygiene and occupational safety, health care and protection, development and protection of the environment, including care for the culture of work and the working

environment are an essential part of their profile (Ministry of Education, Science, Research and Sport, 2013).
The teacher's mission is a lifelong renewal, deepening, updating of their knowledge or understanding not only in their field but also in the broader connection of general education, social and cultural aspects of personality. Professional education is important, but it should not be sufficient for a teacher. Competences shape the teacher as a professional in their field, enable the teacher to understand and justify better the laws of personality development of themselves, pupils and parents, understand the laws of the process of teaching and education, and support their emotional and cultural attitudes.

2.1 An overview study on the competencies of pre-primary teachers

Our aim was to create a universal map of key competences processed through a review study of domestic authors of pre-primary education teachers. The research methodology was an in-depth review of the issue, authors such as Duchovičová, Lazíková, Hupková, Petlák, Slezáková, Tóthová, Krásna, Verbovanec, Guziová, Podhájecká, Kimličková, Vašutová, together with the binding document Teacher for Pre-primary Education (Kindergarten Teacher), Part I. Full Secondary Education Competency Profile, and the subsequent creation of a key map according to the child orientation, educational process and self-reflection more details Diagram 2.
Specifically, we have allocated the career levels of competence of a novice kindergarten teacher, an independent kindergarten teacher, a kindergarten teacher with the first attestation and a kindergarten teacher with the second attestation by means of the Minister's Instruction No. 39/2017, which issues professional standards for individual categories and subcategories of teaching staff and professional staff of schools and educational establishments, the last modification of the document 23.02.2022 (Act No. 138/2019).
We can consider the main personal characteristic of a teacher in the educational process as their competences. We will work with the concept of competence in accordance with the teacher's perception from the point of view of working with children, in the educational process and his own formative personality characteristics. We understand competence as the teacher's capacity and quality to handle the educational process at a certain level and through it to form children. We can state that competence is a certain "living organism" of a particular individual, by means of which they can exist, i.e. behave, act and develop in the whole complexity of the person as such.
The importance of teacher competences in pre-primary education is truly important. The teacher should have competences at a high level and be able to work with them effectively in teaching. Of course, a teacher's competences have their limits. That is also why it is essential to shape them continuously. We see the importance in the teacher's intrinsic motivation to change themselves, their function, their educational approach, the implementation of new methods and forms of teaching. Teacher's competences are based on their personality and are reflected in education and training from the professional decisions of the teacher, related to a specific problem in the classroom. Effectiveness is mainly attributed to the positive and negative competencies that he/she can name and work on.
The teacher should continue to improve his/her competencies. Section 4 on the duties of a teaching and professional staff member is part of the Education and Training Law (Education Law) of 2019, which amends certain laws. A teaching and professional staff member is required to maintain and enhance his/her professional competence in accordance with Act No. 138/2019 (Act No. 138/2019).
The degree of conscious self-influence is manifested at different stages in the course of self-development of professional pedagogical competences and, consequently, skills (Lukášová, 2015). Among the characteristics of teacher competencies are competencies consisting of one

or more skills, the mastery of which would enable the acquisition of other competencies; competency is associated with all three domains such as knowledge, skills and attitudes, within which we can assess their job performance; competencies having a performance scope are distinct and demonstrable; since the competencies are observable, they are also measurable. It is possible to evaluate teacher performance competencies from different perspectives. Some competencies may involve more knowledge than skills, and some competencies may be more skill-based or performance-based (Nessipbayeva, 2012).

The insights into breaking down and defining teacher core competencies are too extensive. It is reasonable to divide the map of key competencies of a pre-primary teacher and offer a more detailed characterization of them, as they are considered among the basic necessities of a teacher in his/her profession. We offer the view of different authors on the given definitions, but this view is not complete and does not make a final conclusion on a global scale.

According to Krásna and Verbovanec, the key competences of a kindergarten teacher can be classified from three perspectives, namely cognitive (dealing with the knowledge, skills or abilities of the teacher); affective (dealing with the feelings, attitudes, values and socio-communicative skills of the teacher) and psychomotor (consisting in the motor skills and habits of the teacher with the participation of psychological processes) (Krásna, Verbovanec, 2014, p. 82).

Other competences can include personal (teacher's self-evaluation, self-awareness or self-knowledge are assessed); interpersonal (teacher's cooperation with other co-workers, parents and children); communicative (they include verbal and non-verbal communication, reading comprehension and teacher's acting as a language model for children); cognitive (focusing on problem solving through the teacher); learning (serving to create adequate conditions for learning); informational (oriented towards working with new knowledge or information and its subsequent analysis in practice) (Guziová, Podhájecká, Kimličková, 2011, p. 60-67).

As for professional competences, to which we include a set of feelings influencing the behaviour of a person with personal and professional prerequisites, J. Vašutová created a model of the professional standard of a teacher, namely, subject (the teacher has and knows professional, theoretical knowledge and knowledge of the field); didactic and psychodidactic (the teacher is able to flawlessly include teaching methods and organizational forms in the educational process); pedagogical (the teacher seeks to understand the means, processes or conditions of education); diagnostic and interventional (the teacher can correctly distinguish, evaluate and diagnose children); social, psychosocial and communicative (the teacher can create a positive classroom climate); managerial and normative (the teacher can organize the objectives of the lesson to their final fulfillment); professional and personality-cultivating (the teacher has the ability to develop in the general professional outlook) (Vašutová, 2007, p. 35-37).

Other competences include communicative (the teacher is a speech model for children); professional-pedagogical (the future teacher acquires them during his/her studies and should be able to implement them through practice); interpretive (the teacher learns new surrounding aspects and tries to transform them through the use of innovative methods or working practices); interactive (the teacher takes into account the specific developmental needs of children who experience the world around them through different emotions); implementational (the teacher consistently prepares for the educational process); protective (the teacher takes care of the safety of children and creates a positive climate); assertive (it is not about arguing one's own opinions, it is about a good relationship between the child, the parent and the colleague); facilitative (the teacher should develop the child's social-emotional, cognitive and psychomotor personality); moral (the teacher's moral self-reflection); non-associative (it is about the teacher's love for his/her profession); cooperative (cooperation between the teacher, parents and children); cognitive (the teacher should be interested in new

knowledge); organizational (the teacher should be able to organize the implemented educational activity); didactic-methodical (they assume the teacher's extraordinary knowledge of the content of the work); information-media (to be able to work with new information technology and to lead children to its proper use); creative-authoring (the teacher uses creative methods in his/her work) (Slezáková, Tóthová, 2007, p. 113-115).

According to Duchovičová and Lazíková (2008), the basic professional competences of a teacher of pre-primary education include personal (these are the teacher's will and character qualities); professional-subject (they represent the teacher's professional predispositions for teaching a particular subject); pedagogical-psychodidactic (the teacher creates appropriate conditions for learning, motivates and activates); communicative (the teacher has a favourable relationship with children, parents and colleagues); organisational and managerial (the teacher can plan and project his/her activities); diagnostic and interventional (the teacher can recognise the individual peculiarities of the child); advisory and consultative (the teacher can give professional advice to parents); self-reflective (the teacher can adequately evaluate the effectiveness of his/her own activities).

Hupková and Petlák (2004) describe the competences that they consider to be the most commonly accentuated in the current conception of the teaching profession, namely communicative (the communicative relationship between the teacher and the children in a mutual dialogue); professional-pedagogical (the teacher acquires and improves new knowledge); interpretative (the teacher is able to create, notice and analyse his/her surroundings in different social contexts); interactional (the teacher should know his/her children well in the classroom in order to be able to direct or instruct them properly); implementation (adequate and sufficient preparation of the teacher, such as choosing the right methods, principles, tools, procedures and many others); protective (the teacher seeks to ensure the safety of the children with the creation of a positive climate, protecting them and solving shortcomings or problems immediately); assertive (this is a conciliatory assertion of the teacher's views, with the intention of winning over the children, parents, colleagues and others around); facilitative (this is not only about developing the child's overall personality, but also about developing oneself); moral (this is about the teacher's self-reflection, the teacher can answer various questions, for example, what he/she is like, what he/she ought to be like, how he/she influences the pupils, etc.); non-cooperative (the teacher works with the children and develops their agency or creativity, but it is also a partnership between parents or institutions); cooperative (the teacher is able to work with the children, parents, colleagues and the environment in which he/she finds himself/herself through cooperative teaching); self-creative (the teacher is aware of the need for creativity and works in such a way that his/her activities are interesting for the children); cognitive (the teacher pays attention to new knowledge, self-education, the recognition of intellectual and ethical values or his self-reflection); organizational (the teacher responsibly and permanently prepares for the educational process and responds promptly to the transformation of the conditions arising associated with teaching); didactic-methodological (the teacher must know in detail the content of education for its subsequent innovation and completion, for example, from alternative pedagogy, etc.); information-medial (the teacher should be skilled in the new technical devices and teach the children to use the new information technologies); and creative-authorial (the teacher should use creativity not only towards teaching and children, but also towards himself).

We also pay attention to the competence profile of teachers of pre-primary education of the Slovak Republic according to the Instructions of the Minister No. 39/2017 is in all qualification areas divided according to the area of child, educational activity, professional development as follows:

Areas	Competencies
1. Child	1.1 Identify the child's developmental and individual characteristics 1.2 Identify psychological and social factors in the child's learning 1.3 Identify the socio-cultural context of child development
2. Educational activities	2.1 Master the content and didactics of pre-primary educationPlánovať a projektovať výchovno-vzdelávaciu činnosť 2.2 Implement educational activities 2.3 Evaluate the progress and outcomes of the child's educational activities and learning
3. Professional development	3.1 Plan and implement professional development and self-development 3.2 Identify with professional role and school

Diagram 1. Competence profile of pre-primary education teachers (Act No. 138/2019)

3 PROPOSAL FOR THE UNIVERSAL USE OF THE MAP OF KEY COMPETENCES FOR PRE-PRIMARY EDUCATION TEACHERS

On the basis of the authors' competencies above, we have created a map of key competencies of a pre-primary teacher.

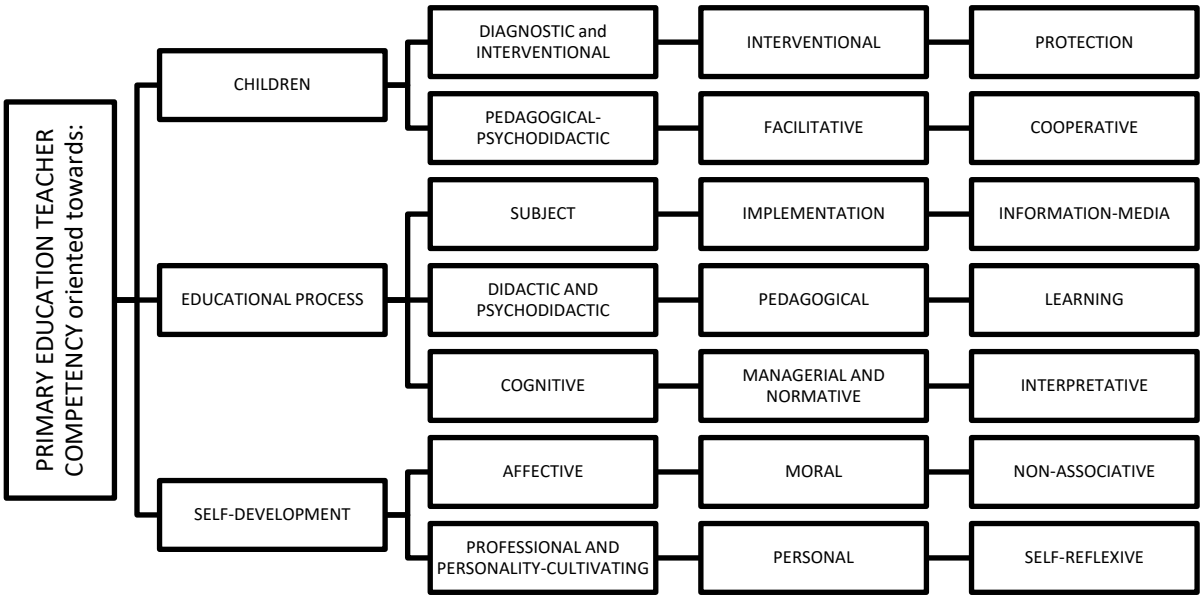

Diagram 2. Map of key competences of a pre-primary teacher (own elaboration Pošteková, 2023)

We would like to remind that all teacher's competences cooperate with each other and are necessary for a proper educational process. The view of the competencies of the pre-primary teacher is oriented to three areas, namely the child, the educational process and self-development. Among the most important competencies of the teacher oriented in relation to the child's development, we have included diagnostic and intervention and pedagogical-psychodidactic competencies. With diagnostic and intervention competencies, the teacher should be able to correctly specify, evaluate and diagnose children in the educational process, taking into account the diverse developmental needs of children, interaction competencies,

striving to create a favorable atmosphere in the classroom and taking care of their safety. With pedagogical-psychodidactic competences the teacher creates adequate requirements for teaching, stimulates and activates. Facilitating competences the teacher develops the child's individuality socially and cognitively. Facilitatorial influences cooperative competencies, because without cooperation in communication, education and upbringing we would not be able to facilitate in children his need to develop himself. In the educational process we have included subject, didactic and psychodidactic and cognitive competences among the most essential. Subject competences are the teacher's knowledge, thanks to which the educational process can take place. In advancing his theoretical and practical knowledge, the teacher should responsibly prepare for the educational process, implementation competencies, and thus the teacher can demonstrate skills in the acquisition of new technologies that should teach children to master, information-media competencies. With didactic and psychodidactic competences, the teacher should adequately include teaching methods and forms, understand them, pedagogical competences, and create appropriate conditions for teaching, learning competences. Cognitive competences deal with the knowledge, skills or abilities of the teacher. Closely related to these are managerial and interpretive competencies, which enable the teacher to purposefully organize the course of education through innovative practices based on analyzing his/her environment in various world issues. We have included affective and professional and personal-cultivative competences in the attention of the teacher's self-development. The teacher should attend to his/her personality, attitudes, emotions and values with which he/she immediately enters into education and training. Through self-reflection, he answers formative questions about himself, moral competences, and thus answers his own relationship to the profession, whether he, for example, promotes the development of creativity in himself and is able to behave correctly towards other partners in education and training, non-associative competences. Professionally and humanly, the teacher should be a professional, they should be able to acknowledge his/her strengths and weaknesses or work on them, the personal competences, and properly evaluate his/her effectiveness in everything that he/she does.

4 CONCLUSION

The following definition and highlighting of a number of teacher competencies is indispensable to our research. It is important not to eliminate any of the quantity of the underlined competencies, but it is rather a glimpse into the future for a more detailed and deeper exploration. A teacher who works on his/her competences is successful and perceives his/her potentials as positive for the current and future educational process. For the pupils, the teacher becomes a natural authority and an irreplaceable personality who wants to effectively shape and educate the next generation. The benefit of the research is a teacher who understands that he/she is an irreplaceable part in the classroom, a capable, active, stable and happy person. Based on the perception of his/her potentials, self-knowledge or self-assessment, he/she is able to develop, deepen not only for his/her personal but also for his/her professional life. It follows that the teacher must not forget the pupil's self-reflection, but should always try to make the pupil evaluate himself or herself and at the same time justify why he or she thought or acted in one way or another in a given situation and in solving a certain task. In this way, the pupil learns self-assessment and self-regulation, which cannot go unnoticed in the 21st century. The teacher's pedagogical mastery lies in being able to detect the pupil's immediate zone of personal development and also to encourage him to find this zone too, so that he knows how to improve his current learning performance or behavior. Our aim was to create a universal map of key competences through a review study of domestic authors to serve and help in easier orientation of the issue.The map of key competences can serve as an inspiration and stimulate the authors for further research or additions to the map.

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COMPARISON OF INTERNET USAGE RATES AMONG SLOVAK AND UKRAINIAN UNIVERSITY STUDENTS: A SURVEY STUDY

Anastasiia Zelenska

Abstract

The rapid development of society and modern technology, together with the enormous benefits to society, also brings risks, affecting more and more people. One of these risks is addiction, which refers to the excessive use of the Internet by students. METHODS: A standardized supplemented questionnaire, containing questions and scales to determine the frequency of Internet use and the signs of addiction. Research sample - 103 students of Slovak and Ukrainian universities. RESULTS: Slovak students spend 0.38 and 1.49 hours more on the Internet than Ukrainian students. CONCLUSIONS: the results confirm the topicality of the issue, as the time spent online by the respondents exceeds the norm and some respondents already show individual signs indicating the emergence of Internet addiction.

Key words: *excessive use, internet, students, addiction.*

1 THEORETICAL BACKGROUND

The Internet has become an integral part of modern life. It can now be accessed not only from personal computers but also from mobile devices. The World Wide Web can be used for many purposes, ranging from the most laudable, such as, for example, educational purposes (studying, teaching, conferencing), to the generally condemned (Internet fraud, gambling, data trading). However, alongside the undoubted positive aspects of internetisation, it is also important to note the negative consequences of this process, which have an impact on the socio-psychological health of the individual. The negative consequence of this process is, first and foremost, Internet addiction, which, together with alcoholism and drug addiction, is a type of addictive behaviour.

The massive spread of the Internet, mobile devices and various gadgets has led to the emergence of new types of behavioural disorders, which today are collectively referred to as "technical addiction" (Kolesnikov, Melnik, Teplova, 2019).

At present, the concept of Internet addiction or excessive use of the Internet is still not accepted by many researchers dealing with mental disorders, but the very phenomenon of creating a pathological connection between a person and a computer has become evident and is gaining more and more space. The classification of the phenomenon of so-called excessive or excessive use of the Internet is ambiguous: some researchers speak of a tendency towards Internet addiction, others note that with the development of technology, the boundaries of norm and pathology are shifting and what looks like addiction may be a manifestation of a modern way of life (Soldatova, Rasskazova, 2013).

Šmahel and Blinka (In Šavrnochová, Holdoš, Almašiová, 2020, p. 6) define excessive use of the Internet as "behaviour in which excessive use of the Internet leads to complications in various spheres of an individual's life and is associated with repetitive, compulsive and uncontrolled use of online technologies that can lead to addictive behaviour".

Considering statistics and observations from researchers around the world, Repina and Fedorov (In Smolentseva, 2021) identify several main causes of excessiveness:

- Low self-esteem with the desire to increase it in the virtual world at the expense of anonymity.

- Lack of attention, attempt to find friends online due to communication problems with peers in the real world.
- Improper upbringing or conflicts in the family and with loved ones, need for parental love.
- Lack of commitment and responsibility to anyone, need for security and invulnerability.

It follows that the Internet attracts people with low self-esteem, dissatisfied with themselves, with a high need for communication and difficulties in its immediate application. Such individuals are characterised by an extreme lack of independence, an inability to refuse, an irresistible fear of rejection, vulnerability, irresponsibility, and an unwillingness to make independent decisions. All this characterizes the passive life position that such a person occupies and constantly follows the opinions of others.

The changes and negative consequences that accompany the excessive use of the Internet affect all spheres of human life. It affects physiology, psyche, spirituality, and society.

If it is an addiction, internet addiction, like any other addiction, manifests itself in a disconnection from the real world, from everyday life. People usually do not control their time on the Internet and stop interacting with the outside world and completely switch to the virtual world, which causes many social, professional, and other problems (Gaintsev, 2015).Orzak (In Khomutnikova, Lutkova, 2017) defines the main psychological and physical consequences of excessive use of the Internet:

- problems with school or employment;
- disruption of relationships with the immediate environment;
- deterioration of visual acuity;
- disruption of the body's musculoskeletal system;
- disruption of hormonal, cardiovascular, nervous systems;
- the emergence of neuroses and psychoses, which may be manifested by anger, physical violence directed at the computer, others or oneself (self-harm);
- anxiety attacks, sleep problems, nightmares, guilt, depression, frequent suicidal thoughts.

Excessive use of the Internet, like other manifestations of any kind of addiction, has its own distinctive features and characteristics.

Orzak (In Khomutnikova, Lutkova, 2017) systematized all the signs of Internet addiction and identified the symptoms consequently:

- feeling good, elevated mood or euphoria online;
- difficulties with time management and inability to stop working on the computer;
- a steady increase in the amount of time spent on the computer;
- neglect of family and friends;
- the appearance of irritation, feelings of emptiness, depression, irritation during non-computer related activities;
- lying to employers or family members about one's activities;
- problems at work or school.

The virtual world is dynamic, in it it is possible to realize one's hidden desires, to control the situation, to overcome difficulties, to experience a whole range of emotions. In this case, bilateral ties and interactions are formed, which create the illusion of communication with the real world. At the same time, the real world is perceived as uninteresting, boring, and often hostile. Emotions, interests, cognitive sphere, energy and value system are focused on the virtual world.

The emergence of Internet addiction is often associated with peculiarities of upbringing and relationships in the family, with the presence of various forms of deviation of parental

functions: e.g., insufficient, or excessive care, excessive demands, intra-family confrontations, etc.

Thus, a favourable emotional environment in the family contributes to the child's lack of loneliness and lack of understanding on the part of those close to him/her, and therefore less likely to develop dependency. It is necessary to spend time with children, to try to establish friendly relationships, to find a source of pleasant emotions that are not related to the Internet.

Fomenko and Sementsova (2015) recommend that parents use the following strategies to prevent the development of Internet addiction:

- set a positive personal example. It is important not to distinguish words from actions. If a father allows his son to play on the computer for no more than an hour a day - the father himself should not play for four hours.
- limit computer time, but do not isolate the child from the computer. If the child is not prone to computer addiction, he or she can spend two hours on the computer on a weekday and three hours on the weekend, with breaks.
- offer other recreational opportunities. Together, you can make a list of things the child can do in his or her free time. It is desirable that the list include shared activities (going to the movies, the countryside, playing chess, etc.).
- pay attention to the games the children play, as some of them can cause insomnia, irritability, aggression, specific fears, etc.
- discuss games with the child, giving priority to educational games. It is extremely important to teach the child to be critical of computer games, to show that they are a very small part of the entertainment available, that life is much more varied, and that play is no substitute for communication.
- in cases where parents cannot cope with the problem themselves, psychologists, specialist centres and other professionals should be contacted.

2 EMPIRICAL PART

As young people, and especially students (under the influence of stress and other negative factors), are the most at-risk group for addiction, the question of how widespread the problem of excessive Internet use among students is becomes relevant.

The research was not limited by the age or gender of the respondents. The respondents were students at the Catholic University in Ružomberok, the University of Prešov, the Alexander Dubček University in Trenčín, as well as students of the Uzhhorod National University, the Mukachevo National University, and the Transcarpathian Academy of Arts. Students of all years, i.e., 1st, 2nd, and 3rd year of bachelor's degree and students of 1st and 2nd year of master's degree participated in the research.

The research was conducted using a standardized completed questionnaire that was distributed through an electronic public platform, Google Forms. Quantitative analysis method was used to process and analyse the results. The data from the methodologies used were then statistically processed using SPSS statistical program.

103 students participated in our research, of which 73 were girls and 30 were boys, which, as we can see in Chart 1, is a percentage of 70.9% and 29.1%, respectively.

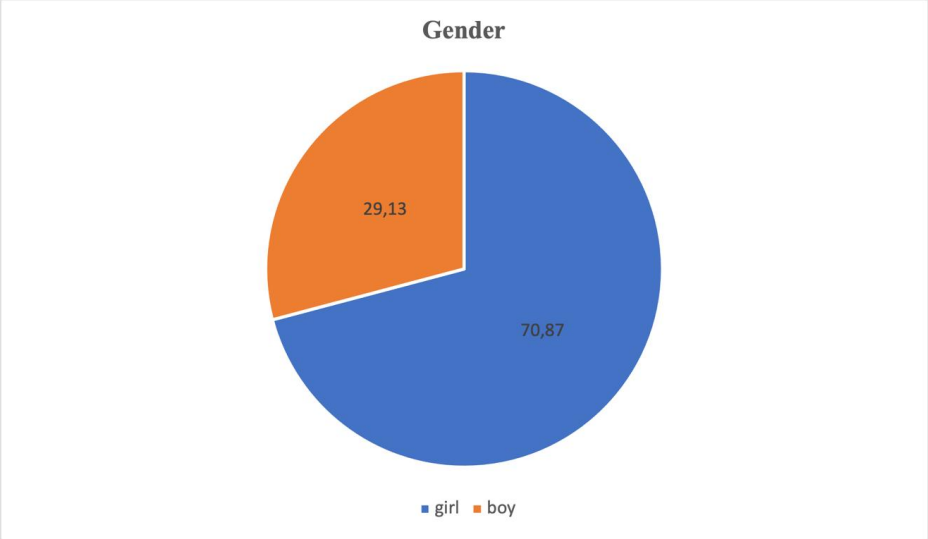

Chart 1 Gender of respondents

The average age of respondents is 21 years. The youngest participant in our research was 16 years old and the oldest respondent was 30 years old, giving an average age of 21.01 years.

2.1 Time spent online

Another part, one of the most important in our research, was the question of exactly how much time our respondents spend online. For a detailed comparison and a better understanding of the global nature of the issue, we created two separate questions - "*On average, how many hours a day do you spend online on weekdays (Monday to Friday)?*" and "*On average, how many hours a day do you spend online on weekends (holidays, public holidays)*?". As shown in Chart 2, on average, respondents spend 6.72 hours online during the workweek, and according to Chart 3, on the weekend, respondents spend 7.28 hours online, which is not that different from the time spent online during the week.

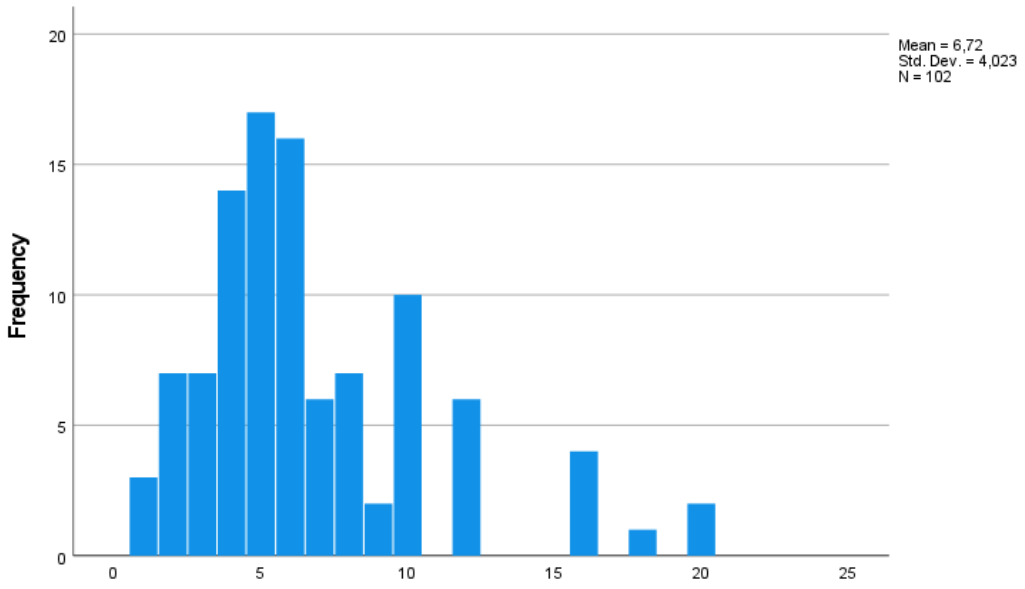

Chart 2 Time spent online on weekdays

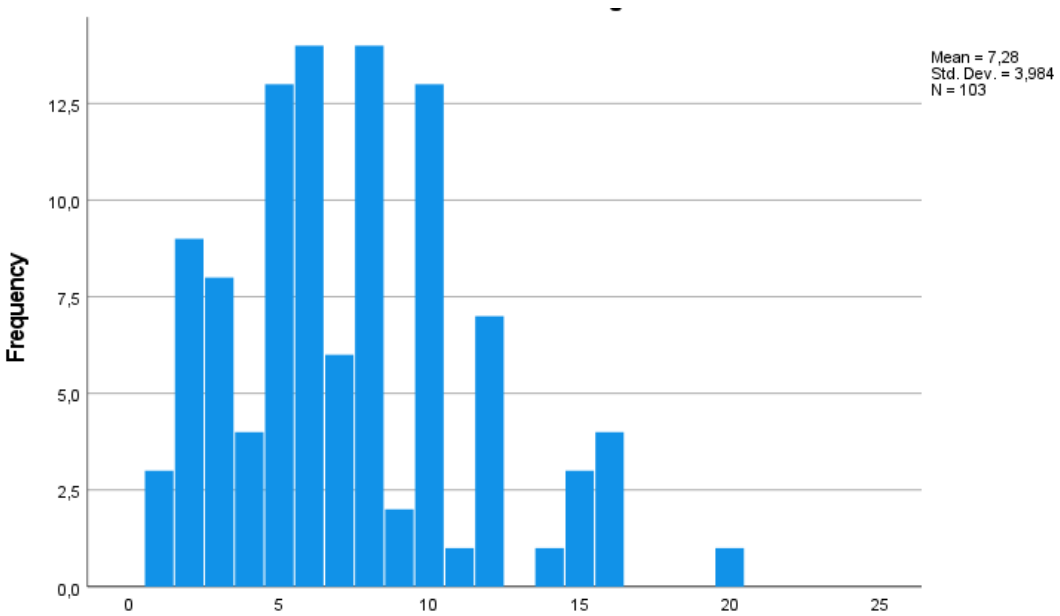

Chart 3 Time spent online on weekend

As we can see from the results of the graphs, the most frequently occurring response (modus) was 5 hours during the work week and 6 hours during the weekend.
Comparing students from Ukraine and students from Slovakia, we can see that respondents from Ukraine spend 6.56 hours during the working week and 6.59 hours during the weekend, which is a difference of only 0.03 hours. Students from Slovakia, as we can see in Chart 4, spend 6.94 hours online during the week and 8.08 hours during the weekend.

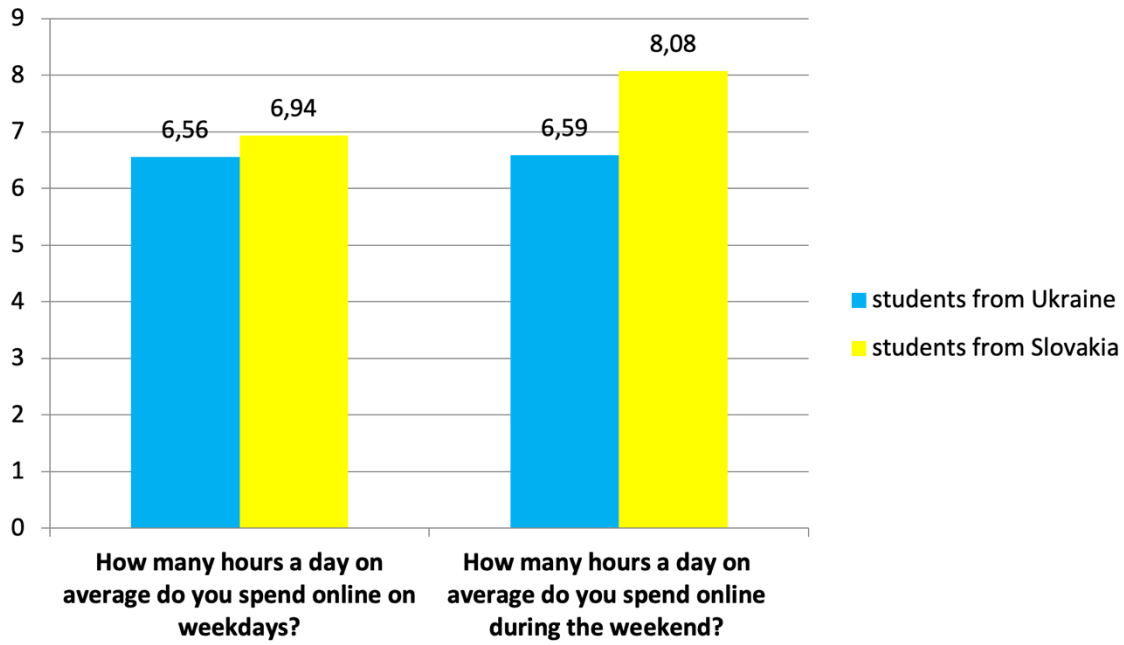

Chart 4 Time spent online in relation to nationality

After studying the graphs provided, we can conclude that there is not much difference between the time spent online by respondents from Ukraine and Slovakia. During the

working week, the difference in time spent online between students from both countries is only 0.38 hours, while at the weekend the time difference increases and sets 1.49 hours.
Therefore, we can say that respondents from Slovak universities spend more time online than Ukrainian students.

2.2 Signs of excessive internet use

The last part of our questionnaire was a scale in which respondents were given 5 response options for each statement - "*Never*", "*Several times*", "*At least once a month*", "*At least once a week*", and "*Daily or almost daily*". The purpose of this scale was to gauge the extent to which respondents have widespread problematic Internet use. Hence, the higher the mean on specific items, the higher the level of dependence of the respondents.
As we can see in Chart 5, the highest mean is for the item "*I catch myself being on the Internet even though I don't really care*", which is equal to 2.5 and roughly means the average between "*Several times*", and "*At least once a month*".

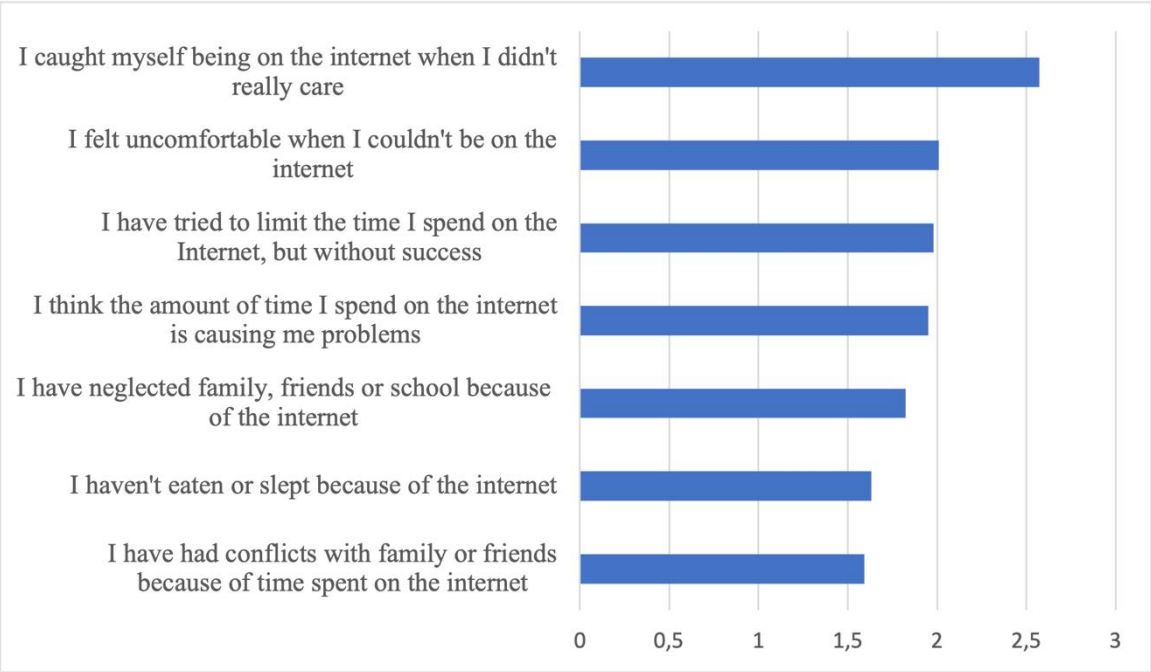

Chart 5 Signs of excessive internet use

The results of the following items show that respondents on average "Several times" felt uncomfortable when they could not be on the Internet, tried to limit the time they spent on the Internet but were unsuccessful, thought that the amount of time they spent on the Internet caused them problems, and neglected family, friends, or school because of the time they spent on the Internet as the mean scores for these items in the questionnaire are 2, 1.9, and 1.8, respectively.
The last two items - "I had conflicts with family or friends because of time spent on the Internet" and "I did not eat or sleep because of the Internet" - turned out to be the least frequent, as the mean scores for these items were 1.5 and 1.6, respectively, indicating an average significance between never and several times.
If we compare the results of Ukrainian and Slovak students' answers, we can conclude that their results are almost the same. If we look at Chart 6, we can see that there are no significant global differences in the answers of Ukrainian and Slovak students.

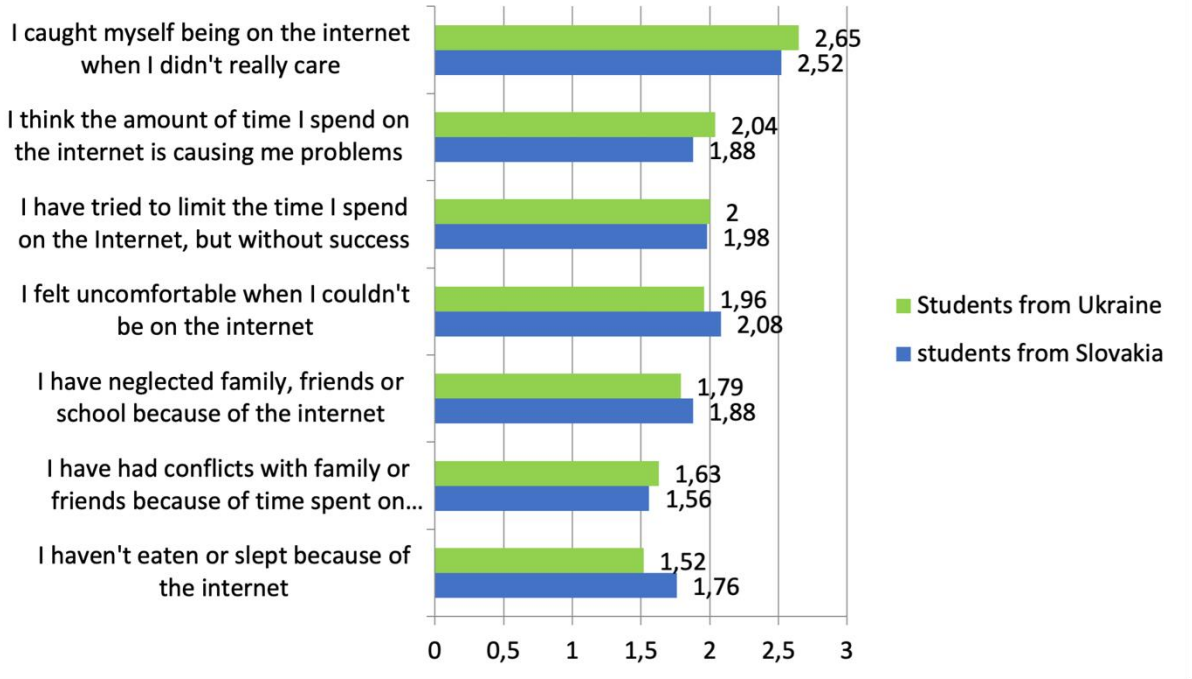

Chart 6 Signs of excessive internet use due to nationality

3 DISCUSSION

In our research, we paid attention to the excessive use of the Internet in a university setting. As information technology becomes more and more advanced and widespread every year, the phenomenon associated with this problem - Internet addiction - is becoming more and more global.

One of the consequences of the spread and availability of the Internet in the modern world is an increase in the frequency and duration of its use, especially among adolescents. The qualification of the phenomenon of so-called excessive Internet use is ambiguous: some researchers speak of a tendency towards Internet addiction, while others pay attention to the fact that with the development of technology, the boundaries of norm and pathology are shifting, and what looks like addiction may be a manifestation of modern lifestyles.

When comparing students according to their nationality, we found that, on average, students from Slovakia and Ukraine spend 0.38 and 1.49 hours more per day on the Internet than students from Ukraine. And if in the first case - during the working week, the results are not statistically significant, the difference in the second case - at the weekend, is much greater, so we can say that students from Slovakia spend more time online than students from Ukraine.

As we managed to find out, excessive Internet use, like Internet addiction in general, is a socio-cultural problem that has a great impact on many areas of human life, affecting the whole society and the modern communication space. It is therefore very important to pay due attention to this issue and to address the prevention of Internet addiction among the most at-risk groups - schoolchildren and students.

As we have learned, respondents are showing increased interest in the Internet and its resources, they spend a lot of time online, and some respondents are already showing some signs of Internet addiction, which again shows that more attention should be paid to the issue of excessive Internet use, as well as to the preparation and implementation of preventive programmes for young people.

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BÁDATEĽSKY ORIENTOVANÉ VYUČOVANIE V PRÍRODOVEDNÝCH PREDMETOCH Z POHĽADU UČITEĽOV

INQUIRY-BASED TEACHING IN SCIENCE SUBJECTS FROM TEACHERS' POINT OF VIEW

Renata Bellová

Abstrakt

Cieľom príspevku bolo zhodnotiť prístup učiteľov prírodovedných predmetov k bádateľsky orientovanému vyučovaniu z ich vlastného pohľadu. Prezentovaný článok predstavuje výsledky dotazníkového elektronického prieskumu, ktorý sa uskutočnil medzi učiteľmi prírodovedných predmetov na Slovensku. Výsledky prieskumu potvrdili, že implementácia bádateľsky orientovaného vyučovania do výučby nie je pre učiteľov ľahká úloha, je potrebné urobiť nápravné opatrenia v rôznych aspektoch. Niektoré systémové zmeny nemôžu učitelia meniť, ale mnohé opatrenia, najmä čo sa týka prípravy a realizácie vyučovania so zaradením bádateľských aktivít majú vo svojich rukách. Pri príprave bádateľsky orientovaného prírodovedného vzdelávania by sa mali učitelia viac zamerať na rozšírenie svojich profesijných kompetencií.

Kľúčové slová: *prírodovedné predmety, bádateľsky orientované vyučovanie, konštruktivizmus*

Abstract

The aim of the paper was to evaluate the approach of science teachers to inquiry-based education from their point of view. The submitted article presents the results of an electronic questionnaire survey, which was conducted among science teachers in Slovakia. The survey results confirmed that the implementation of inquiry-based teaching methods in education is not an easy task for teachers, it is necessary to take corrective measures in various aspects. Some systematic changes cannot be changed by teachers, however, many measures, especially regarding the preparation of teaching with the inclusion of inquiry-based activities, are in their hands. When preparing for inquiry-based science education, teachers should focus more on expanding their professional competences.

Key words*: natural science subjects, inquiry-based education, constructivism*

1 TEORETICKÉ VÝCHODISKÁ

V kurikulárnych dokumentoch pre prírodovedné predmety v rámci vzdelávacej oblasti Človek a príroda sa uvádza „Prírodovedné predmety svojím činnostným a bádateľským charakterom vyučovania umožňujú žiakom hlbšie porozumieť zákonitostiam prírodných procesov, a tým si uvedomovať aj užitočnosť prírodovedných poznatkov a ich aplikáciu v praktickom živote.“ (ŠPÚ, 2014a). Už aj pre nižšie primárne vzdelávanie v predmete Prírodoveda v Štátnom vzdelávacom programe je nasmerované vyučovanie do bádateľských aktivít: „Učiteľ usmerňuje žiakov, ktorých úlohou je samostatne tvoriť nové poznatky vlastnou bádateľskou činnosťou. Prírodoveda vedie žiakov k premýšľaniu, skúmaniu, hľadaniu informácií, zvažovaniu, usudzovaniu a k tvorbe záverov, ktoré sú argumentačne podložené, či už minulou a aktuálnou skúsenosťou, alebo inak získavanými objektívnymi informáciami.“ (ŠPÚ, 2014b).

Bádanie je dôležitým učebným procesom vo všetkých etapách vyučovacej jednotky a vyžaduje od žiakov zapojenie vyšších myšlienkových operácií. Učitelia pri uplatnení rovnakých postupov a metód ako vedci pri výskumnom bádaní podporujú proces učenia u žiakov (Coffman & Riggs 2006; Kim and Tan, 2011; Baroudi, Helder 2019). V bádateľsky orientovanej výučbe (BOV) žiaci postupujú v učení krokmi ako vedec vo svojej práci. Pochopenie spôsobu uvažovania vedcov môže výrazne ovplyvniť žiacke chápanie kľúčových súvislostí obsahu učiva a spôsobu, ako sa k poznatkom dopracovať (Kidman and Casinader, 2017; Gormally et al, 2009; Capps, Crawford, 2013).
Banchi a Bell (2008) rozoznávajú štyri úrovne bádania. Potvrdzujúce (confirmation) bádanie, pri ktorom učiteľ žiakom poskytne výskumnú otázku. Postup i očakávané výsledky, je vhodné využiť pri upevnení nadobudnutých vedomostí žiakov. Štruktúrované (structured) bádanie je už také, kde je výskumná otázka predstavená učiteľom, ale žiaci sami hľadajú vhodné vysvetlenia skúmaných javov a dôkazov, ktoré zozbierali. Ide o dôležitý typ skúmania, pretože umožňuje žiakom precvičovať si svoje schopnosti a je vhodné pri globálnom vzdelávaní. Riadené (guided) bádanie je tretím v poradí, v ktorom učiteľ poskytuje žiakom len výskumnú otázku, pričom ich úlohou je navrhnúť vhodný postup, ktorým dokážu stanovenú hypotézu či otázku overiť a sformulujú následne tvrdenia či závery. Učiteľ nie je ani tu v pasívnej pozícii, ale adekvátnym spôsobom vzhľadom na okolnosti a podmienky triedy koordinuje a usmerňuje činnosť žiakov. Otvorené (open) bádanie predstavuje najvyššiu formu bádania. Žiaci formulujú výskumné otázky, navrhujú, organizujú výskum a prezentujú výsledky. Vyžaduje významnú mieru kognitívnej úrovne žiakov a významnú mieru samostatnosti. Preferované je pri zvládnutí predošlých troch fáz vo vyšších ročníkoch.

2 METODOLÓGIA VÝSKUMU

Cieľom príspevku bolo zistiť prístup učiteľov k bádateľsky orientovanému vzdelávaniu (BOV). V článku sú prezentované výsledky dotazníkového prieskumu, ktorý sa uskutočnil medzi učiteľmi prírodovedných predmetov na základných a stredných školách na Slovensku. Na základe odpovedí učiteľov sme zhodnotili súčasné postavenie a stupeň implementácie bádateľsky orientovaného vyučovania na slovenských školách.
Vytvorený elektronický dotazník bol rozposlaný do rôznych typov škôl, ktoré sme získali v databáze Centrum vedecko-technických informácií SR (2023). Uprednostnili sme náhodný výber, keďže školy neboli vyberané, dotazník bol rozposlaný do škôl bez akejkoľvek preferencie. Jednotlivé položky v dotazníku boli odstupňované pomocou bipolárnej päťstupňovej Likertovej stupnice. Použili sme 2 typy verbálnych posudzovacích škál, buď na vyjadrenie súhlasu (určite súhlasím - čiastočne súhlasím – nemám vyhranený názor - čiastočne nesúhlasím - nesúhlasím) alebo frekvencie (veľmi často - často - neviem sa vyjadriť - zriedkavo - nikdy).
Prvé otázky dotazníka obsahovali identifikačné otázky, ktoré nám pomohli bližšie charakterizovať vzorku respondentov (pohlavie, vek, typ školy, kraj, dĺžka praxe, aprobačné predmety). Výskumnú vzorku predstavovalo 92 učiteľov prírodovedných predmetov, z toho 64 učiteľov (70%) bolo z 2. stupňa základných škôl, 28 (30%) zo stredných škôl. Išlo o 80 žien (87%) a 12 mužov (13 %). Respondenti boli z celého Slovenska, zo všetkých 8 krajov, najviac zo Žilinského kraja (33 %), najmenej z Prešovského (13%). Na pozícii učiteľa pracuje s pedagogickou praxou nad 20 rokov najviac učiteľov- až 43,5%, v rozmedzí 16-20 rokov je to 15,2%, v rozmedzí 11-15 rokov je to 8,7%, v rozmedzí 6-10, aj 3-5 rokov pracuje po 13% učiteľov, najmenej má prax do 2 rokov 6,5% učiteľov. Najväčšie zastúpenie mali učitelia chémie (73,9%) a biológie (43,5%).

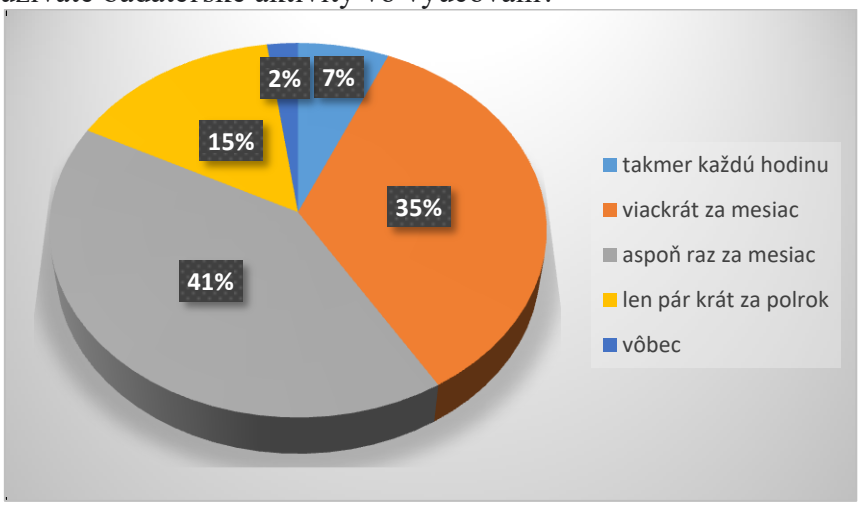
V obsahovej časti dotazníka sme vytvorili položky, ktoré sme zamerali na 4 výskumné otázky (VO):
VO1: Aké sú postoje učiteľov prírodovedných predmetov k vyučovaniu založeného na bádateľských aktivitách (BA)?
VO2: Ako prebieha príprava učiteľov na vyučovanie založeného na bádateľských aktivitách?
VO3: Ako prebieha realizácia vyučovania založeného na bádateľských aktivitách?
VO4: Ktoré ťažkosti a bariéry bránia učiteľom vo väčšej miere využívať bádateľské aktivity?

3 VÝSLEDKY VÝSKUMU A DISKUSIA

VO1: Aké sú postoje učiteľov prírodovedných predmetov k vyučovaniu založeného na bádateľských aktivitách (BA)?

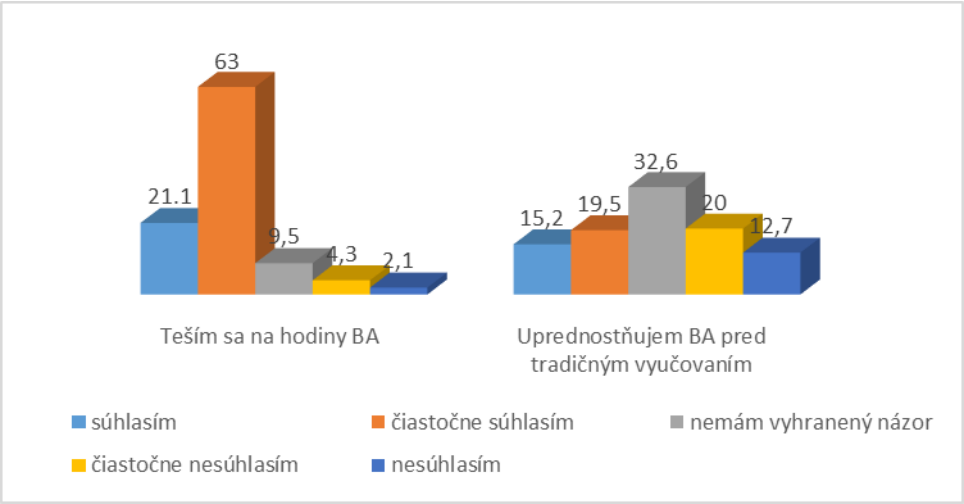
3.1 Postoje učiteľov prírodovedných predmetov k BA

Ako často používate bádateľské aktivity vo vyučovaní?



Graf 1 Frekvencia využívania BOV v prírodovedných predmetoch

Z odpovedí je jasné, že zaraďovanie bádateľských aktivít u našich respondentov nie je tak časté ako by bolo potrebné, vzhľadom na charakter prírodovedných predmetov, ktoré si to pri sprístupňovaní nového učiva priam vyžadujú. Najväčšia časť učiteľov (41%) uviedla, že zaraďuje bádateľské aktivity do vyučovania aspoň raz za mesiac, viackrát za mesiac 35% a takmer každú hodinu len 7% učiteľov. Pri otázke, či sa tešia na hodiny bádateľských aktivít, uviedli takmer všetci učitelia, že súhlasia alebo čiastočne súhlasia s tým, že sa tešia na hodiny, kde sú zaradené bádateľské aktivity (84,1%), ale na druhej strane, len 34,7% (súhlasí alebo čiastočne súhlasí) učiteľov uprednostňuje bádateľské aktivity pred tradičnými hodinami. Veľmi diskutabilné je to, že prečo 32,6% učiteľov sa nevedelo k tomuto vyjadriť (Graf 2). Vzhľadom k týmto odpovediam, je potrebné zistiť, prečo je relatívne veľká polarizácia učiteľov, čo sa týka obľuby BA. Budeme sledovať názory učiteľov, ako u nich prebieha príprava na BA, aj samotná realizácia a pokúsime sa identifikovať príčiny nízkeho počtu hodín s využívaním BA.



Graf 2 Percentuálne vyjadrenie vzťahu učiteľa k BA

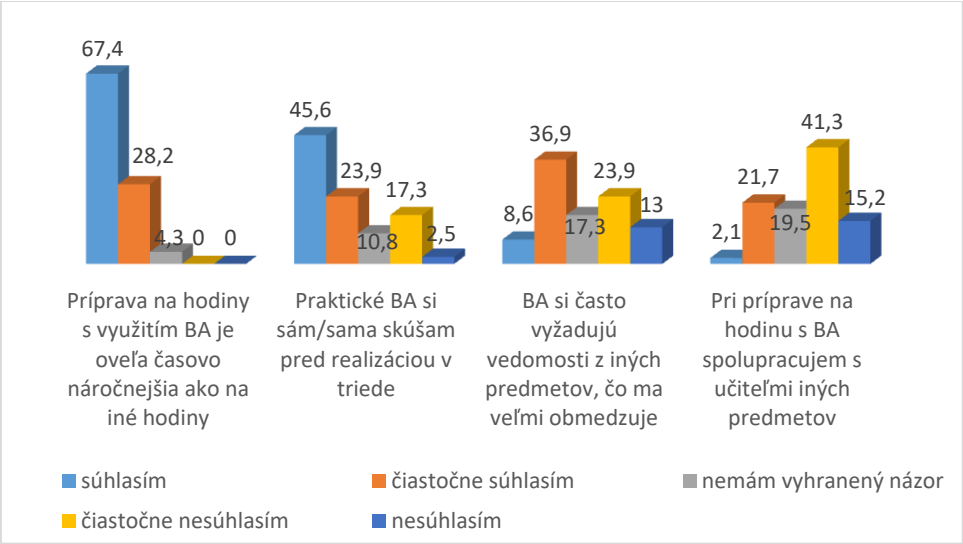
3.2 Príprava učiteľa na vyučovanie založeného na BA

VO2: Ako prebieha príprava učiteľov na vyučovanie založeného na bádateľských aktivitách?

Je jasné, že príprava učiteľa na vyučovanie založeného na BA je oveľa náročnejšia ako na tradičné hodiny a preto nás zaujímali názory učiteľov, ako je to s ich prípravou z hľadiska časového, odborného a didaktického. Väčšina učiteľov tvrdí (Graf 3), že ich príprava na hodiny s využitím BA je oveľa časovo náročnejšia ako na tradičné hodiny, čo je pochopiteľné, pretože takého vyučovanie si vyžaduje od učiteľa dôslednejší prístup k príprave. Taktiež z praktického hľadiska prípravy na BA je potrebné, aby učiteľ disponoval mnohými kompetenciami najmä vo vzťahu k výchovno-vzdelávaciemu procesu, ktoré sa prejavujú v prvom rade ako odborné znalosti súvisiace s obsahom. Taktiež pre výučbu prírodovedných predmetov majú osobitný význam učiteľské kompetencie ako učenie sa prostredníctvom argumentácie a používanie metód založených na bádaní (Přírodovědné vzdělávání v Evropě: politiky jednotlivých zemí, praxe a výzkum, 2011).

Pre učiteľov, ktorí pravidelne realizujú vyučovanie prostredníctvom bádania, je potrebné rozširovať ich profesijné kompetencie v oblasti využívania bádateľsky orientovaného prírodovedného vzdelávania a rozvinúť zručnosti v oblasti prípravy a riadenia bádateľských aktivít žiakov, čo si učitelia aj uvedomujú. Takmer 70% učiteľov si pred realizáciou v triede skúša experimenty, pretože si vyžadujú rôzne praktické zručnosti a ich väčšiu kreativitu.

Pri riešení otázok v jednotlivých aktivitách BOV sa často prelínajú témy, ktoré sú obsahom rôznych predmetov. Ani riešenie problémov v bežnom živote sa zväčša netýka len jedného školského predmetu. Takmer polovica učiteľov (45,5%) tvrdí, že pri BA sú potrebné vedomosti z iných predmetov, čo ich veľmi obmedzuje. Žiak by sa mal naučiť chápať, že na rovnakú problematiku sa dá nazerať z viacerých uhlov a tým lepšie pochopí komplexnosť javov (Tomčíková, 2020). Je na učiteľovi, či je pripravený vystúpiť z komfortnej zóny vlastného predmetu a prevziať svoj diel zodpovednosti aj za iné predmety alebo to riešiť spoluprácou s inými učiteľmi, ale k tejto možnosti sa prikláňa len 23,8% učiteľov. Takýmto prepájaním poznatkov, teda prehlbovaním medzipredmetových vzťahov, sa umožňuje žiakom efektívnejšie konštruovať ucelený systém navzájom poprepájaných poznatkov, príčinných súvislostí, vytváranie kontextov a hodnotových rámcov (Gott, Duggan, 2007; Bellová et al, 2021). Svoje vedomosti z iných predmetov si zmysluplne opakujú a upevňujú, vytvárajú si ďalšie a ďalšie súvislosti podľa svojich potrieb a záujmov.



Graf 3 Percentuálne vyjadrenie odpovedí - prípravy učiteľa na vyučovanie BA

3.3 Realizácia vyučovania založeného na BA

VO3: Ako prebieha realizácia vyučovania založeného na bádateľských aktivitách?

Aj keď je potreba objavovania prirodzená, pri učení prírodovedných disciplín je zvyčajne potrebné naučiť žiakov objavovať, hlavne ak sú pod silným vplyvom tradičného vyučovania. S počiatočnou pomocou učiteľa pri tzv. riadenom objavovaní sa postupne naučia samostatne rozmýšľať, hľadať a vidieť súvislosti. Správne usmerňovanie a motivačná sila vlastných objavov to môže výrazne urýchľovať. Podstatné je usmerňovať činnosť žiakov tak, aby bolo objavovanie pre nich pozitívnym zážitkom a nie zdĺhavé trápenie sa vedúce k demotivácii. Aby nebolo pre žiakov príliš vyčerpávajúce, či dokonca neprimerane psychicky náročné.

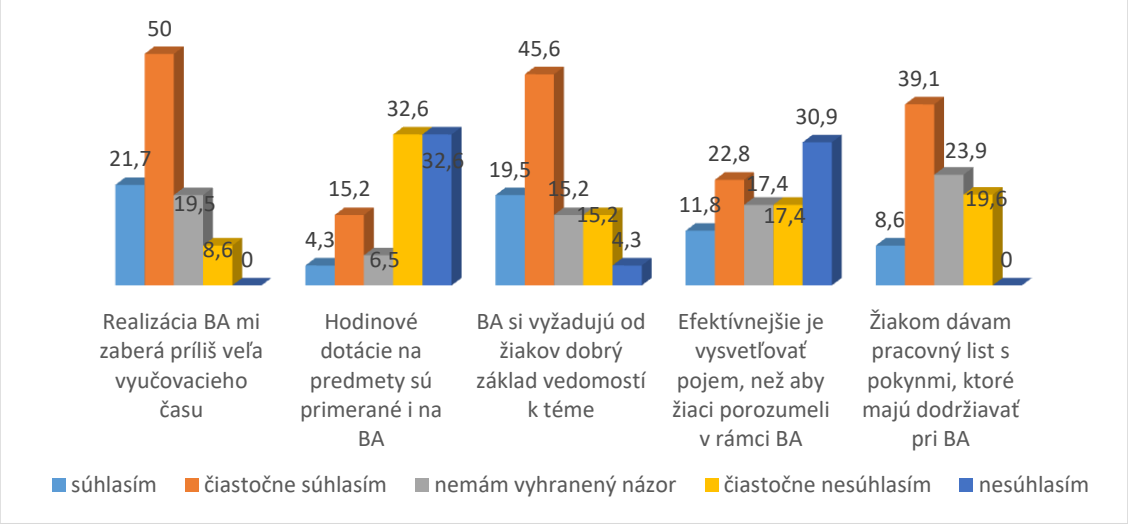
Určitou brzdou pre využívanie takýchto aktivít môže byť ich časová náročnosť, čo potvrdili učitelia, že nielen príprava, ale taktiež realizácia BA zaberajú príliš veľa vyučovacieho času (71% určite súhlasím alebo čiastočne súhlasím). Ďalšia otázka (*Hodinová dotácia na môj predmet je primeraná i na BA*) bola postavená v negatívnom zmysle, ale i tu odpovedali učitelia v neprospech časovej dotácie na prírodovedné predmety, pretože sú presvedčení, že hodinové dotácie nie sú primerané (62,5%) a uvítali by zvýšenie hodín na tieto predmety (Graf 4).

Podstatná otázka teda je, kedy a do akej miery nechať žiakov samostatne objavovať. Úlohou učiteľa je vedieť správne odhadnúť, kedy to za ten čas a námahu stojí a kedy nie; kedy je samostatné objavovanie efektívne a kedy je vhodnejšie poskytnúť žiakom hotové informácie a vyučovací čas a energiu využiť efektívnejšie. Pritom je však potrebné prehodnocovať prínos samostatného objavovania nielen z hľadiska krátkodobého (dnes na to nemáme čas), ale aj z hľadiska dlhodobého. Ak časovo a psychicky náročné objavovanie vedie k trvalejšiemu naučeniu sa, v konečnom dôsledku sa aj čas ušetrí. Nájsť tú správnu rovnováhu si môže vyžadovať určité pedagogické majstrovstvo.

Takmer tri štvrtiny učiteľov je presvedčených (20% súhlasí a 46% úplne súhlasí), že *BA si vyžadujú od žiakov dobrý základ vedomostí k téme*. Na rozvoj tvorivosti pri praktických aktivitách je však naopak potrebné len minimum informácií, aj to len tie, ktoré sú nevyhnutné na začatie samostatnej práce. Zmysluplné učenie je aktívny poznávací proces, ktorý prebieha za účasti myslenia, pri ktorom žiak využíva minulú skúsenosť, vlastné predošlé poznanie pri prijímaní, chápaní a ďalšom spracovávaní vstupných informácií. Výsledkom sú mentálne konštrukcie, ktoré žiak interpretuje ako zmysluplné štruktúry vlastného poznania..

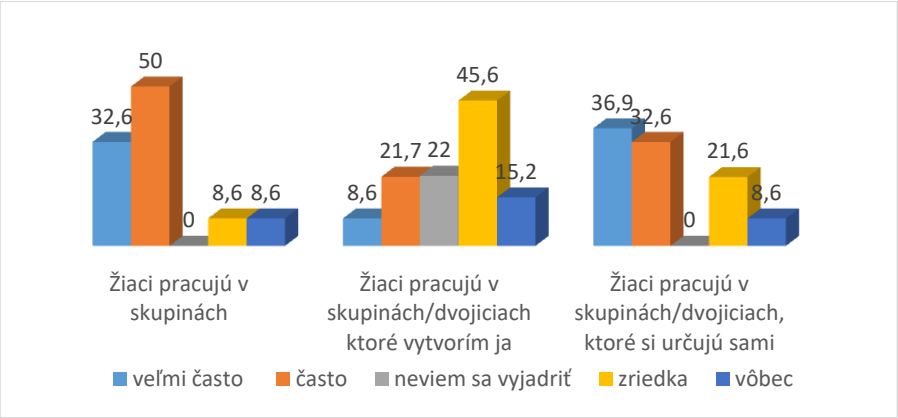
Jednou z možností, ako viesť žiaka v rámci BA sú pracovné listy pre žiaka k vybraným vzdelávacím aktivitám, ktoré môžu naviesť žiaka k postupu riešenia resp. k algoritmu

bádania. Pracovné listy môžu byť vypracované na rôznych úrovniach náročnosti, preto môžu byť použité
v rovinách riadeného alebo nasmerovaného bádania. Takmer polovica učiteľov dáva žiakom pracovné listy s pokynmi, ktoré majú dodržiavať pri BA.
Nasledujúcu otázku sme cielene zadali v negatívnom zmysle a boli sme zvedaví, ako sa učitelia vyjadria ku konkrétnemu procesu vyučovania. Čiastočne alebo úplne súhlasí 34% učiteľov, že *Pre učiteľa je efektívnejšie vysvetľovať pojem, než aby žiaci porozumeli pojmu prostredníctvom vlastného experimentovania***,** 19% sa nevedelo vyjadriť. Pri výbere tém by mal učiteľ prehodnocovať relevantnosť tém uvádzaných v učebniciach a následne spravidla aj v osnovách a učebných plánoch. Je len na učiteľovi, aby modifikoval obsah tak, aby pripravil žiakov na javy, s ktorými sa bežne stretnú v reálnom živote. Častým tradičným protiargumentom je, že každá užitočná téma je relevantná, keďže človek nikdy nevie, v akej situácii sa ocitne, kedy sa mu budú dané poznatky hodiť. Otázkou však je, do akej miery a či v učebnici nechýbajú témy pre daných žiakoch relevantnejšie. Aj témy z bežného života je preto nutné hierarchizovať, čo je tu a teraz pre žiakov najpodstatnejšie.



Graf 4 Percentuálne vyjadrenie odpovedí – realizácia BA

V rámci realizácie BA sme sledovali prácu v skupinách, kde nás zaujímala nielen frekvencia práce v skupinách alebo vo dvojiciach, ale i tvorba týchto skupín. Je veľmi povzbudivé, že väčšina učiteľov, až 83% veľmi často alebo často využívajú prácu v skupinách a taktiež až 69,5% učiteľov tvrdí, že *Žiaci pracujú skupinách/dvojiciach, ktoré si určujú sami*. Tu je viditeľný rozdiel v postavení učiteľa, kde sa žiak zúčastňuje aj na rozhodovacom procese (napr. pri tvorbe skupín), pretože len 30,3% učiteľov označilo, že *Žiaci pracujú v skupinách/dvojiciach ktoré vytvorí učiteľ* (Graf 5).



Graf 5 Frekvencia práce v skupinách v rámci BA

Ak chceme, aby žiak lepšie chápal súvislosti a obsah prírodných vied, je efektívnejšie, keď je to na základe vlastnej skúsenosti, pri nadobúdaní skutočného porozumenia a tým si zároveň rozvíja spôsobilosti vedeckej práce. Pri sledovaní rozvoja autonómie žiakov, resp. rozvoja vedeckých spôsobilostí sme predložili učiteľom 7 tvrdení a mohli vybrať tie, s ktorými súhlasia (aj viac odpovedí). Výsledky sme zoradili podľa % frekvencie (Tab. 1).
Učitelia sú presvedčení, že *Moji žiaci majú väčší osoh - benefit z vlastných praktických aktivít ako z toho, keď im ja predvádzam demonštračné pokusy* (67%). Keď učiteľ vytvorí dobré podmienky a dynamické prostredie v triede, je veľký predpoklad efektívneho vyučovania, kde žiak je tvorcom vlastného poznania a taktiež tvorcom pedagogického procesu. Takýto prístup k vzdelávaniu je založený na realizácii praktických aktivít, ktorých cieľom je rozvinúť u žiakov isté špecifické schopnosti, nazývané bádateľské zručnosti alebo spôsobilosti vedeckej práce (Held et al., 2011). Rozvoj týchto zručností je zakotvený aj v kurikulárnych dokumentoch prírodovedných predmetov pre oblasť Človek a príroda (ŠPU, 2014 a,b). Otázkou však zostáva, do akej miery sú bádateľské zručnosti žiakov reálne rozvíjané a aká je ich aktuálna úroveň rozvoja. Z našich výsledkov je vidieť, že z pohľadu učiteľov *Žiaci sú schopní prezentovať výsledky BA* na 63%, ako i *Žiaci sú schopní tvoriť závery a zovšeobecnenia prieskumu* na 52%. Najslabšie sa vyjadrili učitelia ku *schopnostiam plánovať resp. formulovať hypotézy* len na 26%, a taktiež ku *schopnostiam vytvárať tabuľky a grafy* 28%. Z toho vplýva, že žiaci majú väčšie problémy s rozvojom vyšších integrovaných spôsobilostí vedeckej práce (Held et al., 2011), keďže sú najnižšie v našom rebríčku.

Tab. 1 Vedecké spôsobilosti žiakov vo vyučovaní

Predložené tvrdenia	**%**
Moji žiaci majú väčší osoh - benefit z BA, ako z toho, keď im ja predvádzam demonštračné pokusy	67,5
Žiaci sú schopní prezentovať výsledky BA	63,0
Žiaci sú schopní tvoriť závery a zovšeobecnenia prieskumu	52,0
Moji žiaci sú schopní navrhovať postupy experimentu	37,5
Počas realizácie experimentu žiaci pracujú samostatne	33,0
Pri spracovávaní výsledkov žiaci sú schopní vytvárať tabuľky a grafy	28,0
Moji žiaci sú schopní plánovať – formulovať hypotézy	26,0

3.4 Problémy učiteľov s implementáciou BA – možné riešenia do budúcnosti

VO4: Ktoré ťažkosti a bariéry bránia učiteľom vo väčšej miere využívať bádateľské aktivity?
Z predchádzajúcich otázok vyplynula posledná otázka: Čo bráni učiteľom, aby do vyučovania častejšie zaraďovali BA? Niektoré problémy už boli spomenuté v rámci otázok prípravy a realizácie BA, preto sme sa potrebovali uistiť a najmä zoradiť ťažkosti učiteľov podľa

frekvencie. Pri tejto otázke mali učitelia ponúkané možnosti, ale mohli doplniť aj svoje ďalšie návrhy.

Za problémové stránky BOV učitelia považujú časovú náročnosť zo strany učiteľa (96%), nielen príprava, aj samotná realizácia je časovo náročnejšia ako pri tradičných hodinách, to znamená, že 45 minút na hodinu nepostačuje a taktiež je to malá časová dotácia vyučovacích hodín na prírodovedné predmety.

Až 67% učiteľov je toho názoru, že často býva problém aj zloženie žiakov v triede (napr. vyššie počty žiakov v triedach, problémoví žiaci, začlenení žiaci..) a 51% učiteľov má problémy s materiálno-technickým vybavením školy (priestory, pomôcky atď.). Mnohé uvedené ťažkosti a prekážky s implementáciou BOV do vyučovania sú spojené so štruktúrou učebných osnov pre prírodovedné predmety a systémom vzdelávania, preto ich nie je ľahké zmeniť.

Problémy so zabezpečením praktických aktivít je možné riešiť napr. zvýšením podielu vyučovania prebiehajúceho mimo budovy školy. V tejto súvislosti by sa mali vo väčšej miere vytvárať v rámci vyučovania situácie, v ktorých žiaci študujú a pracujú v zmiešaných (prospechovo, vekovo, záujmovo...) skupinách, pretože práve tu sa otvára priestor na diskusie o výsledkoch úloh, o postupoch riešenia, o zdôvodneniach (Forbes, Neumann, Schiepe-Tiska, 2020; Bellová et al., 2018). Niektoré zlepšenia by sa mohli uskutočniť využitím menej komplexných a krátkodobých bádateľských aktivít, ktoré by učitelia ľahšie mohli začleniť do vyučovacieho programu.

Vzhľadom k tomu, že veľmi málo učiteľov pri príprave svojich hodín konzultuje témy so svojimi kolegami, zlepšenie existujúceho stavu by mohlo spočívať v účinnejšej spolupráci učiteľov pri vytváraní a zadávaní komplexných prác, na ktorých by žiaci mohli pracovať v rámci viacerých vyučovacích predmetov. Bolo by taktiež vhodné pre učiteľov, keby pri vlastnej príprave na vyučovanie si naštudovali štandardy príbuzných predmetov a hľadali možnosti, prieniky a implementovali ich do vlastných príprav konkrétneho predmetu (Kinchin, 2003). Z hľadiska snahy o prepojenie s bežným životom je vhodné voliť tzv. prierezové témy, pretože situácie, s ktorými sa žiaci stretávajú v živote, nie sú izolované a ich riešenie si vyžaduje jednak kompetencie komplexného charakteru, jednak kompetencie odborovo špecifické.

K takýmto interdisciplinárnym aktivitám v rámci BA by určite tiež bolo neoceniteľnou pomocou vytvorenie metodických príručiek alebo školení, kurzov aj pre vedenie škôl (Siváková et al, 2013), pretože učitelia uviedli, že majú nedostatok ukážok a príkladov v súčasných učebniciach (39% učiteľov) a nedostatok informácií ako pracovať s týmito metódami (26% učiteľov) a tiež nezáujem žiakov o nové metódy (13%).

Na druhej strane, výskumy poukazujú na nepripravenosť učiteľov a budúcich učiteľov na aplikáciu bádateľsky orientovanej výučby (Dostál, 2015; Kireš et al, 2016). Bianchini a Colburn (2000) vo svojej práci upozorňujú na to, že *„jedným z dôvodov, prečo učitelia nerealizujú bádateľsky orientovanú výučbu, je, že sa cítia nedostatočne pripravení, nemajú osvojené potrebné kompetencie“*.

Podľa Dostála (2015) učitelia potrebujú mať na realizáciu bádateľsky orientovanej výučby osvojený súbor kompetencií a byť presvedčení o prínose BOV. Okrem odborno-predmetových kompetencií, ktoré sú viazané na obsah vzdelávania a didaktických kompetencií, ktoré prepájajú odborno-predmetové kompetencie s pedagogikou, musia získať aj špecifické kompetencie a postoje pre využívanie BOV (Duncan et al., 2010; Melville et al. 2008; Kirschner et al., 2006). Ide o kompetencie, ako motivovať žiakov k učeniu prostredníctvom BOV, ako prepojiť BOV s praktickým životom, ako rozvíjať prostredníctvom BOV myslenie žiakov.

4 ZÁVER

Z výsledkov nášho výskumu sme zistili, že väčšina učiteľov nemá pozitívny postoj ku implementácii bádateľských aktivít do vyučovania, pretože veľmi málo učiteľov uprednostňuje BOV pred tradičným a ani frekvencia zaraďovania BOV nie je vysoká. Je to pravdepodobne spôsobené náročnosťou prípravy, ale i samotnej realizácie takéhoto vyučovania.

Pri príprave majú učitelia problémy s časom, veľa praktických aktivít si musia skúšať pred vyučovaním, často si ich prípravy vyžadujú štúdium medzipredmetových vzťahov, prípadne spoluprácu s učiteľmi iných predmetov. Pri realizácii je to taktiež časový problém, malá časová dotácia vyučovacích hodín a časová náročnosť BOV (45 minút nepostačuje). Pravdepodobne aj z týchto dôvodov je často pre učiteľa efektívnejšie vysvetľovať pojmy, ako by ich mali žiaci pochopiť induktívnym spôsobom v rámci BOV. Pozitívne je, že učitelia často využívajú prácu v skupinách, prípadne vo dvojiciach, kde si žiaci formujú interpersonálne schopnosti, zefektívňuje sa spolupráca v skupine, uvedomujú si zodpovednosť v tíme, ale bolo by vhodné dať väčší priestor žiakom aj pri riadení vyučovania, napr. pri tvorbe skupín. Pri analýze vedeckých spôsobilostí žiakov sme zistili, že u žiakov sú rozvíjané hlavne nižšie vedecké spôsobilosti, preto je nutné, aby učitelia žiakom postupne dávkovali zaraďovanie BOV do vyučovania od tých nižších foriem (ako je potvrdzujúce a štruktúrované bádanie) k vyšším formám bádania (otvorené), kde si postupne môžu rozvíjať aj integrované vedecké spôsobilosti. Výhodou je skutočnosť, že žiaci nedostanú hotové informácie, ale realizovaním praktických úloh a vzájomnou komunikáciou získajú dlhotrvácne vedomosti. Pričom sa žiaci učia realizovať vedecké aktivity, byť zodpovední, pracovať v tímoch, byť tolerantní, komunikovať a vyjadrovať svoje názory.

Učitelia sú presvedčení, že naplnenie účinnosti BOV si vyžaduje systémové riešenia, ktoré nemôžu ovplyvniť, ale určite môžu ovplyvniť veľa interných indikátorov vyučovania, ktoré sme už spomenuli. Podľa nášho názoru by sa mali sústrediť na rozvoj určitých pedagogických zručností nápomocných výučbe metódou bádania. Na to treba smerovať ďalšie vzdelávanie učiteľov pôsobiacich v praxi, ale aj prípravu budúcich učiteľov, aby získali komplexnú spôsobilosť na realizáciu BOV.

Musíme zdôrazniť, že dáta v našom výskume boli získané v rámci slovenských škôl, ktoré sa riadia kurikulárnymi dokumentami (ŠPÚ, 2014) a bolo sledovaných len niekoľko faktorov, ktoré môžu ovplyvniť implementáciu BOV do našich škôl. Mohlo by byť zaujímavé pokúsiť sa v budúcnosti (aj v medzinárodnom kontexte) sledovať ďalšie faktory, ktoré by mohli byť kritické v rámci bádateľského vyučovania a hľadať riešenia na ich zlepšenie.

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VYUŽITIE SYSTÉMU PRE ROVESNÍCKU SPÄTNÚ VÄZBU AROPÄ V TERCIÁRNOM A VYŠŠOM SEKUNDÁRNOM VZDELÁVANÍ

THE USE OF THE AROPÄ PEER REVIEW SYSTEM IN TERTIARY AND UPPER SECONDARY EDUCATION

Jana Jacková, Renata Bellová

Abstrakt

Príspevok sa zaoberá využitím voľne použiteľného webového systému pre rovesnícku spätnú väzbu (peer review) Aropä vo výučbe na vysokých a stredných školách. Študenti v priebehu svojho vzdelávania často riešia rôzne zadania, ktorých výstupom je napr. jednoduchá odpoveď alebo názor na riešenie zadaného problému, opis postupu riešenia, esej, počítačový program ap. Učiteľ môže do formatívneho hodnotenia takýchto výstupov práce študentov zapojiť samotných študentov tak, že študenti si vzájomne komentujú svoje výstupy. V príspevku sa uvádza stručný prehľad problematiky peer review, najmä z hľadiska zefektívnenia súvisiacich procesov pomocou elektronických prostriedkov. Autorky opisujú skúsenosti s aktivitami typu peer review s podporou systému Aropä na Katolíckej univerzite v Ružomberku i na vybranej strednej škole a výsledky spätnej väzby od študentov na tieto aktivity.

Kľúčové slová: *rovesnícke vzájomné hodnotenie / peer review, formatívne hodnotenie, vysoká škola, stredná škola, prírodovedné predmety, efektívnosť*

Abstract

The paper deals with the use of the freely usable peer review web system Aropä in university and secondary school education. In the course of their education, students often solve various tasks, the output of which is e.g. a simple answer or opinion on the solution of the given problem, a description of the solution procedure, an essay, a computer program, etc. Teachers can involve their students in the formative evaluation of these student outputs in the way that the students comment on their outputs each other. The article provides a brief overview of the issue of peer review, especially from the point of view of streamlining related processes using electronic means. The authors describe their experience with peer review activities with the support of the Aropä system at the Catholic University in Ružomberok and the results of feedback from students on these activities.

Key words: *peer review, formative assessment, university, high school, natural science subjects, efficiency*

1 ROVESNÍCKA SPÄTNÁ VÄZBA (PEER REVIEW)

Rovesnícku spätnú väzbu (peer review) od spolužiakov môžeme podľa Ganajovej et al. (2021) zaradiť medzi možnosti formatívneho hodnotenia výkonu žiakov. Na rozdiel od sumatívneho hodnotenia (obvykle konečného), býva formatívne hodnotenie spravidla priebežné a „slúži primárne žiakovi“, ide o „hodnotenie podporujúce učenie sa“. Pri formatívnom hodnotení žiak získava „*informáciu – **spätnú väzbu** vo chvíli, keď sa“* jeho výkon *„dá zlepšiť. Úlohou spätnej väzby je zistiť informácie, ako sa žiaci učia, odhaliť diagnostikovať nedostatky, chyby, ťažkosti a ich príčiny v učení sa za účelom ich odstránenia a zefektívnenia učebnej činnosti žiakov. Spätná väzba pomáha určiť rozdiel medzi aktuálnou*

úrovňou hodnoteného výkonu a požadovaným štandardom. Spätnú väzbu poskytuje spravidla učiteľ, ale významná je aj rovesnícka spätná väzba od spolužiakov.“
Rovesnícku spätnú väzbu môže učiteľ organizovať rôznymi spôsobmi, ktoré môžu zohľadňovať povahu vyučovacieho predmetu, typ zadanej úlohy, dostupné prostriedky poskytovania spätnej väzby, časové možnosti, veľkosť skupiny žiakov atď. V tomto príspevku sa zameriame na spôsob poskytovania rovesníckej spätnej väzby elektronicky pomocou systému Aropä. V diskusii naznačíme efektívnosť súvisiacich procesov s použitím tohto systému a bez jeho použitia (s použitím elektronickej pošty a bez použitia elektronických prostriedkov).
Podľa https://www.dcs.gla.ac.uk/~hcp/aropa/index.html je Aropä „webový systém, ktorý podporuje aktivity rovesníckej spätnej väzby“ (peer review). V prípade, že učiteľ plánuje riešenie zadanej úlohy hodnotiť formatívne formou rovesníckej spätnej väzby, tak po tom, ako zadá úlohu (ľubovoľná úloha/aktivita predmetu), základný model použitia systému prebieha v 3 krokoch:

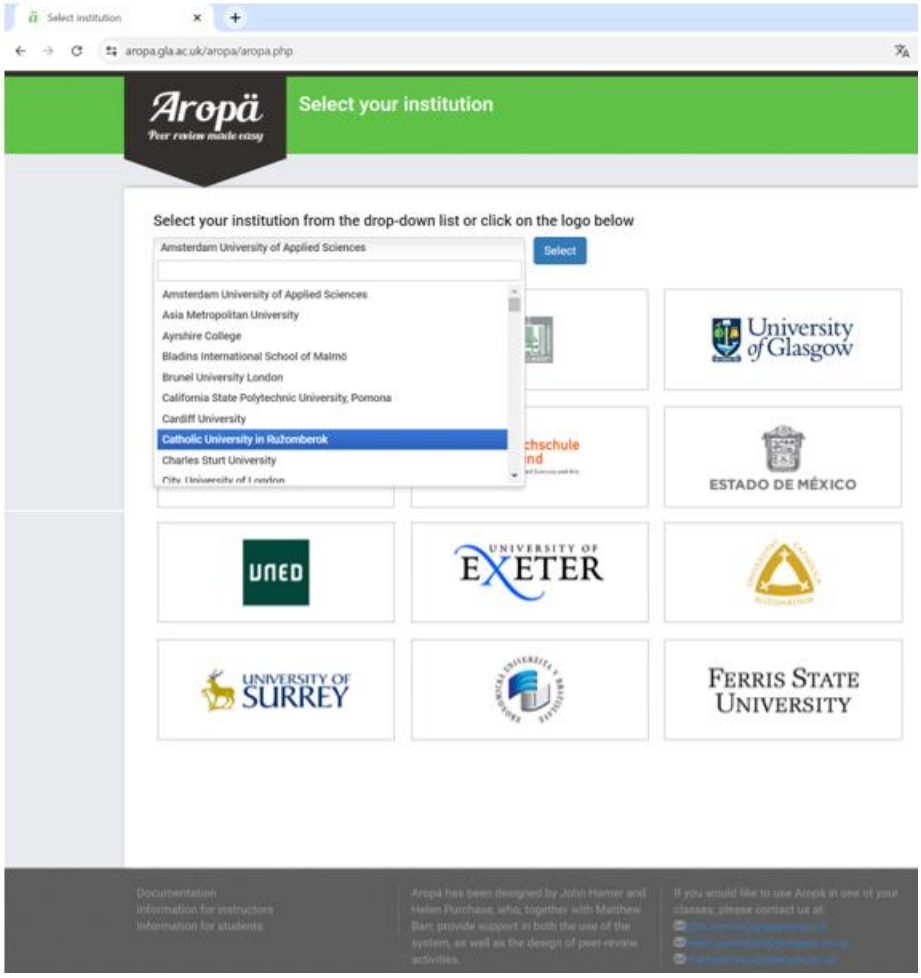
- Do stanoveného termínu každý študent po vyriešení zadanej úlohy vloží svoje riešenie do systému Aropä,
- následne si do nastaveného termínu študenti svoje riešenia v systéme Aropä vzájomne komentujú a po ukončení tohto procesu
- si každý študent môže prečítať komentáre svojich kolegov k svojmu príspevku.

Purchase a Hamer (2018b) vo svojej metaanalýze aktivít typu peer review implementovaných v praxi s použitím konfiguračných dát z viac ako tisícky zadaní realizovaných pomocou systému Aropä uvádzajú, že *„neexistuje jeden štandardný model pre ‘peer-review’ a informácie o mnohých rôznych použitých dizajnoch hodnotenia sú distribuované v čoraz väčšom počte publikácií a webových stránok.“* Uvádzajú „údaje o širokej škále návrhov úloh a parametroch, ktoré ich tvoria, ich rubrikách a porovnaniach medzi tematickými oblasťami.“

2 POUŽÍVANIE SYSTÉMU AROPÄ VO VZDELÁVANÍ

Webový systém Aropä je „online systém, ktorý poskytuje bezplatnú podporu pre aktivity rovesníckeho hodnotenia nepretržite od roku 2009“ (Purchase, Hamer, 2018a). Navrhli ho, vyvinuli a udržiavajú H. Purchase a J. Hamer. Podľa Purchase a Hamer (2018a) tento systém podporuje „rozvoj kritického myslenia a reflexné schopnosti“ študentov. Aropä má „významný globálny dosah: od Austrálie a Nového Zélandu po USA a Kanadu, vrátane Malajzie, Španielska a Slovenska. Jeho využitie pokrýva široké spektrum predmetov“. Aktuálne podľa https://www.dcs.gla.ac.uk/~hcp/aropa/index.html napr. anatómia, angličtina, farmakológia, fyzika, fyzioterapia, geológia, chémia, informatika, medicína, obchodné právo, politika, projektový manažment, účtovníctvo, verejne zdravie a ďalšie. Systém Aropä umožňuje učiteľovi nastaviť, aby do neho študenti vkladali svoje vyriešené úlohy/zadania a následne si k nimposkytovali vzájomnú spätnú väzbu. Na obr. 1 vidíme obrazovku systému Aropä pre výber inštitúcie (hore) so základnými informáciami o používaní systému v spodnej časti. Súhrnný dokument o systéme Aropä z mája 2018 poskytuje podrobnejšie informácie o návrhu a používaní systému, ako aj komentáre a referencie od používateľov. A Brief Summary of Aropä – May 2018 https://www.dcs.gla.ac.uk/~hcp/aropa/BriefSummary.pdf . Základné informácie o systéme Aropä a jeho dokumentácia sú dostupné z Aropä: Peer Review made Easy - https://www.dcs.gla.ac.uk/~hcp/aropa/. Informácie pre učiteľa sú zhrnuté na https://www.dcs.gla.ac.uk/~hcp/aropa/instructors.html a v používateľskej príručke https://www.dcs.gla.ac.uk/~hcp/aropa/AropaGuide.pdf . Informácie pre študentov sú zhrnuté na https://www.dcs.gla.ac.uk/~hcp/aropa/students.html .
Cieľom tohto príspevku je pridať svoje skúsenosti a perspektívu k už existujícím výskumom týkajúcim sa používania systému Aropä, najmä Jacko a Jacková (2017), Purchase a Hamer (2018a, 2018b). Jacko a Jacková (2017) sa po prečítaní pozitívnych referencií k systému

Aropä rozhodli vyskúšať ho a otestovať vo svojich predmetoch na vysokej škole. Aropä sa ukázal ako vynikajúci systém vzájomného hodnotenia, ktorý podporuje rozvoj kritického myslenia a reflexných schopností študentov na Ekonomickej univerzite v Bratislave (obr. 1, logo dole v strede; logá aktívnych inštitúcií v období 18.6.2023) vo vysokoškolskom predmete Etika, korupcia a transparentnosť. Študenti písali každý týždeň eseje na zadanú tému. Dôsledkom zavedenia zadania s následnou rovesníckou spätnou väzbou bolo, že kvalita esejí sa postupne počas semestra zvyšovala. Z hľadiska dosiahnutých vedomostí a spôsobilostí učiteľ i študenti považovali tento webový systém vzájomného hodnotenia za užitočný a efektívny pri dosahovaní cieľov predmetu.



Obr. 1. Aropä - výber inštitúcie (hore) a základné informácie (dole) zo dňa 18.6.2023

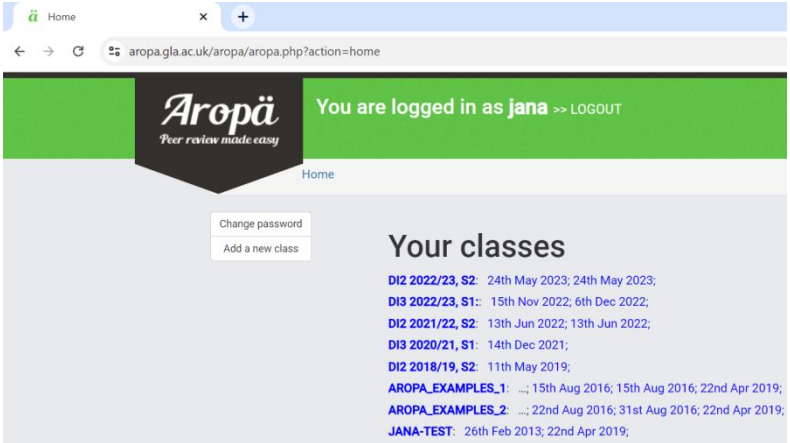
Jedna z autoriek tohto príspevku prvýkrát použila elektronický systém rovesníckeho hodnotenia Aropä v akademickom roku 2016/2017 (Jacko, Jacková, 2017) na Univerzite Mateja Bela v Banskej Bystrici v 2 predmetoch bakalárskeho študijného programu Aplikovaná informatika Semestrálny projekt 2 (zimný semester, 2. ročník) a Semestrálny projekt 1 (letný semester, 1. ročník) a v 1 predmete magisterského študijného programu Učiteľstvo informatiky Didaktika informatiky 2 (letný semester, 1. ročník). Na Katolíckej univerzite v Ružomberku (obr. 1, tretí rad s logami aktívnych inštitúcií v období 18.6.2023) využívame systém Aropä na Pedagogickej fakulte od akademického roku 2018/19 doteraz v 2 predmetoch magisterského študijného programu Učiteľstvo informatiky i programu celoživotného vzdelávania rozširujúce štúdium učitelstva informatiky: Didaktika informatiky 2 (letný semester, 1. ročník) a Didaktika informatiky 3 (zimný semester, 2. ročník).

3 PRÁCA V SYSTÉME AROPÄ NA KATOLÍCKEJ UNIVERZITE V RUŽOMBERKU

V rokoch 2019 až 2023 sme na našej univerzite využili systém Aropä vo vyššie uvedených predmetoch v rámci aktivít poskytovania rovesníckej spätnej väzby podľa tab. 1 a obr. 2.

Tab. 1. Prehľad aktivít v systéme Aropä vo vyučovacích predmetoch KU v Ružomberku a počte vložených príspevkov (P) a recenzií (R) (zdroj: vlastné spracovanie)

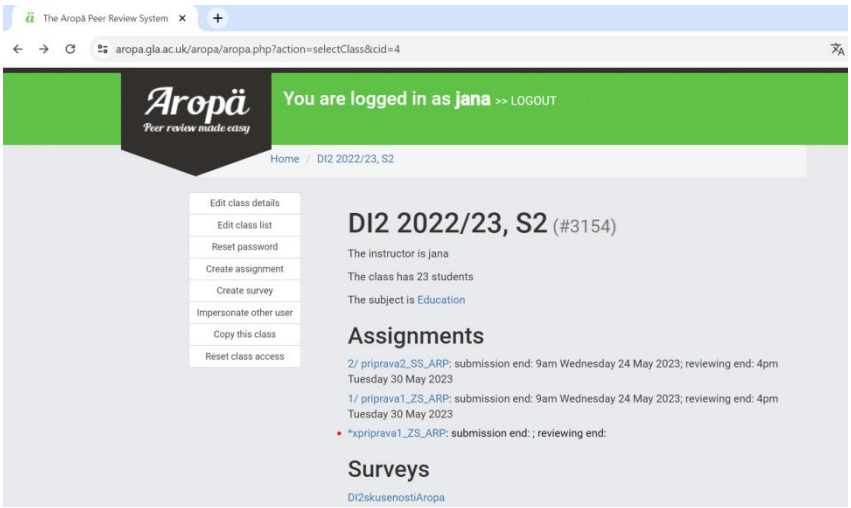
	skupina 1 2019 37 študentov	**skupina 2** 2021 38 študentov	**skupina 3** 2022 – 2023 44 študentov	**skupina 4** 2023 – 2024 23 študentov	***SPOLU*** *2019 – 2023* *142 študentov*
Didaktika informatiky 2	**DI2 2018/19, S2** 10.-14.5.2019 aktivita1		**DI2 2021/22, S2** 10.-20.6.2022 priprava1_ZS_ARP	**DI2 2022/23, S2** 21.-30.5.2023 priprava1_ZS_ARP	
P	**37**		**44**	**23**	*104*
R	**72**		**83**	**46**	*201*
			priprava2_SS_ARP	priprava2_SS_ARP	
P			**44**	**23**	*67*
R			**84**	**46**	*130*
spolu P	*37*		*88*	*46*	***171***
R	*72*		*167*	*92*	***331***
Didaktika informatiky 3		**DI3 2020/21, S1** DT_feedback 11.-22.12.2021	**DI3 2022/23, S1** DT_feedback_november2022 7.-21.11.2022		
P		**38**	**44**		*82*
R		**110**	**132**		*242*
			vystupy projektu 6.-12.12.2022 ***link na projekt 44 študentom***		
P					
R			**41**		*41*
spolu P		*38*	*44*		***82***
R		*110*	*173*		***283***
C E L K O M				***P***	***253***
				R	***614***
prieskum skúseností 6.-12.6.2023			**DI3 2022/23, S1** skusenostiAropa *(po ukončení štúdia súhrnne za* ***DI2 2021/22, S2*** *a* ***DI3 2022/23, S1****)*	**DI2 2022/23, S2** DI2skusenostiAropa	
odovzdalo			**8**	**23**	***31***



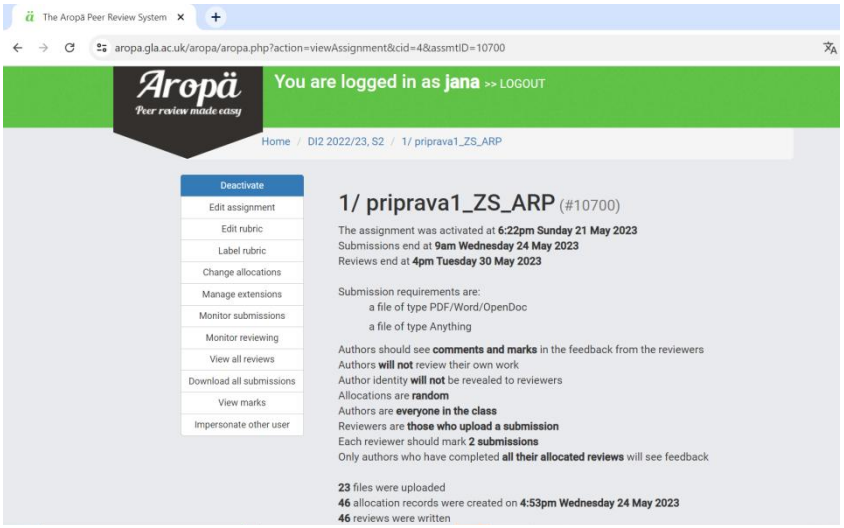
Obr. 2. Prehľad tried v systéme Aropä v rámci KU v Ružomberku 2019 – 2023

Na obr. 3 a obr. 4 uvádzame ako ukážku práce v systéme Aropä prehľad aktivít skupiny 4 podľa tab. 1, tak ako ich vidí učiteľ. V ľavej časti vidieť možnosti učiteľa v rámci nastavovania systému pre jednotlivé aktivity. Na obr. 4 vidíme, že učiteľ sa môže pozrieť, čo vidí pri prihlásení konkrétny študent potvrdením poslednej možnosti „Impersonate other user“

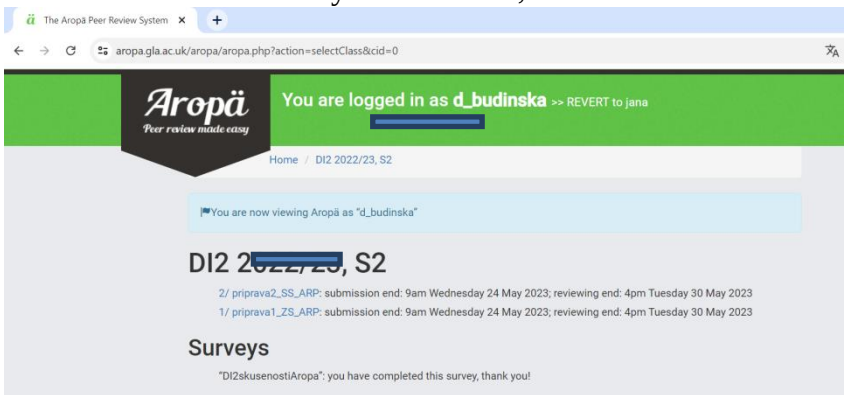
z ponuky vľavo. Na obr. 5 vidíme obrazovku konkrétneho študenta, keď učiteľ využije túto možnosť.



Obr. 3. Prehľad aktivít v systéme Aropä v rámci predmetu Didaktika informatiky 2 v triede DI2 2022/23, S2



Obr. 4. Prehľad informácií o nastavení aktivity priprava1_ZS_ARP v systéme Aropä v rámci triedy DI2 2022/23, S2



Obr. 5. Prehľad aktivít pre konkrétneho študenta v systéme Aropä v rámci triedy DI2 2022/23, S2

V rámci predmetu Didaktika informatiky 2 si študenti vzájomne komentovali svoje vypracované prípravy na vyučovaciu hodinu z tematickej oblasti Algoritmické riešenie

problémov (podľa tab. 1: v r. 2019 aktivita1 v skupine 1, aktivity priprava1_ZS_ARP a priprava2_SS_ARP v skupine 3 v r. 2022 a v skupine 4 v r. 2023). Každý študent mal v systéme Aropä vypracovať v rámci danej aktivity recenzie k 2 prípravám – príspevkom iných študentov náhodne pridelených systémom. Štruktúru recenzie, spôsob prideľovania príspevkov na recenzovanie a ich počet i prípadné anonymizovanie autorov a/alebo recenzentov vopred nastavil učiteľ. Po ukončení procesu komentovania si každý študent našiel v systéme v rámci danej aktivity 2 recenzie na svoj príspevok od 2 spolužiakov, ich identita bola pre autora príspevku anonymná. V tab. 2 vidíme ukážku štruktúry recenzie s komentármi od spolužiakov na prípravu jedného autora k aktivite *priprava1_ZS_ARP*. Podľa tab. 1 celkovo za všetky skupiny v predmete Didaktika informatiky 2 v priebehu rokov 2019 - 2023 študenti do systému vložili 171 svojich príspevkov (príprav na vyučovaciu hodinu) a odovzdali 331 recenzií.

Tab. 2: Štruktúra recenzie k aktivite *priprava1_ZS_ARP* a ukážka komentovania konkrétnej prípravy dvoma recenzentmi v systéme Aropä.

Recenzent 1	*Recenzent 2*
METODICKY MATERIAL priprava1_ZS_ARP ODOVZDANY PODLA POKYNOV: 2 *CELKOVA KVALITA METODICKEHO MATERIALU (vyber 1-10)*: 8 *SILNE STRANKY:* Pacila sa mi aktivita, pri ktorej ucitel ziakov rozdeli do skupin (timov) a ucitel postupne vybera karty. Ziakov tato aktivita motivuje k novemu ucivu. *ODPORUCANIA NA UPRAVU:* Chybny nazov tematickeho celku - spravne by mal byt podla uvedenej strany - Algoritmicke riesenie problemu - analyza problemu aj rocnik nesedi mal by byt 6 rocnik. Zla formulacia afektivneho ciela. Do citovanych zdrojov by som este pridala link. V prilohe sa nejde prehrat prvy subor - Myslim si cislo. *KVALITA v % jednym cislom (0 - 100):* 75 *ODKAZ autorovi:* Navrhla by som podrobnejsie rozpisat pripravu, aby bola pre ucitela zrozumitelnejsia.	*METODICKY MATERIAL priprava1_ZS_ARP ODOVZDANY PODLA POKYNOV*: 2 *CELKOVA KVALITA METODICKEHO MATERIALU (vyber 1-10)*: 9 *SILNE STRANKY:* Paci sa mi uvodna aktivita, kde velmi jednoducho vysvetli co znamena podmienka IF (ak). Myslim ze pomocou tejto aktivity, to ziaci pochopia a su pripraveni na dalsiu pracu v programe scratch. Dalej sa mi paci, ze pre samotnu pracu ma nachystany vzorovy scratch, cez ktory ziakom vysvetli co a ako. *ODPORUCANIA NA UPRAVU:* Ak chceme aby ziaci pracovali v nejakom predpripravenom scratchi je potrebne ich upozornit, nech si najprv vytvoria vlastne kopie suboru, aby ten povodny neprepisali . *KVALITA v % jednym cislom (0 - 100):* 85

V skupine 3 (DI2 2021/22, S2) učiteľ po porade so študentmi denného štúdia nastavil neanonymné vkladanie príspevkov (príprav na vyučovanie) a anonymné komentovanie. Skupinu 3 tvorili v systéme Aropä študenti denného štúdia i študenti rozširujúceho štúdia (väčšinou učitelia z praxe) rovnakého predmetu Didaktika informatiky 2, avšak vyučovaného oddelene. Po ukončení procesu komentovania učiteľ v diskusii so študentmi zistil, že niektorí študenti denného štúdia neboli celkom stotožnení s niektorými recenziami na svoje prípravy – čiastočne to pripisovali aj faktu, že recenzenti poznali autora príspevku, ktorý komentovali. Preto sa učiteľ rozhodol v ďalších aktivitách podobného charakteru nastavovať anonymizovanie autorov príspevkov pre recenzentov. Toto nastavenie bolo zohľadnené v akademickom roku 2022/23 v skupine 4 v predmete Didaktika informatiky 2 (DI2 2022/23, S2) i v skupine 3 v aktivitách v rámci predmetu Didaktika informatiky 3 (DI3 2022/23, S1).
V rámci predmetu Didaktika informatiky 3 si študenti vzájomne komentovali vypracované didaktické testy, v r. 2021 aktivita DT_feedback v skupine 2, v r. 2022 aktivita DT_feedback_november2022 v skupine 3. Skupina 3 absolvovala decembri 2023 ešte iný typ

aktivity – potrebovali sme od študentov získať spätnú väzbu k výstupným materiálom projektu „Algoritmické myslenie v predmete Informatika v sekundárnom vzdelávaní“ (Škrinárová et al. 2023), všetci študenti si v systéme Aropä našli rovnaký príspevok, ku ktorému mali poskytnúť spätnu väzbu – bol v ňom iba link na projekt https://lms.umb.sk/course/view.php?id=3839, ktorého výstupné materiály si mali preštudovať. V júni 2023 sme uskutočnili anonymný prieskum skúseností s aktivitami v systéme Aropä v skupine 3 (tab. 1 dole) a v skupine 4 (tab. 1 dole, obr. 3 *Surveys*), formou štruktúrovaného dotazníka priamo v systéme Aropä v triedach DI3 2022/23, S1 (skusenostiAropa, *po ukončení štúdia súhrnne za DI2 2021/22, S2 a DI3 2022/23, S1*) a DI2 2022/23, S2 **(**DI2skusenostiAropa). Skupinu 3 tvorili v júni 2023 už väčšinou absolventi štúdia, čo sa prejavilo aj na nižšom počte vyplnených dotazníkov (vyplnilo 18 % potencionálnych respondentov). Zo skupiny 4 vyplnilo dotazníky 100% študentov.

3.1 Peer review a systém Aropä vo vyučovaní na stredných školách

Predmet Didaktika informatiky študujú na našej univerzite budúci učitelia informatiky, ktorí sa pripravujú na pôsobenie na 2. stupni základných škôl a na stredných školách. Za účelom oboznámiť našich študentov s učiteľskou informatickou komunitou a s aktuálnym dianím súvisiacim s vyučovaním informatiky už počas štúdia, robievame pravidelne exkurzie na medzinárodnú konferenciu o vyučovaní informatiky DidInfo http://didinfo.net/ do Banskej Bystrice a priebežne pracujeme so zborníkmi konferencie dostupnými na http://didinfo.net/predchozi-rocniky . Na konferenciách DidInfo 2018 a 2019 informovali Csicsolová a Kubincová (2018, 2019) z Fakulty matematiky, fyziky a informatiky Univerzity Komenského v Bratislave ako použili aktivity typu peer review v predmete informatika na strednej škole. Manažment a prideľovanie príspevkov na rovesnícku spätnú väzbu robil učiteľ „manuálne“, na komunikáciu so študentami využíval elektronickú poštu. Keďže *„nemali k dispozícii žiadny nástroj na distribuovanie programov a recenzovanie programového kódu, ktorý by bol vhodný pre použitie na strednej škole, žiaci odovzdávali svoje projekty prostredníctvom e-mailu učiteľke. Táto pridelila projekty iným žiakom na recenzovanie tak, aby autor a recenzent nepatrili do tej istej skupiny. Týmto ... sa snažili zabezpečiť anonymitu pri komentovaní projektu – autor projektu nevedel, kto recenzuje jeho program a recenzent nevedel, čí program recenzuje.“* (Csicsolová, Kubincová, 2019, s. 42)

Kubincová a Kolčák (2021) zisťovali, či je možné techniky tímového hodnotenia a sebahodnotenia využiť vo výučbe programovania na strednej škole a ako ich nastaviť tak, aby prinášali čo najväčší úžitok študentom a učiteľom. Marušák (2022) porovnal viaceré nástroje na recenzovanie programového kódu využívaných v komerčnom aj v školskom prostredí a na základe zistených informácií navrhol vhodné rozhranie pre recenzovanie kódu v existujúcom virtuálnom výučbovom prostredí courses.matfyz.sk. Kolčák (2022) uvádza, že na procesy súvisiace s prípravou rovesníckeho hodnotenia programátorských projektov a samotným hodnotením používali v informatických predmetoch na strednej odbornej škole spočiatku elektronickú poštu, neskôr platformy EduPage a courses.matfyz.sk.

Na našej fakulte sme mali ambíciu overiť použiteľnosť systému Aropä, ktorý funguje zatiaľ iba v angličtine, aj v stredoškolskom vzdelávaní. V rámci záverečnej práce rozširujúceho štúdia informatiky Gočálová (2023) overovala využitie systému Aropä v 1. ročníku strednej odbornej školy, v predmete informatika pri tvorbe projektov typu webová stránka na tému študovaného študijného odboru. Ciel'om bolo umožniť študentom na základe získanej rovesníckej spätnej väzby ešte vylepšiť vytvorené webové stránky. Táto práca je použitel'ná aj ako ako návod pre učitel'ov na vytvorenie a prácu so systémom Aropä, ktorý zatial' nemá svoju podobu v slovenskom a ani v českom jazyku. Autorka zistila, že systém Aropä je možné i vhodné používat' vo vyučovaní informatiky na strednej škole. Zároveň na základe

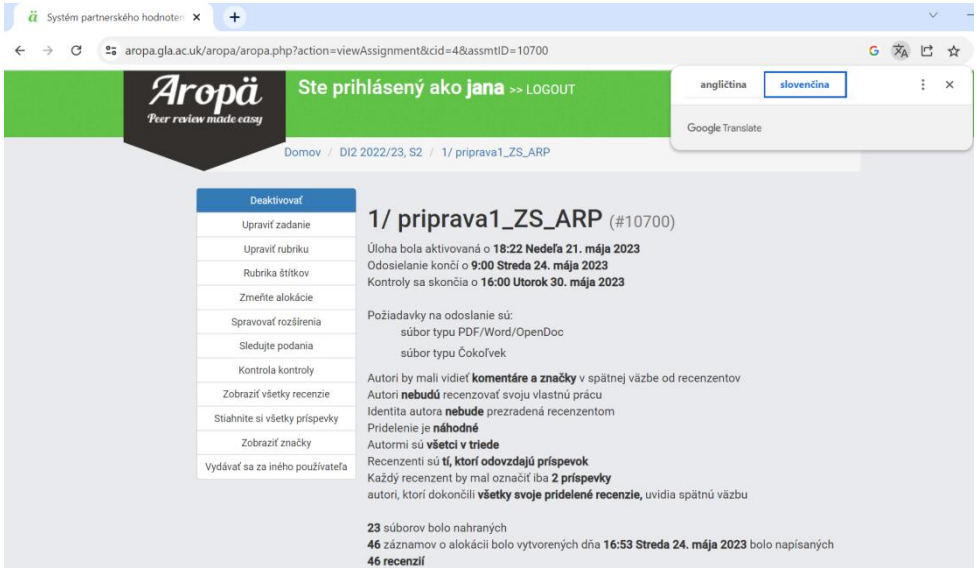
získaných skúseností pri práci s nímo konštatuje, že ho môžu využívať aj učitelia iných predmetov a aj triedni učitelia.

4 DISKUSIA K VÝSLEDKOM

Na Katedre informatiky Pedagogickej fakulty Katolíckej univerzity v Ružomberku v študijnom programe učiteľstvo informatiky zaraďujeme formatívne hodnotenie formou rovesníckej spätnej väzby do výučby niektorých predmetov pravidelne. Podľa aktuálnej situácie v konkrétnom predmete využívame rôzne formy vzájomného komentovania, z ktorých sú najčastejšie tieto:

- priamo na vyučovacej hodine bez použitia elektronických prostriedkov na spätnú väzbu, napr. v predmetoch Detské programovacie jazyky a Pedagogický softvér takým spôsobom, že v počítačovej učebni každý študent pripraví svoju úlohu/produkt (obvykle počítačový program) na svoj počítač, učiteľ zanechá zvolený počet vytlačených štruktúrovaných formulárov pre spätnú väzbu pri každom počítači a študenti odporučeným spôsobom prichádzajú k počítačom spolužiakov a zanechajú vo formulári svoje komentáre. Po ukončení aktivity má každý študent pri svojom počítači obvykle 2 – 4 vyplnených formulárov spätnej väzby ku svojmu produktu. Na základe tejto spätnej väzby má každý študent možnosť zvážiť úpravu svojho produktu ešte pred konečným odovzdaním učiteľovi k sumatívnemu hodnoteniu.
- v niektorých predmetoch, v ktorých si povaha produktu študenta vyžaduje viac času na prezentáciu (napr. v predmete didaktika informatiky študenti o. i. vypracovávajú ukážkové prípravy na vyučovanie, ktoré si odskúšajú formou mikrovýstupov pred spolužiakmi; pri veľkých skupinách alebo pri obmedzenej časovej dotácii predmetu sa všetky mikrovýstupy nedajú realizovať priamo na vyučovacej hodine) alebo na samotnú štruktúrovanú spätnú väzbu priamo na vyučovacej hodine, je vhodné využiť niektorý z dostupných elektronických automatizovaných prostriedkov na spätnú väzbu. My sme si po predchádzajúcich skúsenostiach s inými prostriedkami vybrali prostredie Aropä najmä pre jednoduchosť rozhrania a dostupnosť všetkých dát aj viac rokov po ukončení aktivít i odchode študentov po absolvovaní štúdia (skupiny 1, 2 a 3 v tab. 1 sú už momentálne absolventi). Malou nevýhodou pre niektorých používateľov môže byť iba anglická jazyková mutácia, ktorá sa ale v súčasnosti dá jednoduchšie ako v minulosti prekonať formou prekladu webovej stránky priamo online pomocou príslušného tlačidla v prehliadači. Na obr. 6 je ukážka automaticky preloženej stránky z obr. 4. Taktiež je trochu obmedzujúce odporúčanie nepoužívať pri práci priamo v systéme diakritiku (najmä v prípade hlások *č, ď, ť, ý, ž*), čo ale podľa nášho názoru vyváži získané benefity pre učiteľa i študenta s používania stránky, ktoré zhrnuli autori systému Purchase, Hamer (2018a). Podľa textov v tab. 2 usudzujeme, že učiteľovi (položky recenzie) ani študentom (odpovede na položky recenzie) obvykle toto obmedzenie nerobí väčší problém.

Purchase a Hamer (2018a) zhrnuli v prílohe svojho článku 81 funkcií vzájomného hodnotenia, ktoré považujú za dôležité učitelia a študenti. Tieto funkcie autori roztriedili podľa oblastí, ktoré podporujú: Pedagogiku (22 funkcií): Kvantitatívna spätná väzba (6), absolventské vlastnosti (10), inovácie (1), plagiátorstvo (1), „správna“ spätná väzba (4). Operatívu/prevádzku (33 funkcií): flexibilný návrh hodnotenia (16), monitorovanie (6), podpora dobrého správania študentov (4), férovosť voči študentom (7). Administráciu/správu (26 funkcií): zníženie úsilia (14), jednoduchá administrácia (6), vysoká využiteľnosť (6).



Obr. 6: Prehľad informácií o nastavení aktivity priprava1_ZS_ARP v systéme Aropä v rámci triedy DI2 2022/23, S2 s využitím automatizovaného prekladu stránky (preložený Obr. 4)

Podľa výsledkov nášho prieskumu skúseností študentov s rovesníckou spätnou väzbou a používaním systému Aropä v skupine 3 a skupine 4 (podľa tab. 1), usudzujeme prevažujúcu spokojnosť študentov s týmito aktivitami. Pri analýze voľných odpovedí respondentov na položky 10 (*Aký ste mali pocit z toho, ze ste hodnotili prácu iných študentov a oni hodnotili vašu prácu?*) a 11 (*Ak máte ďalšie postrehy alebo pripomienky, ktoré by ste chceli uviesť, prípadne ak chcete ešte slovne doplniť niektoré z otázok 1 - 9 alebo zanechať nejaký odkaz, využite tento priestor*) dotazníka sme zistili väčšinou pozitívne ohlasy. Tu uvedieme iba výhrady k práci so systémo Aropä:

V skupine 3 (8 študentov) sme zaznamenali konštruktívnu pripomienku 1 respondenta pri položke 11 súvisiacu s uvedomením si potreby následnej kontroly odovzdaných recenzií učiteľom: *„Istym sposobom kontrolovat hodnotenia studentov, pretoze v niektorych pripadoch mne osobne nebolo vytknute skoro nic pri mojich projektoch a nasledne v percentualnom hodnoteni mi boli odcitane iste percenta. V pripade ak niekto s nejakym zamerom ubera body, tak nech aj specifikuje preco tieto body odcitava.“* Tomuto javu môže učiteľ zamedziť jasnejšími pokynmi k vypracovaniu recenzií a požadovať, aby pridelené bodové hodnotenie korešpondovalo so slovným hodnotením v jednotlivých rubrikách spätnoväzobného formulára. Ako vidíme v tab. 2 s ukážkami 2 recenzií na príspevok jednému autorovi príspevku, recenzenti pridelili body za príspevok v súlade so svojimi komentármi v častiach *silné stránky* a *odporúčania na úpravu*. Aby učiteľ zamedzil pri vypĺňaní formulárov náhodným omylom v pridelených bodoch /v časti CELKOVA *KVALITA METODICKEHO MATERIALU (vyber 1-10):* recenzent vyberá 1 číslo z ponuky/, používame jednu kontrolnú položku /*KVALITA v % jednym cislom (0 - 100): .../*, v ktorej recenzent vypíše číslo, na koľko percent hodnotí kvalitu príspevku.

Učiteľ má samozrejme možnosť aj hodnotiť prácu samotných recenzentov – systém Aropä túto funkcionalitu podporuje. Ak by aj učiteľ túto možnosť systému explicitne nevyužil (explicitné hodnotenie recenzií), odporúčame, aby po ukončení aktivity recenzovania urobil so študentami krátku diskusiu k prebehnutej aktivite, prípadne nechal im priestor na osobnú konzultáciu s ním. Na predmetoch Didaktika informatiky 2 a Didaktika informatiky 3 si učiteľ po skončení procesu recenzovania doteraz väčšinou vizuálne prezrel všetky recenzie a v prípade zistenia anomálií alebo nekvalitných recenzií riešil túto vec individuálne s konkrétnymi recenzentmi. Kvôli zníženiu časovej záťaže učiteľa by možno stačilo pripraviť priamo v systéme krátky dotazník spokojnosti dostupný autorom príspevkov hneď po

ukončení recenzovania, v ktorom by sa mohli vyjadriť k recenziám svojho príspevku – či boli spokojní s pridelenými bodmi a či pridelené body korešpondujú so slovnými vyjadreniami recenzenta.
V skupine 4 (23 študentov), ktorá pracovala so systémom Aropä prvý raz v máji t. r., sme pri položke 10 (*Aký ste mali pocit z toho, že ste hodnotili prácu iných študentov a oni hodnotili vašu prácu?*) zaznamenali niekoľko vyjadrení, ktoré by sme mohli zhrnúť ako zmiešané pocity. Napr. *„Nebol to velmi prijemny pocit, lebo sme si vsetci blizky a napisat kritiku nie je velmi prijemne. Ale na druhej strane nas v konecnom dosledku kritika posuva vpred a ukazuje nam co mozeme vylepsit.“* Z tohto vyjadrenia vyplýva, aké je dôležité, najmä pri prvom zaradení takejto aktivity do výučby, aby učiteľ študentom dobre objasnil cieľ tejto aktivity, jej zmysel a možné dopady. Pri položke 11 (*Ak máte dalšie postrehy alebo pripomienky, ktoré by ste chceli uviest, prípadne ak chcete ešte slovne doplnit niektoré z otázok 1 - 9 alebo zanechat nejaky odkaz, vyuzite tento priestor*.) sme zaznamenali jednu pripomienku k práci so systémom: *„System bol trosku neprehladny, viackrat som sa preklikla k vlastnej praci, namiesto prace kolegov.“* Tomuto javu môže učiteľ zamedziť napr. krátkym cvičením s jednoduchým zadaním na otestovanie systému so študentami priamo v škole. Vzhľadom na obmedzené časové možnosti sme takúto aktivitu v škole doteraz nerobili so žiadnou zo skupín 1 až 4 (tab. 1), študenti pracovali so systémom iba individuálne mimo školy, v prípade potreby mali k dispozícii možnosť individuálnej konzultácie s učiteľom a podpory formou elektronických správ. Podľa tab. 1 aktivity v systéme Aropä doteraz absolvovalo spolu 142 študentov magisterského a rozširujúceho štúdia učiteľstva informatiky. V každej skupine sa iba v niekoľkých prípadoch (1 – 3) vyskytla potreba krátkej pomoci iba s prihlásením do systému súvisiacej s menom a heslom študenta.
Na Slovensku patrí informatika podľa § 12 Vyhlášky č. 318 (Ministerstvo školstva Slovenskej republiky, 2008) do skupiny prírodovedných predmetov, spolu s biológiou, fyzikou, chémiou a matematikou. Na základe skúseností Gočálovej (2023) vo vyučovaní informatiky na strednej odbornej škole, v ďalšom období plánujeme využívať tento systém aj v príprave budúcich učiteľov chémie a matematiky. Predpokladáme, že viacerí z nich, keď sa so systémom oboznámia v role študenta, budú mať záujem využívať systém Aropä aj vo svojej výučbe na stredných školách. Tento predpoklad potvrdzuje analýza odpovedí z nášho prieskumu na položku č. 9 (*Systém Aropä by som rád/rada použil/-a aj vo svojej vlastnej výučbe*). Zo skupiny 3 (absolventi štúdia v r. 2023) by využilo systém Aropä vo svojej vlastnej výučbe 62% respondentov a zo skupiny 4 (systém použili ako študenti prvý raz v máji 2023) 77 % respondentov.

5 ZÁVER

Podľa Jackovej (2020) môže učiteľ využívať systém Aropä aj z dôvodu jeho záujmu o zvyšovanie didaktickej efektívnosti svojej výučby. Ako sme uviedli vyššie, na Katolíckej univerzite v Ružomberku sme systém Aropä zatiaľ používali v niekoľkých predmetoch informatického zamerania. Rovesnícku spätnú väzbu bez využitia systému Aropä využívame aj v iných predmetoch, napr. Detské programovacie jazyky, Pedagogický softvér. V najbližšom období plánujeme zistiť názor študentov na používanie aktivít rovesníckej spätnej väzby „s použitím systému Aropä“ a „bez použitia elektronických prostriedkov“. Na základe skúseností so systémom Aropä opísaných vyššie vidíme viacero prínosov jeho využitia pri rovesníckej spätnej väzbe ako pre učiteľa, tak i pre študenta. Z nich pripomenieme aspoň niektoré z tých, ktoré sme si uvedomili pri práci so skupinami 1 až 4 podľa tab. 1.
Prínosy pre učiteľa:

- Časová efektívnosť – keď nie sú časové možnosti frontálne odprezentovať produkty práce všetkých študentov,

- kvalitnejšie výstupy výučby – keď chce docieliť kvalitnejšie výsledné produkty práce študentov (po ukončení aktivity peer review im umožní ešte upraviť si svoje produkty, pred finálnym odovzdaním učiteľovi na sumatívne hodnotenie),
- jeho vyššia spokojnosť s prácou so študentmi – keď chce zvýšiť motiváciu študentov v danej oblasti a zlepšiť pracovnú klímu; zistili sme, že pri využívaní aktivít tohto typu majú niektorí študenti väčší rešpekt práve pred názorom spolužiakov a ak im aktivitu tohto typu učiteľ vopred ohlási, tak obvykle zodpovednejšie pristupujú k vypracovaniu zadania / tvorbe svojho produktu už v prvom kole (viac sa snažia, keď vopred vedia, že produkt im budú komentovať aj spolužiaci).

Prínosy pre študenta:

- získa viac pohľadov na svoj produkt (nielen od učiteľa, ale aj od niekoľkých spolužiakov);
- rozvoj kritického myslenia, zvyšovanie zodpovednosti za produkty svojej práce, prínos v oblasti rozvíjania mäkkých zručností.

Poďakovanie

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POSTOJ UČITELŮ K INKLUZIVNÍ PRAXI

TEACHERS' ATTITUDE TOWARDS INCLUSIVE PRACTICE

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Abstrakt

Příspěvek analyzuje souvislost mezi způsobem řešení šesti pedagogických situací učiteli a jejich prezentovaným názorem na vlastní míru proinkluzivity. Komentuje výsledky šetření z počátku roku 2023 na výzkumném vzorku 107 učitelů druhého stupně základních škol. V něm je sledována připravenost učitelů hledat cesty k implementaci inkluzivních postupů. Pomocí modelových pedagogických situací kategorizuje příklon učitelů k nabídnutým řešením, které mají buď proinkluzivní, neutrální či prosegregační charakter. Následně ověřuje souvislost mezi výše uvedeným příklonem učitelů a stanovenými nezávisle proměnnými pomocí čtyř hypotéz.

Klíčová slova: *sumativní postoj k inkluzi, proinkluzivní - neutrální - prosegregační postoj, řešení didaktických situací, proinkluzivní kompetence učitelů*

Abstract

The paper analyses the connection between the method of solving six pedagogical situations by teachers and their presented opinion on their own level of pro-inclusivity. It comments on the results of the survey from the beginning of 2023 on a research sample of 107 teachers of the second grade of primary schools. In this sample it monitors the teachers' readiness to find ways leading to implementation of inclusive procedures. Using model pedagogical situations, it categorizes the inclination of teachers towards the offered solutions, which are either pro-inclusion, neutral or pro-segregation in nature. Subsequently, it verifies the connection between the above-mentioned inclination of teachers and the established independent variables using four hypotheses.

Key words: *summative attitude towards inclusion, pro-inclusion - neutral - pro-segregation attitude, solution of didactic situations, teachers´ pro-inclusion competence*

1 UVEDENÍ DO PROBLEMATIKY

V souvislosti s postoji učitelů k žákům v rámci inkluzivní praxe lze považovat didaktické kompetence za nejvyšší prioritu (Zilcher & Svoboda, 2019; Zilcher, Chytrý & Lanková, 2019). Díky nim učitel může adekvátně nastavovat různé výukové metody a formy uspořádání výuky tak, že dokáže zapojit všechny žáky. Výuka vhodně uchopená učitelem žáky baví a podněcuje je k maximálnímu využívání jejich vzdělávacího potenciálu (Hájková & Strnadová, 2010). Základní přístupy a postoje škol v sobě odrážejí převažující přístupy a postoje učitelů, které Hájková a Strnadová strukturují do tří úrovní (in Květoňová & Prouzová, 2010): „instrumentální“ spočívající v pasivním podřízení se inkluzivnímu trendu, aniž by došlo k ztotožnění (učitelé se snaží vyhovět požadavkům systému a formálně přijímají předepsané směrnice); „existenciální“ spočívající v aktivním konání ve prospěch rozvoje každého žáka dle jeho dispozic (učitelé projevují vůli se podílet na zavádění inovací a hledají cesty praktické realizace); „militantní“ spočívající v konzervování didakticky neefektivních stereotypů a omezených zájmů (učitelé neprojevují ani ochotu ani vůli pracovat s minoritními žáky, odmítají reflektovat dosavadní segregační postupy).

Uvedená strukturace vypovídá o nepřijetí inkluzivních principů v celoplošném záběru povinného vzdělávání v ČR. Lze tudíž hovořit jen o dílčím naplnění paradigmatu „školy pro všechny“ (Lechta, 2010), který vyžaduje přijetí heterogenity žáků všemi učiteli. Svoji roli sehrávají i nevhodně zvolené vzdělávací programy, nastavení podmínek a výkonových kritérií, která nekorespondují se specifickými potřebami a zájmy žáků a opomíjení rozvoj jejich soft skills (Mittler, 2016). Pokud tedy dochází ve vzdělávání k selhání žáka, je zapotřebí hledat vinu prioritně na straně systému a v něm působících aktérů a nikoli na straně žáka (Bartoňová & Vítková, 2013). Klíčovou roli přitom má bezesporu učitel, který může realizovat výuku diferencovanou, individualizovanou a podporující (Čapek, 2019) nebo pouze výuku frontální (Maňák & Švec, 2003). Stejně tak může učitel hodnotit suportivně (Čapek, 2022) nebo normativně (Slavík, 1999). Dopad na žáka je u uvedených přístupů diametrálně odlišný. Předložený příspěvek zkoumá souvislosti mezi postoji učitelů v pedagogických situacích a vybranými nezávisle proměnnými.

2 VÝZKUMNÝ DESIGN

Cílem šetření bylo zjistit, jaké jsou projevy a postoje učitelů k inkluzivnímu vzdělávání. Byla řešena základní výzkumná otázka: Jaká je souvislost mezi situačními projevy učitelů a jimi proklamovaným postojem k inkluzi? Výzkumné šetření bylo realizováno na vzorku 107 učitelů druhého stupně na pěti základních školách ve Středočeském kraji prostřednictvím on-line dotazníku. Nestandardizovaný dotazník se skládal ze tří částí a celkem obsahoval 16 položek. První část byla všeobecně faktografická, druhá zahrnovala sérii šesti tvrzení, která cílila na postoje učitelů vůči jinakým žákům. Míra souhlasu respondentů s danými tvrzeními byla kvantifikována za použití Likertovy škály (1 – rozhodně souhlasím, 2 – spíše souhlasím, 3 – spíše nesouhlasím, 4 – rozhodně nesouhlasím). Čím byla hodnota nižší, tím proinkluzivnější postoj učitelé vyjadřovali. Na základě zjištěných hodnot výroků byla spočítána úroveň Cronbachovy alphy k ověření možnosti sloučit je do jediné proměnné, tzv. “sumativního postoje k inkluzi“.

Ve třetí části dotazníku bylo uvedeno šest pedagogických situací, každá s šesti různými scénáři možných reakcí, z nichž učitelé volili ty, ke kterým v praxi inklinují. Pro potřeby vyhodnocení bylo řešení formou různých scénářů rozděleno do tří kategorií podle vykázané míry inkluzivity:

1. Proinkluzivní řešení – učitelé, patřící do této kategorie, mají přehled o různých výukových metodách, které odpovídají charakteru inkluze, adekvátně diferencují a individualizují výuku a v maximální míře rozvíjejí vzdělávací potenciál žáků, jak uvádějí např. Pančoha a Vaďurová (in Bartoňová & Vítková, 2010). Dávají přednost výukovým metodám, založeným na vzájemném učení, kooperaci a aktivizaci, kde se každý žák může specificky zapojit. Na každého jednotlivého žáka pohlížejí jako na jedinečnou osobnost, ke které hledají nejefektivnější přístup a nejúčinnější postoj.
2. Neutrální řešení – reakce zařazené v této kategorii vypovídají o pouze dílčích znalostech a dovednostech učitelů aplikovat inkluzivně vhodné výukové metody. Jejich volbu výrazně ovlivňuje to, jakým způsobem k fenoménu inkluze přistupují a do jaké míry jsou ochotni se přizpůsobovat individuálním potřebám jednotlivých žáků (Kratochvílová, Tannenergová & Kusá et al. 2015). Učitelé často volí pro sebe výukově snazší cesty k dosažení proklamovaných edukačních cílů.
3. Prosegregativní řešení – učitelé spatřují v inkluzi jen formální požadavek, zpravidla ho odmítají a obcházejí, dále setrvávají na pozici frontálního „předávání vědomostí“. Nejsou ochotni měnit sebe sama a přizpůsobit výuku potřebám žáků a naopak vyžadují, aby se žáci přizpůsobili jejich zavedenému pedagogickému stereotypu (Michalík, 2018). Žáci, kteří nepodávají požadovaný výkon, dle nich patří na jiný typ školy či do nižšího stupně

vzdělávání, výukové nedostatky zpravidla interpretují jako problémy žáků a jejich rodičů, kteří jsou pak nezřídka nuceni suplovat roli učitelů.

Souvislost mezi řešením takto strukturovaných pedagogických situací a sumativním postojem k inkluzi byla předmětem ověřování H1: Postoje učitelů v pedagogických situacích souvisí s jejich vyjádřeným sumativním postojem k inkluzi. Souběžně byly formulovány další tři hypotézy zkoumající souvislost věku, délky pedagogické praxe a odborného vzdělání s postoji učitelů vyjádřenými řešením šesti pedagogických situací:

H2: Mezi věkem učitele a sumativním postojem k inkluzi existuje souvislost.

H3: Mezi délkou učitelské praxe a sumativním postojem k inkluzi existuje souvislost.

H4: Sumativní postoj k inkluzi souvisí s odbornou zaměřeností absolvovaného vzdělání.

Všechny hypotézy byly verifikovány pomocí Kruskall–Wallisova testu a Spearmanova korelačního koeficientu na 5% hladině významnosti. Souběžně byly šetřeny základní ukazatelé popisné statistiky, tj. aritmetický průměr, modus, medián a směrodatná odchylka.

3 VÝSTUPY ŠETŘENÍ

Výsledná hodnota Cronbachovy alphy 0,803 ukázala na dobrou vnitřní konzistenci a reliabilitu dat získaných ze šesti výroků učitelů o jejich subjektivním postoji k inkluzi. Vypočtená hodnota potvrdila možnost spojení všech výroků do jediné proměnné, tzv. sumativního postoje učitelů k inkluzi. Tato proměnná vyjadřovala průměrné skóre hodnocení při zachovaném rozpětí hodnot 1–4 viz tabulka 1. Z ní je patrné, že prakticky polovina sledovaných respondentů vykázala víceméně proinkluzivní a polovina prosegregační sumativní postoj (medián 2,0 SD 0,5), přičemž někteří se výrazně přichylovali ke krajním hodnotám (minimum 1, maximum 3,7).

Tabulka 1: Sumativní postoj k inkluzi

Počet		107
Průměr		2,1
Medián		2,0
Minimum		1,0
Maximum		3,7
Směrodatná odchylka		0,5
Shapiro Wilkův test	Testové kritérium	0,946
	P-hodnota	<0,001*

*Pozn.: data pocházejí z jiného než normálního rozdělení na hladině významnosti α = 5 %.

Verifikace první hypotézy H1: Postoje učitelů v pedagogických situacích souvisí s jejich vyjádřeným sumativním postojem k inkluzi vyžadovala vyjádřit Cronbachovo alpha. Jeho hodnota 0,407 ukázala na nízkou konzistenci a nutnost vyhodnocovat každou pedagogickou situaci zvlášť – viz tabulka 2.

Tabulka 2: Spearmanovy korelační koeficienty pro šest situačních příběhů

Spearmanovy korelační koeficienty:		*P-hodnota*	N
1. situace: odmítnutí skupinové práce žákem	0,022	*0,825*	107
2. situace: nadaný žák „zlobí“	0,281	***0,003***	107
3. situace: uchopení projektového dne učitelem	0,127	*0,191*	107
4. situace: diferencovaný přístup učitele k neúspěšným a úspěšným žákům	0,052	*0,596*	107

5. situace: izolace dvou nových žáků v třídním kolektivu	0,209	***0,031***	106
6. situace: žákem odmítnutá práce ve dvojici	0,111	*0,254*	107

Z tabulky je patrné, že pouze v případě pedagogické situace č. 2 a č. 5 byla prokázána mezi situačními projevy učitelů a jejich proklamovaným sumativním postojem k inkluzi statisticky významná souvislost. V obou případech se jedná o kladný lineární vztah. Znamená to, že s rostoucí negativitou vůči inkluzi učitelé volí častěji prosegregační přístup.V ostatních situacích (1, 3, 4 a 6) nebyla prokázána mezi řešením formou příklonu k určitému scénáři a sumativním postojem učitele k inkluzi statisticky významná souvislost. Z toho lze dedukovat, že učitelé sledovaného vzorku při vyjadřování subjektivního postoje k inkluzi prezentovali své mínění v uvedených šesti tvrzeních odlišně, než následně reagovali v pedagogických situacích příklonem k danému scénáři. Jinými slovy, prezentovali svůj sumativní postoj k inkluzi v lepším světle, než následně řešili v edukačních situacích.
Verifikace druhé hypotézy H2: Mezi věkem učitele a sumativním postojem k inkluzi existuje statisticky významná souvislost si vyžádala použít neparametrickou analýzu rozptylu pomocí Kruskall Wallisova testu. Na základě provedeného testu (G/3=4,248; *p-hodnota=0,236*), nebylo možné hypotézu potvrdit. Ani v případě Spearmanova korelačního koeficientu (R=-0,102; *p-hodnota = 0,296*) nebyla souvislost mezi věkem respondentů a jejich sumativním postojem k inkluzi prokázána – viz tabulka 3.

Tabulka 3: Subjektivní postoj k inkluzi dle věku

Subjektivní postoj k inkluzi		Věk respondentů				
		do 30 let	31–40 let	41–50 let	nad 50 let	Celkem
Počet		29	25	27	26	107
Průměr		2,1	2,3	2,1	1,9	2,1
Medián		**1,8**	**2,2**	**2,0**	**2,0**	**2,0**
Minimum		1,0	1,5	1,3	1,0	1,0
Maximum		3,2	3,5	3,7	2,7	3,7
Směrodatná odchylka		0,5	0,5	0,5	0,4	0,5
Shapiro Wilkův test	Test. kritérium	0,963	0,886	0,912	0,942	0,946
	P-hodnota	*0,393*	*0,009*	*0,026*	*0,148*	*<0,001*

Verifikace třetí hypotézy H3: Mezi délkou učitelské praxe a sumativním postojem k inkluzi existuje statisticky významná souvislost proběhla na základě provedeného Kruskall Wallisova testu (G/3=3,609; *p-hodnota=0,307*). Souvislost na 5% hladině významnosti nebyla prokázána, stejně tak jako při vyhodnocení pomocí Spearmanova korelačního koeficientu (R =-0,119; *p-hodnota=0,223*) – viz tabulka 4.

Tabulka 4: Sumativní postoj k inkluzi dle délky učitelské praxe

Sumativní postoj k inkluzi	Délka učitelské praxe			
	do 2 let	3–7 let	8–15 let	nad 15 let
Počet	22	24	18	43
Průměr	2,1	2,2	2,1	2,0

Medián		**2,0**	**2,2**	**2,0**	**2,0**
Minimum		1,0	1,5	1,3	1,0
Maximum		3,2	3,3	3,5	3,7
Směrodatná odchylka		0,5	0,5	0,6	0,5
Shapiro Wilkův test	Test. kritérium	0,958	0,949	0,882	0,884
	P-hodnota	*0,450*	*0,261*	*0,029*	*<0,001*

Verifikace čtvrté hypotézy H4: Sumativní postoj k inkluzi souvisí s odbornou zaměřeností absolvovaného vzdělání proběhla opět za pomoci Kruskall Wallisova testu. Na jeho základě (G/3=10,204; *p-hodnota=0,017*) byla na 5% hladině významnosti potvrzena souvislost mezi sumativním postojem učitelů a úrovní jejich proinkluzivního vzdělání – viz tabulka 5.

Tabulka 5: Sumativní postoj k inkluzi dle odborné zaměřenosti absolvovaného vzdělání

Sumativní postoj k inkluzi		Absolvované vzdělání			
		Vystudován speciálně pedagog. obor	Absolvován předmět „Speciální pedagogika“	Absolvován kurz, školení, seminář	Neabsolvován o nic z dříve uvedeného
Počet		10	31	18	48
Průměr		1,8	2,0	1,9	2,2
Medián		**1,8**	**1,8**	**1,9**	**2,1**
Minimum		1,0	1,0	1,3	1,5
Maximum		2,5	3,2	3,0	3,7
Směr. odchylka		0,4	0,5	0,4	0,5
Shapiro Wilk. test	Test. kritérium	0,962	0,937	0,939	0,903
	P-hodnota	*0,813*	*0,068*	*0,274*	*0,001*

Z post hoc analýzy vyplývá, viz dále tabulka 6, že existuje rozdíl zejména mezi skupinou, která má vystudovaný speciálně pedagogický obor a skupinou, která jakékoli specializované vzdělání postrádá (*p-hodnota = 0,042*).

Tabulka 6: Sumativní postoj k inkluzi dle vzdělání – Post hoc analýza

DSCF Párové porovnávání		Test. Kritér.	*P-hodnota*
Mám vystudovaný speciálně-pedagogický obor	Absolvoval(a) jsem předmět "Speciální pedagogika" v rámci svého oboru při studiu na VŠ	1,399	*0,756*
Mám vystudovaný speciálně-pedagogický obor	Absolvoval(a) jsem kurz, školení či seminář orientovaný na oblast inkluzivního vzdělávání	0,891	*0,923*
Mám vystudovaný speciálně-	Nemám speciálně-pedagogické	3,288	***0,042***

pedagogický obor	vzdělání		
Absolvoval(a) jsem předmět "Speciální pedagogika" v rámci svého oboru při studiu na VŠ	Absolvoval(a) jsem kurz, školení či seminář orientovaný na oblast inkluzivního vzdělávání	-0,432	*0,990*
Absolvoval(a) jsem předmět "Speciální pedagogika" v rámci svého oboru při studiu na VŠ	Nemám speciálně-pedagogické vzdělání	3,126	*0,120*
Absolvoval(a) jsem kurz, školení či seminář orientovaný na oblast inkluzivního vzdělávání	Nemám speciálně-pedagogické vzdělání	3,169	*0,112*

4 ZÁVĚREČNÉ SHRNUTÍ A DISKUSE

Provedená výzkumná sonda zapadá do řady výzkumů, v nichž se zkoumají různé škály postojů učitelů vůči inkluzi a žákům v heterogenních kolektivech (např. Blecker & Boakes, 2010; Leung & Mak, 2010). Výsledky provedeného šetření potvrzují význam vzdělání a osvěty pro subjektivní postoje učitelů k žákům při zajišťování funkční inkluze. Lze konstatovat, že teoretická znalost práce s jinakostí žáků, tj. inkluzivní pedagogická kompetence (Katz, 2013) vytváří zázemí pro nabývání pozitivně orientovaných praktických zkušeností a zvyšuje míru zainteresovanosti učitelů na variabilitě vlastní výuky a proinkluzivnosti celé školy. V českém školním prostředí jsou však stále více ceněny profesní kompetence (rozuměj předmětově odborné) než kompetence inkluzivní (Hájková & Strnadová, 2010). Ty jsou poměrně exaktně vyjádřeny v profilu inkluzivních učitelů (European Agency for Development in Special Needs Education, 2012). Autoři tohoto profilu inkluzivních učitelů se shodují, že vzdělání a vzdělávání učitelů je klíčovým bodem při systematické podpoře pozitivních změn a rozvoje v oblasti školství. S touto skutečností korespondují i výsledky námi předložené sondy: inkluzivní pedagogické kompetence učitele souvisí s jeho výukovými metodami a diferencovaným přístupem k jinakým žákům. Věk ani délka edukační praxe vzdělavatele není z hlediska percepce, přístupů a postojů učitele k různorodým žákům významná. Připravenosti učitelů pro funkční inkluzi šetří též standardizovaný dotazník Teacher Efficacy for Inslusive Practices (TEIP), který se zaměřuje na sebevědomí učitele v inkluzivních výukových postupech, ve zvládání rušivého chování žáků a ve spolupráci se všemi činiteli edukačního procesu (Sharma et al., 2012). Výzkumníci zde došli k obdobným závěrům, jaké jsme učinili i my: učitelé mají celkově relativně vysoké mínění o vlastní zdatnosti implementovat inkluzivní postupy ve výuce, zvládat heterogenní kolektiv žáků či dostatečně spolupracovat. V praktických situacích se však tak proinkluzivně nechovají a volí daleko minimalističtější přístupy.

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FREQUENCY OF SUBSTANCE USE AMONG PRIMARY AND SECONDARY SCHOOL STUDENTS

Anastasiia Zelenska, Filip Gerec, Angela Almašiová

Abstract

In the context of the sudden development of society and the lack of education of children by formal and informal institutions, the issue of substance abuse by primary and secondary school pupils, to which this article is devoted, is becoming topical. METHODS: A standardized questionnaire containing scales to determine the frequency of substance use. Research sample: 124 primary and secondary school pupils. RESULTS: pupils in upper grades use addictive substances more frequently than pupils in younger grades. CONCLUSIONS: the findings confirm the relevance of the issue and the need to pay more attention to adolescents and to target the at-risk group with sufficient appropriate preventive activities to prevent drug addiction.

Key words: *addiction, addictive substances, adolescents, drugs.*

1 THEORETICAL BACKGROUND

In today's world, due to the complex socio-economic and political situation in the world, many people's lives are negatively affected by stress, risk, and the inability to clearly imagine and plan for their future. A large proportion of the adult population lacks confidence in the future and a sense of satisfaction with their own lives, which has a huge impact not only on the quality of life of adults, but also, to no small extent, on children and young people. Weak, unclear moral guidelines in modern society and material deprivation impair the educational potential of families and lead to the marginalization of many citizens. This situation has a negative impact on the level of education of children, since in some families not enough time and effort is devoted to the education of children and adolescents.

The school system in the conditions of the modern world often retreats from the education of the individual and completely transfers this responsibility to the parents. In connection with this, the number of children and adolescents who start using various psychoactive substances at school age is increasing every year (Filippov, 2016). Thus, according to Kyrzhanova's research (In Inglik, Chernyavskaya, Aybazova, 2018) 9.7% of adolescents under the age of 14 and 32.4% of adolescents aged 15-17 tried drugs for the first time.

According to the UN, the global prevalence of drug use remains stable. In 2013, approximately 246 million people, or 5% of the world's population aged 15 to 64, used drugs. The most widely used drug in the world is cannabis - marijuana. In 2006, approximately 166 million people aged 15 to 64 years used cannabis-type drugs, equivalent to about 4% of the world's population. Amphetamine-type stimulants (ATS) are the fastest growing market globally: between 2010 and 2012, the number of methamphetamine seizures more than doubled, with the total number of ATS seizures exceeding 144 tones, the highest level ever recorded in systematic surveys by the United Nations Office on Drugs and Crime. (Pichugina, Berezovskaya, Korobitsina, 2016).

As the number of people using drugs is increasing, the issue of psychoactive substance use by children and adolescents is also becoming topical. The illicit market for the sale of drugs is becoming accessible to all sections of society, since with the development of technology it is becoming possible to completely exclude direct contact between the seller and the buyer in the sale of illicit substances. In this context, the group most at risk of drug use - children and young people - also have direct access to drugs.

Burjak (In Milovanova, Rommel, 2021, s. 97) defines a psychoactive substance as "a chemical compound of natural or artificial origin that affects the activity of the nervous system and leads to a change in mental state, i.e., drugs (opium and derivatives), sedatives (barbiturates), stimulants (cocaine and amphetamines), tranquilizers (benzodiazepines), hallucinogens (LSD and PCP)".

Psychoactive substances that are addictive and/or illegal are usually called drugs. The development of dependence is usually associated with the abuse of a psychoactive substance, its systematic use and increasing frequency of use. When working with children and adolescents, it is important to recognize the onset of substance use early.

Epichina (2016) defines the following features of the onset of substance use in children and adolescents:

- a decline in interest in learning and ordinary hobbies;
- distance, an emotionally "cold" attitude towards loved ones, and a greater incidence of secrecy and lying;
- showing aggression and irritability, followed by periods of unnatural cordiality;
- the group that young people meet is often made up of older people;
- episodic availability of large or small sums of money of unknown origin that do not correspond to the family's level. A tendency to borrow or steal money may be present;
- the presence of drug paraphernalia such as syringes, needles, vials, pill capsules, small plastic bags made of cellophane or foil, tubes of glue, plastic bags with strong smelling substances, chemical odors from clothing and breath;
- change in appetite - from disgust to increased appetite to gluttony; occasional nausea, vomiting;
- traces of injections on the elbow bends, forearms, hands, irritation of the skin, mucous membranes.

A major challenge in the field of drug addiction is to understand the motivation of the underage user to try a particular addictive substance for the first time, and this has been the focus of several researchers in their research.

Zvyagova a Goncharova (2017) found that the main motives for drug use include curiosity, the desire to "grow up" and a way to relax. These options were chosen by almost half of the respondents - 48.6%. Another 41% of respondents said they used drugs to stand out, and 26.6% perceived drugs as an escape from problems.

The motivation of each adolescent who resorts to psychotropic substances is individual and is mainly contained in family relationships and maternal deprivation. Stamatova's (2013) research showed that for 20% of respondents, the family climate is the motivation for drug use. This is followed by self-confirmation - 18%, problems in the environment - 15%, stress and loneliness - 14% (chart 1).

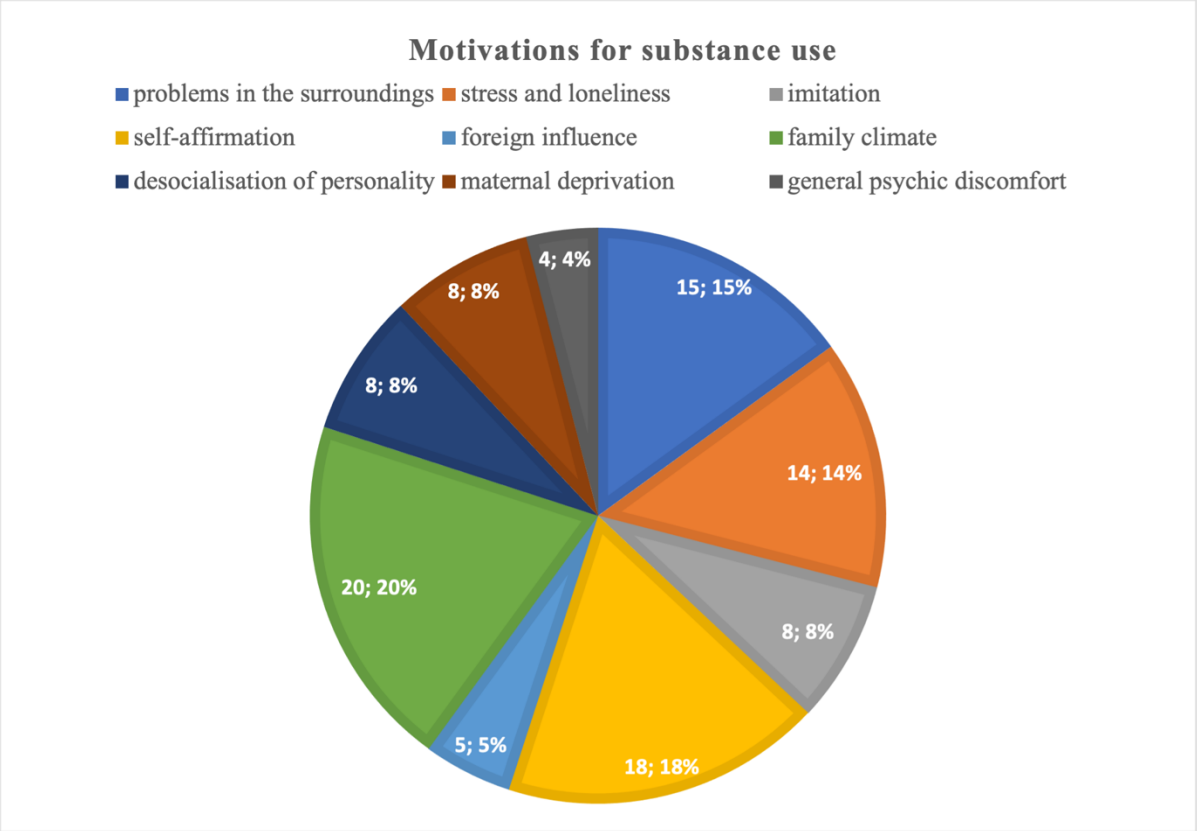


Chart 1 Motivations for substance use
Source: Stamatova, 2013, s. 81.

Substance use can be both regular and irregular. According to the American Psychiatric Association, to be considered addicted, an individual must exhibit at least 3 of the following symptoms within a 12-month period:

- increasing tolerance to a particular addictive substance and the associated increase in doses
- withdrawal symptoms
- use of an addictive substance in higher quantities or for a longer period than intended
- unsuccessful attempts to reduce or resist substance use
- spending large amounts of time using an addictive substance
- abandonment of work, social or personal activities as a result of substance use
- continuing to use the substance despite the problems arising from use (Rusnákova, Šrobárová, 2015).

2 EMPIRICAL PART

For the purpose of our research, we used a quantitative design. The research took place in a secondary and primary school in the Ružomberok district, with 124 pupils participating. We used a standardized questionnaire for data collection, which respondents filled out physically on the school premises. For data analysis we used IBM SPSS Statistics, in which we processed and interpreted the submitted data.

The research sample consisted of 124 pupils, 74 of whom were concurrently studying at secondary school and 50 at primary school. Of these, 90 are male and 34 are female. The age of the respondents ranged from 10 to 21 years.

2.1 Differentiations in the frequency of use of selected addictive substances

Table 1 shows the frequency of use of the most frequently used substances by elementary (ES) and secondary (SS) school students, such as energy drinks, cigarettes, alcohol, and marijuana, as they are the most frequently used among students.

Table no. 1 Frequency of use of energy drinks, cigarettes, alcohol, and cannabis

	energy drinks		**cigarettes**		**alcohol**		**cannabis**	
	%		**%**		**%**		**%**	
	ES	SS	ES	SS	ES	SS	ES	SS
every day	4	16,2	0	23	0	1,4	0	5,4
at least once a week	10	27	2	5,4	0	18,9	0	0
at least once a month	12	20,3	4	4,1	20	24,3	2	1,4
several times	28	21,6	32	16,2	30	32,4	8	17,6
never	46	14,9	62	51,4	50	23	90	75,7
total	100	100	100	100	100	100	100	100

Source: own elaboration, 2023.

The prevalence of other substance use is as follows:

- methamphetamine - never 120 respondents, several times 2 respondents, at least once a month 1 respondent, daily or almost daily 1 respondent,
- heroin - never 120 respondents, several times 2 respondents, daily or almost daily 1 respondent, no comments 1 respondent
- LSD - never 118 respondents, several times 1 respondent, at least once a week 3 respondents, daily or almost daily 1 respondent, 1 respondent did not comment on the question.
- ecstasy - never 119 respondents, several times 2 respondents, at least once a month 1 respondent, at least once a week 1 respondent, daily or almost daily 1 respondent,
- psilocybin (magic mushrooms) – never 116 respondents, several times 5 respondents, at least once a month 1 respondent, at least once a week 2 respondents,
- cocaine - never 119 respondents, several times 3 respondents, at least once a month 1 respondent, daily or almost daily 1 respondent,
- volatiles - never 118 respondents, several times 4 respondents, at least once a week 1 respondent, daily or almost daily 1 respondent,
- chewing tobacco - never 83 respondents, several times 19 respondents, at least once a month 8 respondents, at least once a week 5 respondents, daily or almost daily 9 respondents,
- other:
  - snuff - at least once a week - 1 respondent,
  - morphine - at least once a week - 1 respondent,
  - kratom - at least once a week - 1 respondent.

In the following, we present a comparison of the frequency of use of selected substances with respect to the demographic characteristics of the students, and more specifically, the year they are attending. We base this on the most frequent addictive substances - energy drinks, cigarettes, alcohol, and marijuana.

Based on the relevant statistical tests performed, we can conclude that differences in the consumption of all the substances studied were demonstrated with respect to the year attended:

- energy drinks are consumed more by respondents in the first year of secondary school - Chart 2

- more cigarettes are consumed by respondents in the 3rd year of secondary school - Chart 3
- alcohol consumption is higher among respondents in the 3rd year of secondary school - Chart 4
- more marijuana uses by respondents in 3rd year of secondary school - Chart 5

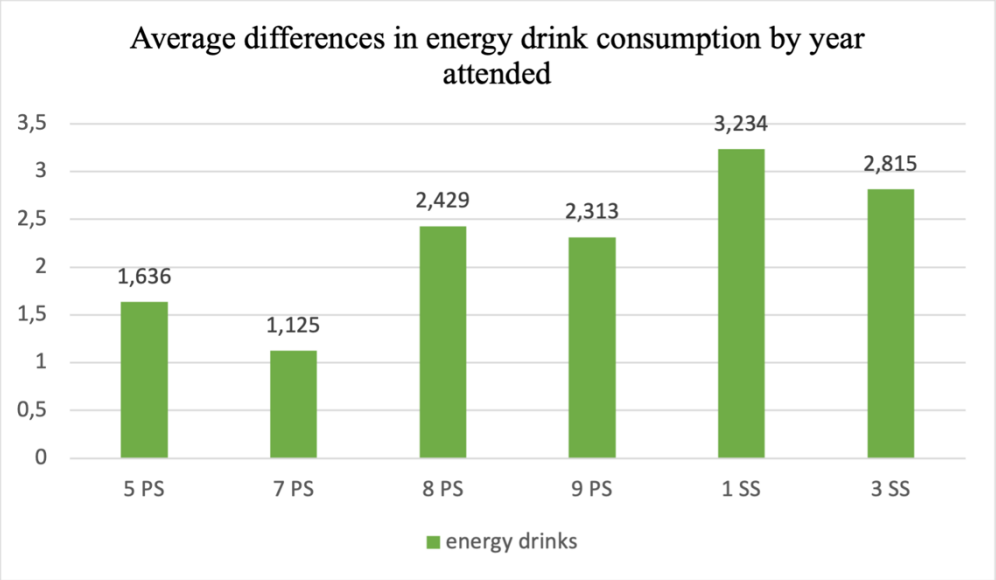


Chart 2 Difference in energy drink consumption by year attended
Source: own elaboration, 2023.

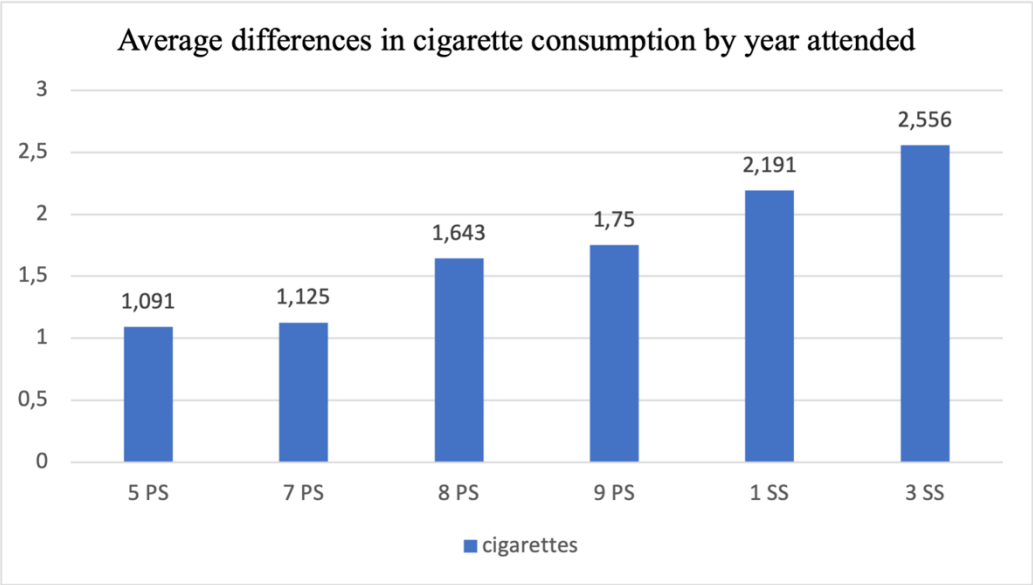
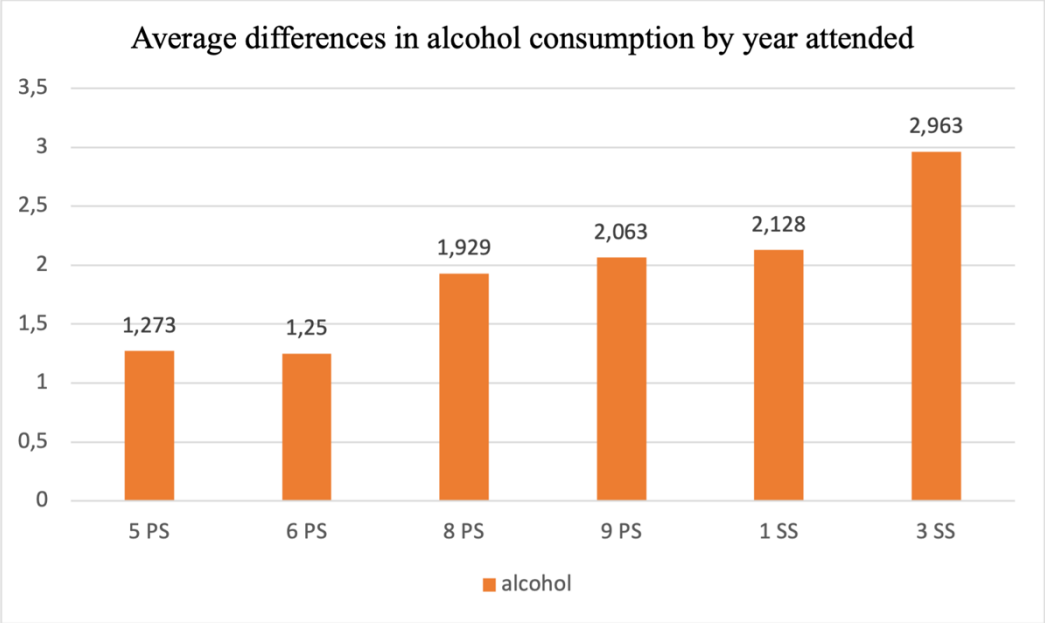


Chart 3 Differences in cigarette consumption by year attended
Source: own elaboration, 2023.



Chartrr 4 Differences in alcohol consumption by year attended
Source: own elaboration, 2023.

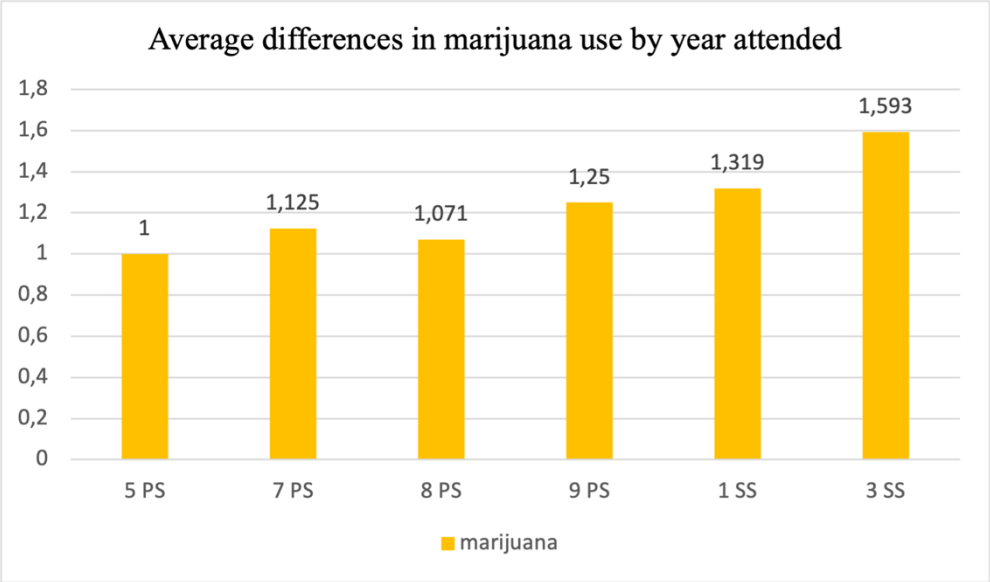


Chart 5 Differences in marijuana use by year attended
Source: own elaboration, 2023.

3 DISCUSSION

Considering the results, we have been able to obtain, we can conclude that addictive substances are present in secondary schools, but also in primary schools, in a less frequent form. Also, in charts 3-6 we can observe a tendency for the frequency of use of each addictive substance to increase with respect to the grade attended. The fact that secondary school pupils are the group most at risk makes this the basis for directing attention to this age group of adolescents.

The issue of adolescent substance use is a global threat in today's society and requires the attention of a number of professionals. Social-psychological tools play an important role in addressing the complex task of prevention in adolescents, including the formation of

appropriate value orientations for healthy lifestyles, educational influences, and the formation of personal stability and self-regulation in youth. In this context, the issue of scientific elaboration of a system of measures for the prevention of drug addiction in youth, namely social-psychological prevention of substance abuse by primary and secondary school pupils, becomes topical.

Parents and close family of adolescents are important actors in the field of prevention and diagnosis of substance use, since, based on the above, the biggest motivation for adolescents to use drugs is the negative family climate and problematic family situations. Parents need to know what their children are up to, they need to be involved in their children's lives and they need to know the psychological characteristics of their children.

The results of our research also show that children from incomplete families use some addictive substances more frequently than children from complete families (cigarette smoking - average value of use by secondary school pupils from incomplete families - 2.83, and pupils from complete families - 2.16; use of energy drinks - average value of use by primary school pupils from incomplete families - 2.33, and pupils from complete families - 1.9).

The forms of work with adolescents in the framework of preventive activities vary in their effectiveness. On a broader level, priority activities such as:

- dissemination of materials on substance uses and drug addiction and literature.
- lectures by experts.
- organizing a telephone helpline for psychological and drug counselling.
- distribution of promotional materials to various organizations with links to organizations providing psychological and drug services.
- providing information through information materials or talks at PTA meetings to pupils' parents about drug prevention (Sadykov, Bolshakova, 2021).

Therefore, in our opinion, it is important to pay more attention to the issue of substance use by primary and secondary school students, as the development of society has led to easier availability of drugs, which, combined with the lack of education of children by formal and informal institutions, has a direct impact on increasing the risk of addiction among students.

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PERSPECTIVES ON THE DEVELOPMENT OF THE HARM REDUCTION APPROACH FROM THE POINT OF VIEW OF PROFESSIONALS

Filip Gerec, Anastasiia Zelenska, Lenka Štefáková

Abstract

The aim of the article is to present the less visible topic of the perspectives of Harm Reduction development in the Slovak Republic, and to present the results of qualitative research, conducted through semi-structured interviews with professional staff. Participants responded to networking opportunities with other organizations and institutions, to possibilities for improving HR service delivery, and to their personal visions. In addition to naming specific organisations and explaining the process of peer collaboration, some participants also outlined in their testimony their visions for opportunities to improve peer collaboration. We find it interesting to point out the current state of public opinion, which is rather negatively tuned towards the presence of active drug users in society, but also towards the HR approach. One of the important perspectives in the provision of HR services is to change the public opinion about HR.

Keywords: *Harm Reduction. Qualitative research. Professionals. Perspectives.*

1 THEORETICAL BACKGROUND

After the coup in 1989, significant problems began to emerge in our country that we had no way of knowing and were unknown to us until then. Various undesirable social phenomena began to emerge, ranging from prostitution, to serious drug problems, to homelessness. It was the situation that arose in Slovakia that prompted people to act. Harm Reduction within Slovakia and our society is still considered to be not clear enough, either from the point of view of the state administration or the public, who admit the existence of the problem, but are not interested in solving it, often until it concerns them deeply. In Slovakia, the Harm Reduction approach is provided by NGOs and also by only a small percentage of state health facilities, which are rather dedicated to necessary material exchanges. The possibilities of quality accessibility of these facilities and also their services for clients (injecting drug users) vary widely and are challenging. Often clients have to overcome various obstacles to reach such an organization or to find a way to secure their materials (Jirešová, Javorková, 2003).

Within the Slovak Republic we can identify the boom of Harm Reduction in the late 1990s. The impetus to create and implement the Harm Reduction approach was not an initiative of people using drugs, nor was it an effort by state authorities to address the situation. All the organisations that started to emerge at that time were created only with the support of donor donations, the state had no participation, nor were there any regional or local politicians or councils involved in these emerging projects. The organisations were created at the instigation and impulse of students and graduates of the helping professions, namely mainly the departments of social work and psychology. Members from the drug user community were not involved (Hičárová, 2014).

Vavrinčíková (2014) adds that in our territory from the beginning five institutions cooperated with the Harm Reduction strategy: the OZ Odyseus in Bratislava, the OZ Prima in Bratislava, the OZ Heuréka from the Alternatíva project in Banská Bystrica, the OZ Storm from the Forward project in Trnava and Seredi, and the OZ Pomocná ruka in Košice.

There are currently only three organisations within our area that are actively working with injecting drug users using a Harm Reduction approach and also a low threshold approach. Within these organisations, certain programmes are organised with the aim of reducing harm and damage, specifically in Bratislava or the Bratislava region, and also with other cities in western Slovakia, namely Trnava, Nitra and Sered. These organisations are specific because of the accreditation they have received from the Ministry of Labour, Social Affairs and Family. There are also health facilities, such as the Centre for the Treatment of Drug Addictions, which is located in Bratislava and currently offers two low-threshold programmes in its portfolio that operate in the area of syringe and needle exchange. In Bratislava we can find two other organisations, namely the Prima civic association and the Odyseus civic association, which are able to cover the whole region within Bratislava. The STORM organisation covers the whole Nitra and Trnava regions, i.e. also western Slovakia, namely the cities of Trnava, Sereď and also in Nitra (EMCDDA, 2017).

2 PERSPECTIVES ON HARM REDUCTION

We used a qualitative research design, collecting data in the form of semi-structured interviews with staff from OZ Prima. Five participants agreed to be interviewed and also met the deliberate criterion selection. To conduct the interviews, the workers were offered to be interviewed physically, on the premises of OZ Prima, or then through a virtual method via the Zoom application. All OZ Prima workers chose to be interviewed virtually via Zoom for the purposes of the interview. Once the empirical data collection stage was completed, we proceeded to the analysis and subsequent interpretation of the data. For the purpose of conducting this stage, we first transcribed our interviews in the form of verbatim transcription in MS Word. We then transferred these transcripts into Atlas.ti, where we thoroughly analyzed our participants' statements.

In the research area below, we have been mapping perspectives on the Harm Reduction approach. To this end, we asked our participants about networking opportunities with other organizations and institutions, about opportunities to improve HR service delivery, and also about our participants' personal visions in the relevant area. Through basic coding, we created 1 concept, 3 categories, 2 subcategories, and 19 codes in this research area, which are summarized in the following table.

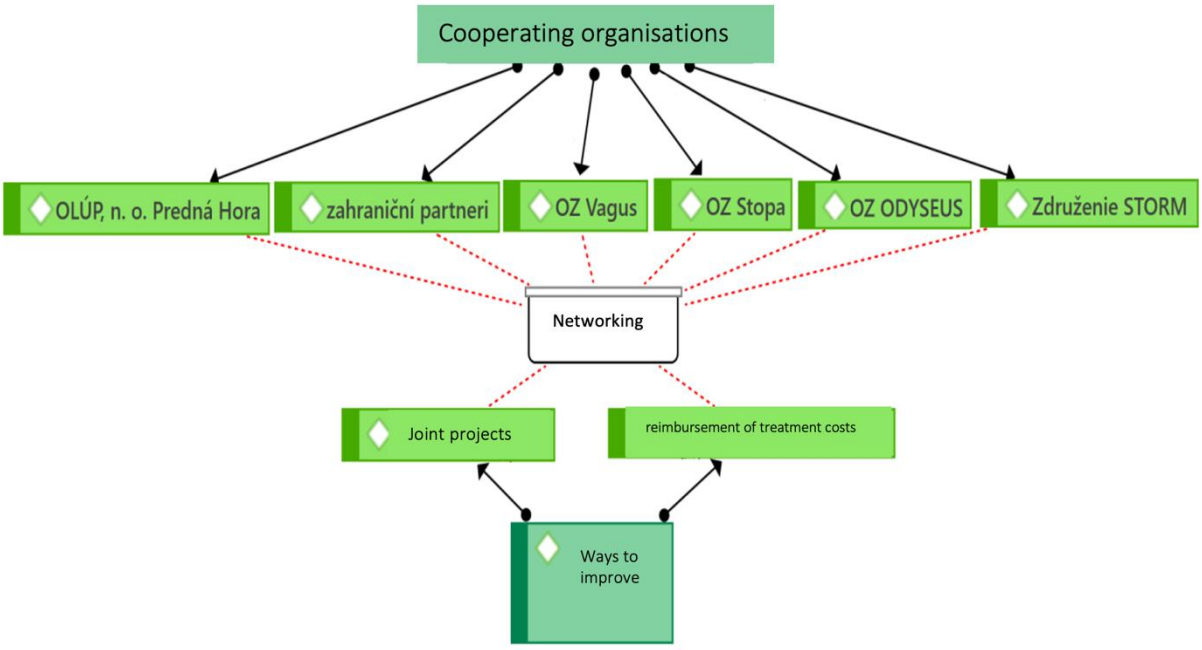
Table 1: Perspectives on the Harm Reduction Approach

Concept	**Categories**	**Subcategories**	**Codes**
Perspectives on the Harm Reduction Approach	Networking	Cooperating organisations	OLÚP, n. o. Predná Hora
			foreign partners
			OZ Vagus
			OZ Stopa
			OZ ODYSEUS
			Združenie STORM
		Opportunities to improve cooperation	joint projects
			reimbursement of treatment costs
	Opportunities to improve HR services		influencing public opinion
			professional development of staff
			expansion of clientele
			setting up an application room
			territorial extension of HR services

		adjustment of legislation
		the possibility of drug testing
		methadone as substitution treatment
	Personal visions of HR staff	provision of expert advice
		offer therapies
		to become a psychologist

Source: own elaboration, 2023

Picture 1: Networking

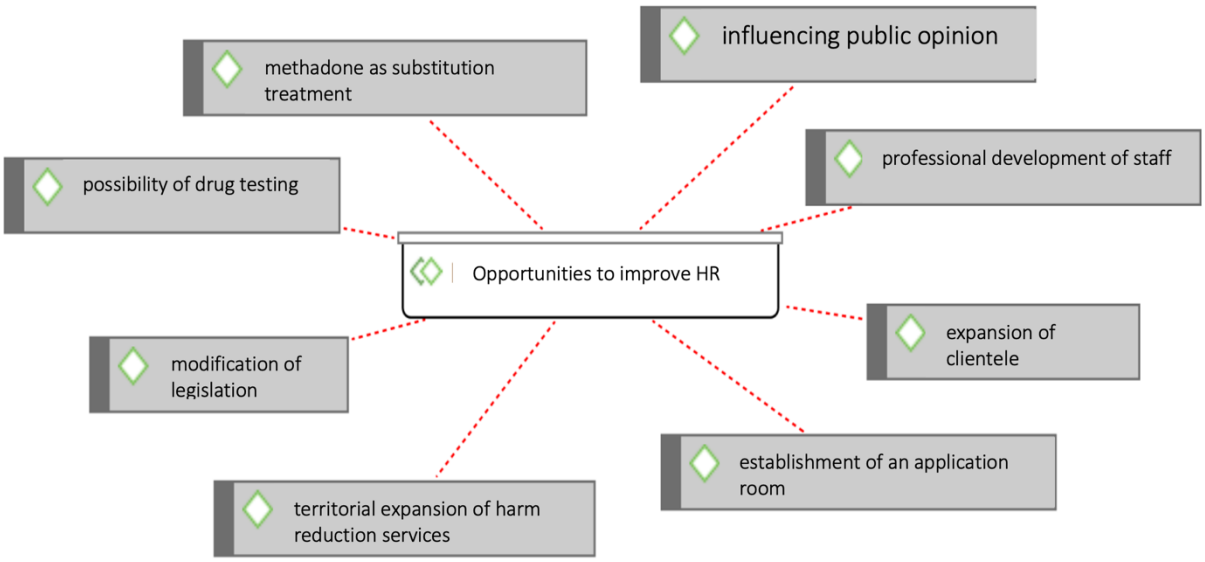


Source: own elaboration, 2023

One of the questions we asked our participants in this research area was "What networking opportunities do you have?". In their answers they mentioned specific facilities with which Prima OZ cooperates - STORM Association, ODYSEUS OZ, Stopa OZ, Vagus OZ, OLÚP, n. o. Predná hora, but also partners outside of Slovakia. According to P5, OZ Prima cooperates most often with OZ Stopa: "they work with homeless people, we cooperate with them very intensively for example because they deal quite actively with personal bankruptcies and I know from personal experience for example that they are able to resolve it faster for the client than I do for example". This was confirmed by P1 who said: "probably the most common...you've probably heard that from colleagues as well...it's OZ Stopa. But we also work with these other two organisations that are like us, so Storm and Odyseus". P3 described the collaboration with OZ Stopa in these words, "their primary group is homeless people and so we push information to each other or we consult with those services as well, depending on what needs to be addressed. They help us with personal bankruptcies of clients and then possibly they when they register a client who needs help in processing those addictions". In addition, P3 also explained the difference between OZ Prima and OZ Odyseus: "as far as Odyseus is concerned, they operate primarily in Pentagon, we operate in Petržalka where we deal with the largest concentrations of those users...we know about each other, we know when who has services...when we need something, the person picks up the phone, calls...". In contrast to other participants, P2 appreciates more the cooperation with foreign organisations: 'many times we are better at cooperating, networking with organisations outside Bratislava

and even outside the borders...our colleagues are really able to send you their project that they have written so that you can be inspired by it...Compared to when you ask someone here in Slovakia if they will send you a project'.
In addition to naming specific organisations and explaining the process of mutual cooperation, some participants also outlined in their testimonies their ideas on how to improve mutual cooperation. P1 would like to see "more projects that we would embark on together...that the collaboration is not always about a big common goal or a common activity, a project, that we do this together...but it's always that we do this project and we collaborate with you...so every now and then we still come together". P5 in turn referred to the need to address the issue of reimbursement of the costs of addiction treatment in specialised facilities: 'now there is a big problem in Pezinok...only people who have General Health Insurance can be treated here anymore...and Dôvera and Union have to pay for it themselves. So we had a client who wanted to go for treatment, they told him that he can come in a week, but bring fifteen thousand".
The next question we asked our participants was to get their opinions on how they thought Harm Reduction could be improved in the Bratislava region.

Picture 2: Opportunities to improve HR services

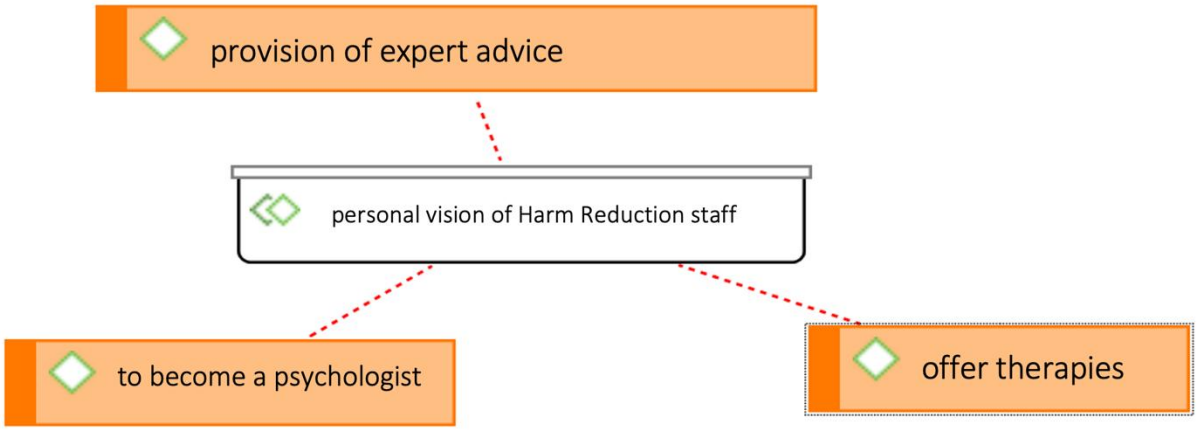


Source: own elaboration, 2023

Participants P1, P2, P4 and P5 agreed on the need for an application room. For P1, the establishment of such a room would be a "dream come true" and for P5 it is a "super goal...which is what is common abroad".
We find it interesting that the participants pointed out the current state of public opinion, which is rather negative towards the presence of active drug users in society, as well as towards the Harm Reduction approach. P2 commented on this topic as follows, "I don't even talk about public opinion, how public opinion is set here, how our clients as our target group are stigmatized". P4 sees it the same way: 'in general the general population, the police as well, from what I've noticed...they have such a negative view of users. But to put themselves in their shoes, they don't really know that anymore". P4 adds his own experience to this, "I witnessed that regularly those policemen would go there (to the Pentagon), those users had some of those substances on them as well...and so even though they weren't doing anything, they were aggressive with them". P5 contributed similar testimony, saying: "it's mainly a very misunderstood type of client work...the only thing people see underneath it is that we support clients...it's kind of like a bad national mindset".

Modification of legislative standards would also be an important aid to improve the delivery of Harm Reduction services. This view was shared by P2 and P3, with P2 saying: "first of all it is definitely legislation because we don't have homelessness defined in law at all, we have a person in need. We don't have sex work defined in the law at all, not even regulated, so we don't have it regulated or banned or allowed".
Other possibilities that participants told us about are, for example, expanding the clientele: "not only focusing on active users, but also on that care more before treatment, during treatment, after treatment" (P1), territorial expansion of the provision of HR services within other parts of Slovakia: "it would definitely be necessary to expand these services beyond the borders of western Slovakia" (P3), and others.
Our last question was to find out what Harm Reduction employees' personal visions are for the future.

Picture 3: Personal visions of HR staff



Source: own elaboration, 2023

The respondents' statements were primarily focused on the provision of psychological assistance to drug users coming to the services provided by Prima. P1 would like to "move into a position as a psychologist and therefore have someone in longer term counselling...so individual, longer term and just somewhere to go as well". P3, who has a degree in psychology, would also like to focus on counselling. He said: "my aim is to become more established in that counselling". Both P1 and P3 would like to undertake psychotherapy training for this purpose in the future, which P4 was also inclined to do in his statement.

3 DISCUSSION, CONCLUSIONS

At this point we would also like to point out that one of the important perspectives in the provision of Harm Reduction services is to change public opinion about Harm Reduction, but especially about active drug users. There is a wide range of prejudices in Slovak society regarding various social groups, not excluding active drug users, towards whom there is at least a minimum level of interest and empathy towards their overall life story. Moreover, in the words of the Prima OZ staff, the general population does not support or acknowledge the implementation of Harm Reduction services for the reason that they perceive them only as supporting the target group in their substance use. According to research by Baker et al. (2020), the spread of infectious diseases including human immunodeficiency virus and hepatitis C virus is a major risk of injecting drug use and therefore a risk to the public. According to the Center for Disease Control's 2015 rankings, counties at risk for the rapid spread of HIV/HCV infection among people who inject drugs ranked Dickenson County, Virginia, 29th in the nation and 2nd in Virginia. Comprehensive harm reduction is an

evidence-based intervention that has been shown to reduce the negative consequences of drug use, including the spread of infectious diseases, overdoses, and deaths among people who are unable or unprepared to stop using drugs. The aim of their research was to assess community perceptions of comprehensive harm reduction and stigma reduction programmes towards people who use drugs in a rural community. Data were collected using an anonymous survey and interviews with community stakeholders. Surveys were distributed online via email and social media as well as in person. Participants were included based on their zip code as an indicator of residence in Dickenson County. Statistical analysis of the survey results was conducted using Sigma Plot software. 153 participants completed the survey. Perceptions in rural Virginia are strikingly negative. Participants view injection drug use as a major problem in their community, but have little or no knowledge of harm reduction programs and report high levels of stigma toward drugs or injection drug users. In addition, higher levels of stigma towards drugs were associated with lower support for Harm Reduction programmes. The results of this study indicate a clear and perceived need for harm reduction programs in rural Virginia. Challenges in implementing harm reduction programs include low levels of knowledge and high levels of stigma. For example, Petrar et al. (2007), however, reported in their research that in recent years there has been an increased interest in safer injection or the use of supervised application rooms, and also identified this as a strategy to reduce the harms caused by illicit drug use. The aim of their research was to explore the experiences and views of injecting drug users about the first North American injection drug use rooms in Vancouver, Canada. They conducted the research by randomly selecting injecting drug users within Vancouver's application rooms and inviting them to be part of a cohort of a scientific evaluation of injecting under the supervision of the research team. As part of this research, participants were then asked about their experiences and opinions regarding the injection rooms. Of the 1082 injecting drug users surveyed, up to 809 (75%) reported that their injecting behaviour had changed as a result of using the injection rooms. Of these people, 80% reported that the injection rooms had led to fewer accidental injections, 71% reported that the injection rooms had led to fewer outside injections, and 56% reported that they disposed of syringes less hazardously. The three most common features that always or usually limit injection drug users' use of the application rooms were: travel to the application room (12%), limited hours of operation (7%), and waiting time to access the application room or a place in the application room (5%). When asked how the application room could be improved, the top three suggestions were: longer hours of operation (53%), adding a washroom (51%), and reducing wait times (46%). Many injecting drug users cited changes in their injecting behavior that have important community and public health implications. Addressing more programmatic issues related to hours of operation and wait times and providing additional amenities within injection rooms can help to further improve their impact. We feel that the introduction of application rooms in our area would also contribute significantly to improving the quality of services provided by Harm Reduction. It would also have an impact on public opinion around injecting drug use as injecting drug users would be using drugs under supervision and not variously in a public space.

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INTERDISCIPLINARY APPROACH OF PASTORAL COUNSELING IN HELPING RELATIONSHIP

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Abstract

Pastoral counseling is an integral approach that sees a client in the context of the integration of the whole personality. This article explores counseling as an interdisciplinary practice at the intersection of theology and social sciences. It defines counseling conceptually, describes its dynamics as a supportive relationship between the professional and the client, and compares the common features and differences between counseling, psychotherapy, and spiritual direction. Finally, it discusses the goals and principles of pastoral counseling specifically, characterizes the personality of the pastoral counselor, describes the dynamics of the process itself, and describes the method of therapeutic intervention.

Key words: *counseling, spiritual direction, pastoral counseling, integration*

INTRODUCTION

Pastoral counseling brings a new perception of the concept of counseling that takes into account the whole person with their biological, psychological and spiritual side. It appears as an interdisciplinary field of theology and psychology.

It emphasizes the basic principles of counseling, empathy, listening, and highlights building a relationship with the client as a core value, opening the client to personal growth, insight into their inner self and leading them to a change related to new knowledge, acquired skills and also coping with stressful and burdensome situations.

It highlights the need to integrate professional skills and spiritual values in the process of accompanying the client. It presents professional preparation and intervention in practice, based on the model of Loyola University´s Department of Pastoral Counseling in Maryland.

1 COUNSELING

The topic of counseling seems to be a recent phenomenon that seeks to interconnect overly stressful professions. It is not directly related to training and the educational process, but enters into it, thus helping the client to overcome difficulties. It touches little on maladaptive behavior and structural change of personality, but helps it to accept reality and to seek appropriate ways of integrating into the world. It does not deal purely with personality disorders and does not use medication to deal with reality. May (2001) sees the role of the counselor as the one who deals with problems that are, for example, difficult for a teacher to deal with within the teaching process, but are not yet of such magnitude and depth as to require a consultation with a psychologist or psychiatrist.

Counseling according to Cavanagh (1982) indicates the relationship between the professional and the person seeking help. It is a relationship in which not only the use of professional skills is important, but also the atmosphere in which counseling takes place, in order to help the client find a relationship with themselves and also with others through appropriate productive ways.

Lartey (2003) lists seven key elements of counseling by which a counselor:

1. has to be professionally trained for this service
2. has to be in a relationship with the person being helped
3. needs both professional skills and personal characteristics for such service
4. helps the client acquire new skills
5. teaches the client to build a relationship with him/herself

6. shows how to create relationships that promote growth
7. expresses the relationship between the counselor and the client through the counseling process.

Lambourne (1988) says that the heart of counseling is promoting the uniqueness and dignity of the client. It is a relationship based on a skilled professional who offers the client an opening up, the acquisition of new inner knowing, and who helps the client to recognize the cause and affectivity of their behavior. Thus, counseling as described by Lambourne (1988) is based on skills, principles that promote self-knowledge, emotional acceptance, growth, and optimal development of personal resources. Overall, it provides the client with the opportunity to live a full and satisfying life.

Based on the above, we can say that the novelty of counseling is to answer questions within a given approach to the client, namely: how can the counselor be qualitatively differently present for the client? How can the counselor create a significantly different environment from the client's previous experience? Lartey (2003) argues that it is important for the counselor to help the client recognize negative self-evaluations, internal conflicts, negative imperatives, conflicting needs, and mistaken attitudes. In the same way, the counselor guides the client to come to terms with reality, to expand his or her self-knowledge, to be able to form new relationships, and to foster growth toward inner freedom.

Models of counseling are based on the basic schools of psychology. Psychodynamically oriented approaches are focused on the client's inner knowledge. Cognitive-behavioral approaches focus on changing the client's external behavior. Humanistic approaches are oriented towards creating relationships in the here and now, and transpersonal approaches, such as logotherapy, help to search for and discover the meaning of life.

May (2001) sees the difference between counseling and psychotherapy as

1. Counseling is more focused on personal growth, psychotherapy on deviance.
2. Counseling is more educational, supportive, reality-oriented and short-term. Therapy is more focused on personality reconstruction, is confrontational and long-term.
3. Counseling is more structured and goal-oriented, working with specific goals. Psychotherapy is more ambivalent, has goals that are evaluated in parallel with the therapeutic process.

Lartey (2003) stresses that all the psychological approaches mentioned have in common what characterizes any counseling, namely: listening, empathy, respect, cordiality, sincerity, concreteness, confrontation, discretion, immediacy. They are essential skills in any helping profession. They are also necessary in accompanying people on their spiritual journey.

2 SPIRITUAL DIRECTION

The basic motive of spiritual direction is spiritual growth, relationship with God and discernment of spirits that takes place in a relationship. Barry and Connoly (1982) state that spiritual direction is in a way an art, science and help given by one Christian to another. The one who wants to be guided chooses the accompanist. The authors, in their long experience, have developed a definition where they characterize spiritual direction as the help given by a Christian to another Christian in order to make him attentive to God who speaks to him personally, to dispose him to respond to his call, and to enable him to grow in intimacy with God and to help him to accept the implications of this relationship. Central to this type of spiritual direction is experience, not ideas, "any experience with that Other whom we call God" (Barry and Connolly, 1982, p.8).

In spiritual direction, complete freedom in the choice of the director is necessary, as well as complete trust in order to be able to confide everything to him or her. On the part of the director there is the capacity for relationship and witness. This is done through interpersonal skills through which the accompanist creates an atmosphere of acceptance and understanding,

which does not equate to affection. It promotes authenticity and genuineness, and knows how to navigate what is important. It reflects experience, is in touch with reality, and is aware of the cultural, religious and spiritual context of the accompanied. Medically, he or she has no serious neurotic or narcissistic difficulties, and can handle transference and the desire to fulfill their own needs, leading them to be free of their practices and techniques.

We can say that from the time of Christ until well after the Reformation, little distinction was made between psychological and spiritual disorders. Many forms of insanity were thought to be spiritual problems caused by demon possession or moral deficiencies. This approach continued until the 19th century. Even after medicine began to develop and physical explanations for organic diseases emerged, psychology remained tied to faith and morality.

Change came with Freud and his psychoanalytic theory. His new approach suggested that the human mind could be studied scientifically through observation and measurement. This new turn took psychology out of the realm of the spirit and rooted it in empirical research. Within a few decades, psychotherapy and psychology replaced spiritual and moral guidance as the main method of alleviating mental suffering. There was a sudden boom in psychological theories that dealt not only with mental disorders but with all areas of human life and human development. In general, we could say that people began to turn to psychologists with their problems, while religious practices became emptied and lost their life-transforming power (May, 1992). It seemed that the faith tradition and spiritual direction that continued to be offered in the church no longer satisfied people's need for wholeness, health and happiness.

The first attempts of integration began among Protestant ministers who had completed psychological training and integrated these new disciplines into their ministry. The practice of pastoral counseling and clinical pastoral education was born. In these settings, clergy could provide people with individual in-depth counseling, but in most cases this counseling was increasingly psychological and less and less spiritual (May, 1992). Gradually, various churches began to integrate psychology as a helping tool, although there has always been some distrust and some resistance to psychology in church circles, and it continues to be there up to this day.

We can see that empirically based research is leading to the recognition that spirituality may be part of the solution for many people, while for others spirituality may be part of their problem. Surveys also show that people want spiritually sensitive help (Pargament and Murray-Swank, 2005). This suggests that spirituality cannot be separated from psychotherapy, and there is a growing conviction that spiritually integrated counseling can work (Kovari, 2016).

3 PASTORAL COUNSELING

The main role of pastoral counseling is to help clients cope with emotional, moral and physical stressors, as well as to help them cope with crisis and loss of meaning in life. Pastoral counseling as described in the 2014-2015 Loyola University Maryland Graduate Programs Handbook is defined in psychological rather than religious language. The program itself is holistically oriented and helps the person search for the meaning of life in all its complexity. It is eclectically focused, incorporating person-centered approaches, namely cognitive, behavioral, psychodynamic, and working with family systems. It views human behavior and human experience as an integration of psychological, intellectual, emotional, social, and spiritual dimensions. It defines pastoral counseling as a supportive relationship that intentionally includes in its approach a client's openness to spirituality and religion, with the goal of the client's growth on an emotional and psychological level. This approach has undergone many evolutions into the form we know it today.

Pastoral counseling, according to Lartey (2003), is counseling that focuses on the whole person and their well-being as someone who is part of a family - a social unit. The client is seen as a whole person with body, mind and spirit, with reference to their psychological, theological and ethnic background. In pastoral counseling, the person is guided to understand their issues in the context of everyday experiences, because through them they can find the answer to their questions. Pastoral counseling uses resources that emphasize the counselor's ability to relate to people, to motivate and guide them to take risks and make choices that will help them to be whom they are meant to be. The author mentioned above states that in pastoral counseling different approaches are defined:

- Secular approach - is focused on the personal welfare and wellbeing of the person being cared for.
- Religious - takes into account the client's religious beliefs insofar as the client brings them to counseling.
- Christian - is from a biblical, strongly evangelical perspective that includes elements of Protestantism. It is a direction that currently accepts and implements both scientific research as well as the theological aspect.

In terms of content, pastoral counseling is more structured and more complex compared to spiritual conversation. It needs an official requirement, is followed by setting time and space, and an agreement on payment. In this it is similar to psychotherapy. To do it, the person providing such help needs appropriate training and skills in the helping profession.

According to Kovari (2016), there are three types of pastoral counseling:

- Short-term - one problem-solving session;
- A time-limited form that uses problem-solving or solution-focused methods and which usually lasts two to five sessions;
- Long-term form, called pastoral psychotherapy, whose approach depends on the therapeutic school and focuses on personality change.

4 COMPARISON OF COUNSELING, SPIRITUAL DIRECTION AND PASTORAL COUNSELING

Stewart-Sickling (Lecture, 2014) explains the difference between counseling, pastoral counseling and spiritual direction as helping approaches.

The first approach is hedonistic, which pursues what is beneficial for the person. Religious and spiritual resources are used more as a means to meet emotional, mental and physical needs. The counselor must know the client's resources and culture.

The second is health, which is expressed through a eudaimonic approach - living a good life, strictly from a health perspective. The counselor assesses everything related to a person's developmental periods. The psychological and spiritual approach is part of the conversation, as values and tradition help to describe goals. The counselor is more informed about the client's tradition of faith and values.

The third approach is holiness, which is also related to the eudaimonic approach, but is more focused on the person's moral attitude, their desire and pursuit of beatitude. The counselor looks at things from God's perspective. Religion and spirituality are shaped by life itself. In this approach, the spiritual perspective influences all the other perspectives. Values and traditions are central, explicit, and the guide and the client have a commitment to deepen the client's faith.

Based on these three goals, Stewart-Sickling says that counseling is concerned entirely with the first and partly with the second. Spiritual direction deals partly with the second and wholly with the third. Pastoral counseling deals with wholly the first, partly the second, and partly the third.

Consequently, during pastoral counseling, what is important is pastoral presence that cannot be seen or heard, that cannot be physically touched; it is an inner attunement to the client, and this takes place in the person of the pastoral counselor.

4.1 The pastoral counselor

Pastoral counselors are characterized by sense of awe, reverence, and mystery. They live in the presence of God and are aware of the power of their own presence as they let God's healing power shine forth. They are characterized by personal integrity, maturity. They know pain and suffering from their own experience, so that they become able to be with others in their suffering without being swept away by it. They are able to enter into a therapeutic relationship that is rooted in well-grounded theoretical knowledge and ethical behavior. They are reconciled to themselves, to others and to God and are able to promote reconciliation and transformation. Pastoral helping professionals live and practice in a "circle of grace" (Wicks, 2007).

Barry Estadt, co-founder of the Department of Pastoral Counseling at Loyola College in Maryland, captures the very essence of the profile of the pastoral helping professional: "The pastoral counselor ... is a [religiously] (today we would say spiritually) integrated person, ... who approaches others with a sense of mystery, ... together with the ability to enter into communion with others in the context of therapeutic help, ... with the aim of reconciliation and personal religious integration" (in Kovari, 2016). Jordan (1986) understands the counselor as a guide to a good life who steps forward and serves as a living example along the way. Townsend (2009) emphasizes the necessity for the pastoral counselor to be personally and religiously integrated, successful in his or her own therapy, and able to demonstrate, form, and sustain a therapeutic relationship with the client. True presence requires a counselor's heart that facilitates a genuine attunement to the client that goes from heart to heart. It is a space in which the counselor understands the client more deeply.

4.2 Dynamics of the pastoral counselor

Cheston (2000) expresses this in the paradigm of pastoral counseling where she describes the dynamics of the pastoral counselor and the process itself as:

- **The way of being**
  Cheston (2000) says that what makes pastoral counseling unique is the person doing the counseling. It is their way of being, who that person is, the degree of empathy they have, the values they present, the boundaries that are clearly set and the importance of the relationship with the client.
- **They way of understanding**
  Cheston (2000) says that the way of understanding the client is a major part of the counseling process. It is based on knowledge that is based on theoretical approach and structure, normal and abnormal development and different ways to effect change. The counselor uses different variations of skills, forms of approach and techniques.
- **The way of intervening**
  The method of intervention is the work itself; it is the means through which the counselor interprets the client's dysfunctional cycles and encourages the process of alternative thinking, feeling and behavior.

Pastoral integration therefore occurs when we can define the helping relationship as a method of healing (therapeutic) intervention that takes place within a constructive, creation-affirming theology (Cooper - White, 2011).

The helping relationship becomes pastoral not because spiritual topics are addressed in sessions or issues of the client's faith or religious practice are discussed. The client may not even be religious at all and may not be interested in any spiritual topic, but the helping

relationship will still be pastoral because of the integrated presence of the practitioner that makes the "spiritual force field" tangible and operative in the therapeutic encounter.

5 CONCLUSION

We can see that pastoral counseling is entering into a special relationship with the client and deepening the pastoral approach - which can be described as bringing my spiritual self into the process of therapy with the client (seen through a theological vision). This situates pastoral counseling as an interdisciplinary approach between theology and the social sciences.
Pastoral counseling seems to be a new phenomenon in our cultural environment. It is important that in defining this ministry or profession, we also communicate with practitioners from other helping professions to seek a definition that takes into account the whole person developing within the context of our cultural, social, moral, and spiritual values.
Wicks (2012) states that we cannot give what we do not have, therefore it is important for the pastoral counselor to be rooted in their religion, practicing a long term spiritual life, such as meditation, prayer, reflection, spiritual reading and spiritual direction. Implementing these practices will help them to be humble, compassionate, and grateful. These elements are essential qualities for developing a healing relationship in the counseling room.

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PROBLEMATIKA ENVIRONMENTÁLNEHO ZDRAVIA V KONTEXTE UDRŽATEĽNÉHO ROZVOJA V RÁMCI VZDELÁVANIA BIOLÓGIE

THE ISSUE OF ENVIRONMENTAL HEALTH IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT WITHIN BIOLOGY EDUCATION

Gabriela Hrkľová, Dana Blahútová, Mária Balážová, Jozef Macko

Abstrakt

Mnohé regióny Slovenska si nesú environmentálnu záťaž z intenzívnej výroby z minulého storočia. Ich prejavy sa preukazujú v podobe poškodenia zdravia človeka na viacerých úrovniach. Jedným z látok, dlhodobo sa kumulujúcich v jednotlivých zložkách životného prostredia sú polychlorované bifenyly (PCB). Ich toxicita sa prejavuje poškodením rôznych orgánových systémov. Príspevok je zameraný na zistenie informovanosti učiteľov o problematike environmentálneho zdravia a polychlorovaných bifenylov. Na prieskum bola použitá dotazníková metóda. Štatistickou analýzou sme potvrdili, že učitelia, ktorí poznajú problematiku environmentálneho zdravia poznajú aj problematiku PCB. Učitelia, ktorí poznajú problematiku environmentálneho zdravia a PCB neimplementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia, štatisticky významne častejšie ako učitelia, ktorí nepoznajú problematiku environmentálneho zdravia a PCB.

Kľúčové slová: *environmentálne zdravie, polychlorované bifenyly, trvaloudržateľný rozvoj, environmentálna výchova.*

Abstract

Many regions of Slovakia bear the environmental burden of intensive production from the last century. Their manifestations are shown in the form of damage to human health on several levels. Polychlorinated biphenyls (PCBs) are one of the long-term accumulating substances in individual components of the environment. Their toxicity is manifested by damage to various organ systems. The contribution is aimed at finding out the awareness of teachers about the issue of environmental health and polychlorinated biphenyls. The questionnaire method was used for the survey. Through statistical analysis, we have confirmed that teachers who are familiar with the issue of environmental health are also familiar with the issue of PCBs. Teachers who are familiar with the issue of environmental health and PCBs do not implement topics related to health and environmental protection in biology classes, statistically significantly more often than teachers who are not familiar with the issue of environmental health and PCB.

Key words*: environmental health, polychlorinated biphenyls, sustainable development, environmental education.*

1 LITERÁRNY PREHĽAD

1.1 Environmentálna problematika

Žijeme v 21. storočí, v ktorom populácia našej Zeme presiahla 7 miliárd ľudí (UN News Centre, 2011). Počet ľudí sa naďalej zvyšuje a nárokuje si na zdravé životné prostredie poskytujúce rámec na podporu života. Na jednej strane sa stretáme s problémami obmedzených zdrojov pre rastúcu populáciu a na druhej strane so zhoršujúcim sa životným prostredím, ktoré je výsledkom pôsobenia viacerých faktorov spôsobeným človekom, alebo prirodzenými cyklami procesov planéty Zem (Cenker, 2013).

V 60-tych rokoch 20. storočia vplyvom ekonomického rozvoja si ľudstvo uvedomuje mnohé environmentálne problémy, ktorých riešenie bolo navrhované vo viacerých publikáciách. V roku 1972 Meadows report (Ferreira et al., 2020), v roku 1987 Brundtlandova správa (Rusko et al., 2019), v roku 2000 Millennium (UN, 2000). Kľúčovým zistením bolo, že neobmedzený rast ekonomiky a populácie by viedol ku kolapsu globálneho systému do polovice až konca dvadsiateho prvého storočia. Táto sebareflexia viedla ku tvorbe projektu Trvalo udržateľného rozvoja, ktorý prostredníctvom svojich cieľov mení svet na udržateľnejšiu cestu. Podľa Zákona SR o životnom prostredí (č. 17/1992 Z. z.) je *Trvalo udržateľný rozvoj - rozvoj, ktorý súčasným i budúcim generáciám zachováva možnosť uspokojovať ich základné životné potreby a pritom neznižuje rozmanitosť prírody a zachováva prirodzené funkcie ekosystémov.*

Postupné kreovanie myšlienky viedlo k stanoveniu 17-tich globálnych cieľov, označených ako ciele Trvalo udržateľného rozvoja (TUR) – Agenda 2030, na ktorom sa zhodli predstavitelia Organizácie Spojených národov v New Yorku, v roku 2015. Agenda stavia na úspechoch miléniových rozvojových cieľov a zaväzuje sa dosiahnuť trvalo udržateľný rozvoj v jeho troch dimenziách – ekonomickej, sociálnej a environmentálnej, snahou je udržať ekonomický rast popri zachovaní zdrojov Zeme pre budúce generácie. Veľmi dôležité je zmeniť hodnotovú orientáciu človeka, ako jedinca, ale aj spoločnosti i celého ľudstva (UN, 2015).

Jedným z cieľov Agendy 2030 - cieľ číslo 3 je zabezpečiť zdravý život pre všetkých. Tento cieľ sa prelína s myšlienkami Environmentálneho zdravia ako odvetvia verejného zdravotníctva, ktoré sa zameriava na environmentálne faktory a ich vplyv na ľudské zdravie. Reichrtová (2002a) uvádza že pojem je prekladom z anglického názvu *environmental health.* Vzťah medzi životným prostredím a zdravím populácie skúmajú odbory preventívnej medicíny: hygiena a epidemiológia. Jedným z množstva faktorov, ktoré skúma je vplyv chemických látok z prostredia na vplyv zdravia obyvateľstva, čiže toxikológia životného prostredia. V porovnaní s klasickou toxikológiou si vyžaduje inú metodológiu, citlivejšie testy pre prahové, resp. podprahové koncentrácie škodlivých látok ako aj na výpočet ich kumulatívnych dávok, sleduje doby expozície nepriaznivých faktorov Reichrtová (2002b).

Zvyšovať povedomie o environmentálnom zdraví je veľmi dôležité. Podľa príčin smrti môžeme totiž priradiť takmer 5 miliónov úmrtí ročne (8,3% zo všetkých) pôsobeniu chemikálií v životnom prostredí. Medzi chemické látky, ktoré znečisťujú životné prostredie, patria napríklad ťažké kovy, nanočastice, ftaláty, perfluoroalkylové látky či polychlorované bifenyly (PCB) (Murinová, Ľ., Gajdoš, M. 2017).

Za posledné desaťročia výskumy zamerané na polychlorované bifenyly preukázali množstvo nežiadúcich účinkov na zdravie, ľudí a životné prostredie, ako je napr. karcinogenita, reprodukčná toxicita, neurotoxicita, imunotoxicita, genotoxicita (Wang et al., 2020, von Stackelberg, K., 2011). Napriek zákazu výroby priemyselných PCB od roku 1978, stále predstavujú potenciálne nebezpečenstvo pre ľudské zdravie. Sú to látky termostabilné, nehorľavé, nepodliehajú korózií, sú chemicky inertné a dobre elektroizolačné, ale na druhej strane ťažšie degradovateľné. Kvôli týmto vlastnostiam sa využívali v rôznych sférach priemyslu a dostali sa tým do všetkých zložiek životného prostredia (Hu et al., 2014), v ktorom je pomerne náročná ich likvidácia. Nebezpečná je dlhodobá inhalačná expozícia polychlorovaných bifenylov, ktoré sa uvolňujú zo starších stavebných materiálov a farebných pigmentov školských budov (Wang et al., 2022). Voda kontaminovaná odpadom PCB, obsahuje vysoké hladiny najmä v sedimente a vyparuje sa aj do ovzdušia. Keďže látky PCB sú vysoko lipofilné cez vodné organizmy sa dostávajú do potravinového reťazca. V rámci Slovenska sú riskantné najmä povodia riek Bodrog, Tisa, Latorica, Laborec, Hornád, kde namerané hodnoty PCB presahujú stanovený limit až o 75,8% (Šalgovičová, D., Zmetáková, Z, 2006). Na znečistenie pôdy má vplyv aj typ pôdy. V rozsiahlej štúdii, v areáli podniku

Chemko Strážske a jeho blízkeho okolia boli namerané hodnoty od 4,7 do 91 ng/g, čím bol prekročený limit, platný v našej krajine, ktorý je stanovený na 50 ng/g (Danielovič, Hecl, Danilovič, 2014).

1.2 Environmentálne zdravie v predmete Biológia

Environmentálna výchova aj samotná edukácia žiakov v environmentálnom zdraví v rámci vzdelávania má viesť k proenvironmentálnemu správaniu či environmentálnemu povedomiu.
Na Slovensku v sekundárnom vzdelávaní je problematika environmentálneho zdravia zakotvená v Štátnom vzdelávacom programe (ŠVP) v prierezovej téme Environmentálna výchova. Zaoberá sa problémom zachovania života na našej planéte, ktorý sa týka nás všetkých. Jej výsledkom má byť poskytnutie informácií žiakovi, ktorý na ich základe pochopí vzťahy medzi ľuďmi a environmentálnym prostredím a uvedomí si vlastnú rolu a zodpovednosť v tomto vzťahu Čo sa týka samotného predmetu biológie Environmentálne zdravie nájdeme vo viacerých tematických celkoch od 5. až po 9.ročník v rámci biológie druhého stupňa ZŠ. Na to aby sme plne túto tému pomohli žiakom osvojiť je potrebný aj interdisciplinárny prístup, teda úzka kooperácia s inými predmetmi, ako napr. chémia či geografia a pod (ŠVP 2015).
Problematiku polychlorovaných bifenylov môžeme v ŠVP nájsť predovšetkým v rámci predmetu chémie alebo geografie v súvislosti s regionálnym znečistením. Aj v prierezovej téme Environmentálna výchova je možné uplatniť poznatky o téme v spojitosti s lokálnymi environmentálnymi problémami a skládkami. Priestor na aplikáciu témy je i na hodinách biológie. Žiaci a študenti by si mali uvedomovať dopad environmentálnych toxínov, medzi ktoré patria aj PCB látky, na zdravie ľudí a ostatných organizmov. O to dôležitejšie je vzdelávať v zasiahnutých regiónoch (Košický a Prešovský kraj). Tématiku je možné implementovať do viacerých tém, uvádzam vybrané. Je možné poukázať na dopad PCB látok na funkciu jednotlivých orgánov a vznik ochorení, keďže dané toxíny sú jedným zo spúšťacích faktorov mnohých civilizačných chorôb. Je možné nadviazať na vplyv čistoty vody na život príkladom minimálnej existencie živočíchov a rastlín v kontaminovaných odkaliskách, napr. v odkalisku Poša. Uviesť príklad negatívneho účinku priemyslu na environmentálne prostredie a zdravie ľudí v závode na výrobu polychlorovaných bifenylov v Strážskom. Na príklade potravových reťazcov v konkrétnom ekosystéme poukázať na negatívny dopad kontaminácie PCB zlúčeninami jednotlivých časti prostredia. (https://www.statpedu.sk/files/articles/dokumenty/statny-vzdelavaciprogram/isced2_spu _uprava.pdf).

2 MATERIÁL A METODIKA

Cieľom prieskumu je zistenie, či učitelia poznajú problematiku environmentálneho zdravia a problematiku polychlorovaných bifenylov, či aplikujú tieto problematiky do vyučovania biológie, zistenie záujmu učiteľov o problematiku ochrany zdravia v regióne, v ktorom pôsobia.
Na deskriptívnu štatistiku a na štatistickú verifikáciu hypotéz sme použili program SPSS Statistics 20. Na vyhodnotenie hypotéz sme použili chí-kvadrant test a Yatesovú korekciu. Štatistickou významnosťou hodnotíme získané výsledky výskumu z hľadiska pravdepodobnosti, s akou by sa mohol skúmaný jav vyskytnúť náhodou. V prieskume používame hladinu významnosti 5% (α=0,05).
V hypotéze 1 predpokladáme, že učitelia, ktorí poznajú problematiku environmentálneho zdravia poznajú aj problematiku PCB.
V hypotéze 2 predpokladáme, že učitelia, ktorí poznajú problematiku environmentálneho zdravia a PCB častejšie implementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia.

Pre zisťovanie poznatkov bol zvolený kvantitatívny prieskum prostredníctvom www.survio.com, sprístupnený od februára do apríla 2021. Dotazník bol štruktúrovaný, pozostával z 27 otázok, z ktorých 22 otázok je zatvorených s možnosťou výberu odpovede a 5 otázok otvorených. Cieľovou skupinou boli učitelia nižšieho stredného a vyššieho stredného vzdelávania. Na prieskume sa zúčastnilo z celkového počtu 27 respondentov 24 žien a 3 muži, z nich 26 učiteľov biológie. Najväčší počet v aprobácii biológia - chémia 26%. Najviac 37% respondentov bolo s pedagogickou praxou kratšou ako 5 rokov. Do prieskumu sa zapojilo 74% učiteľov zo základných škôl a 3,7% zo strednej odbornej školy. Respondenti sú z rôznych krajov Slovenska. Najviac respondentov - 22% pôsobí v Košickom kraji a najmenej po 3,7% zhodne v Bratislavskom a Trenčianskom kraji.

3 VÝSLEDKY PRIESKUMU

Zhrnutím výsledkov jednotlivých položiek dotazníka sme dospeli k záverom, že väčšina respondentov pozná problematiku environmentálneho zdravia a polychlorovaných bifenylov. Prispieva k tomu fakt, že 41% z nich učí v krajoch kde prebiehala výroba uvedených látok. Problematika Environmentálneho zdravia je známejšia, čo sme aj očakávali, keďže o nej nepriamo informujú už niekoľko rokov rôzne environmentálne organizácie. Väčšina respondentov sa na svojich hodinách venuje aj environmentálnym problémom.

V hypotéze 1 sme predpokladali, že učitelia, ktorí poznajú problematiku environmentálneho zdravia poznajú aj problematiku PCB látok. Dotazovaním bolo potvrdené, že 88,5% respondentov pozná problematiku environmentálneho zdravia a pozná aj problematiku PCB. Zistili sme, že p-hodnota je nižšia ako 0,05 a preto hodnotíme, že ide o štatisticky významný rozdiel, a teda na 5% hladine významnosti sa nám podarilo potvrdiť prvú hypotézu. Štatistickou analýzou sme potvrdili, že učitelia, ktorí poznajú problematiku environmentálneho zdravia poznajú aj problematiku PCB. Z výsledkov vyplýva, že približne v rovnakej miere poznajú spomínané problematiky aj začínajúci učitelia, s praxou nižšou ako 5 rokov, aj učitelia s viac ako 15 ročnou praxou. Dôvodom môže byť aj to, že je problém s odpadmi výroby polychlorovaných bifenylov sú medializované a dostávajú sa do povedomia širokej verejnosti. Predpokladom druhej hypotézy bolo, že učitelia, ktorí poznajú problematiku environmentálneho zdravia a PCB, častejšie implementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia. Z výsledkov prieskumu vyšiel fakt, že problematiku PCB látok pozná 85 % respondentov. Pri porovnaní s tými, čo implementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia a tými, čo neimplementujú sme zistili, že 18 učiteľov z tých, čo poznajú obe problematiky implementuje na hodinách témy súvisiace s ochranou zdravia a životného prostredia a len 3 učitelia neimplementujú. Pri tých, ktorí nepoznajú aspoň jednu z týchto problematík, to je vyrovnané, zo 4 respondentov 2 implementujú a 2 nie. p-hodnota vyšla vyššia ako 0,05 (0,102) a preto toto tvrdenie z druhej hypotézy, nemôžeme zovšeobecniť na všetkých učiteľov. Štatistickou analýzou, na 5% hladine významnosti sa nepodarilo potvrdiť druhú hypotézu. Učitelia, ktorí poznajú problematiku environmentálneho zdravia a PCB neimplementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia, štatisticky významne častejšie ako učitelia, ktorí nepoznajú problematiku environmentálneho zdravia a PCB.

Globálne riešenia mnohých environmentálnych záťaží sú zložité, ale riešenia na lokálnej úrovni často existujú. Je dôležité na ne poukazovať aj v rámci edukácie študentov na poli sekundárneho vzdelávania, podporiť kritické myslenie a podvihnúť environmentálne povedomie (Cenker et al., 2013) pedagógov a následne žiakov. Je vhodné implemenovať problematiku regionálnych environmnetálnych problémov do vzdelávania, aplikačne poukazovať na negatívne prejavy znečisťovania krajiny a viesť študentov ku osvojeniu si princípov trvalo udržateľného rozvoja. Realizácia environmentálnej výchovy na základných

a stredných školách si vyžaduje komplexný prístup učiteľa (Izakovičová, Z., 2010) aj jeho osobný príklad. Vzhľadom na výsledok prieskumu a štatisticky významnom tvrdení, že učitelia poznajúci problematiku environmentálneho zdravia, poznajú aj problematiku PCB. A na druhej strane štatisticky nevýznamné, že učitelia, ktorí poznajú problematiku environmentálneho zdravia a PCB neimplementujú na hodinách biológie témy súvisiace s ochranou zdravia a životného prostredia, Z toho vyplýva neustála potreba vzdelávania učiteľov a príprava vhodného didaktického materiálu.

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ENVIRONMENTÁLNE ASPEKTY V PRIMÁRNOM VZDELÁVANÍ SO ZAMERANÍM NA OCHRANU ZDRAVIA

ENVIRONMENTAL ASPECTS IN PRIMARY EDUCATION WITH A FOCUS ON HEALTH PROTECTION

Dana Blahútová, Mária Balážová, Gabriela Hrkľová, Jozef Macko

Abstrakt

Vzhľadom na súčasné globálne klimatické zmeny, je dôležité už v primárnom vzdelávaní implementovať environmentálne aspekty so zameraním na ochranu zdravia do edukačného procesu. Príspevok prezentuje zistenia realizovaného výskumu zameraného na aktuálny stav implementácie environmentálnej výchovy so zameraním na ochranu zdravia žiakov do školského vzdelávacieho programu. Z výsledkov vyplýva, že školy s environmentálnym školským vzdelávacím programom, sa častejšie zapájajú do environmentálnych súťaží a projektov s touto problematikou.

Kľúčová slova: *environmentálna výchova, primárne vzdelávanie, ochrana zdravia*

Abstract

Considering the ongoing global climate changes, it is crucial to incorporate environmental aspects that prioritize health protection into primary education. This paper presents the findings of a conducted research study that focuses on the current status of implementing environmental education with a specific emphasis on student health protection within the school curriculum. The results indicate that schools with environmental education programs frequently participate in environmental competitions and projects related to this subject matter.

Key words: *environmental education, primary education, health protection*

1 LITERÁRNY PREHĽAD

Environmentálne prostredie tvorí súčasť života ľudí na Zemi a vytvára podmienky pre život na planéte. V súčasnej dobe sú podmienky života rôznych druhov živočíchov, ale aj človeka ohrozené dôsledkom neadekvátnym konaním ľudstva voči životnému prostrediu. Podľa Lorka (2010) požiadavky ľudstva na primeraný životný štandard vedie k poškodzovaniu životného prostredia v dôsledku svojej ľudskej činnosti. Patria tam predovšetkým problémy spotreby neobnoviteľných prírodných zdrojov, kontaminácia vôd, degradácia pôdy, látky, ktoré znečisťujú ovzdušie atď. Tieto problémy majú priamy dopad na zmenu klímy, zmenu biologickej diverzity v dôsledku čoho dochádza vzniku nových chorôb. Je to súbor viacerých komplikovaných problémov, kedy reakcia našej planéty a všetkých jej systémov nemožno nikdy dokonale predpovedať zmeny ani nám presne povedať, čo máme robiť (Stanleyová, Farrant, 2014). Prousek a Čík (2008) uvádzajú, že environmentálne problémy závisia od úrovne sociálneho rozvoja civilizácie, ktorý má globálny charakter. Je známe, že dôsledky environmentálnych záťaží sú zjavné aj po niekoľkých rokoch. To je fakt a problém každej krajiny, preto je veľmi dôležité uchovať integritu životného prostredia na globálnej úrovni, aby ľudstvo prežilo. Je to veľká výzva pre 21. storočie ako ich ilustruje Agenda 2030 pre udržateľný rozvoj, keď v roku 2015 krajiny sveta si v nej zadefinovali 17 cieľov, ktoré by mali zlepšiť podmienky na Zemi a zabezpečiť tak lepšiu budúcnosť pre všetkých.

Minimalizovať nepriaznivé dopady na ľudské zdravie a životné prostredie v dôsledku správneho nakladania s chemickými látkami a odpadmi počas celého životného cyklu, tak aby bolo šetrné k životnému prostrediu a výrazne znížiť ich uvoľňovanie do ovzdušia, vody a pôdy v súlade s dohodnutými medzinárodnými rámcami (Ivanegová, 2020). Nedostatok opatrení na zmiernenie a prispôsobenie sa klimatickým zmenám bude reálne znamenať, že naše deti a budúce generácie budú prvé, ktoré budú mať horšie fyzické a duševné zdravie ako generácia pred nimi (Strazdins et al. 2011).

Z tohto pohľadu je dôležité vytvárať priestor a podmienky v edukačnom procese už v primárnom vzdelávaní na začlenenie environmentálnych aspektov ako rizikových faktorov so zameraním na ochranu zdravia človeka. Práve environmentálna výchova a vzdelávanie pre udržateľný rozvoj ponúkajú nástroje, ktoré pomáhajú predvídať a riešiť výzvy ovplyvňujúce zdravie a udržateľnosť našej planéty (Ivanegová, 2020). Environmentálna výchova je prierezová téma a prelína sa všetkými predmetmi hlavne prvoukou, prírodovedou, vlastivedou, pracovným vyučovaním, etickou výchovou. Pri prierezových témach dochádza k rozvoju osobnosti žiaka tak, že nadobudne schopnosť chápať, analyzovať a hodnotiť vzťahy medzi človekom a jeho životným prostredím vo svojom okolí (ŠVP, 2015). Spoznávanie svojho okolia a rozvíjanie regionálnej identity môže zároveň ovplyvniť aj vzťah jednotlivcov k životnému prostrediu a k jeho ochrane (Uhrinová, 2021). Chápe potrebu ochrany životného prostredia z globálneho hľadiska. Získané vedomosti a zručnosti sú primerané a vhodné pre primárne vzdelávanie, ktorými môžu pomáhať životnému prostrediu jednoduchými činnosťami Ochrana života a zdravia sa v základných školách realizuje prostredníctvom učebných predmetov Štátneho vzdelávacieho programu a samostatných organizačných foriem vyučovania ako sú didaktické hry. Ochrana života a jeho zdravia integruje postoje, vedomosti a schopnosti žiakov, ktoré sú zamerané na ochranu života a zdravia napríklad pri mimoriadnych situáciách, pri pobyte a pohybe v prírode, ktoré môžu vzniknúť vplyvom nepredvídaných skutočností ohrozujúcich človeka a jeho okolie (ŠVP, 2015).

Pre túto novú výzvu z pohľadu trvalo udržateľného rozvoja len environmentálne gramotný človek v budúcnosti zabráni a pochopí environmentálnym problémom. Bez vypestovaného vzťahu k prírode nemôžeme očakávať zmenu postojov, angažovanosť či aktívnu ochranu životného prostredia. Náš vzťah k prírode sa odráža od potreby a schopnosti priameho kontaktu s prírodným prostredím, kde môžeme rozvíjať citlivosť a rešpekt k prírode (Ivanegová, 2020).

Cieľom výskumu bolo získať formou dotazníka aktuálny stav implementácie environmentálnej výchovy so zameraním na ochranu zdravia žiakov do školského vzdelávacieho programu škôl a zistiť úroveň zapojenia základných škôl do environmentálnych súťaží a projektov, ktoré sú zamerané na environmentálne zdravie a ochranu žiakov v primárnom vzdelávaní.

Predpokladáme, totiž že ak škola má vypracovaný environmentálny školský vzdelávací program, tak to ovplyvňuje účasť zapájania sa škôl do environmentálnych súťaží a projektov. Zároveň ak sa školy zapájajú do environmentálnych projektov, súťaží a akcií častejšie, tak to môže ovplyvňovať zastúpenie environmentálnej výchovy vo vyučovacích predmetov prírodovedy a vlastivedy. Zároveň predpokladáme, že ak sa školy zúčastňujú na projektoch a súťažiach častejšie, tak to ovplyvňuje spôsoby hodnotenia žiakov.

2 MATERIÁL A METÓDY

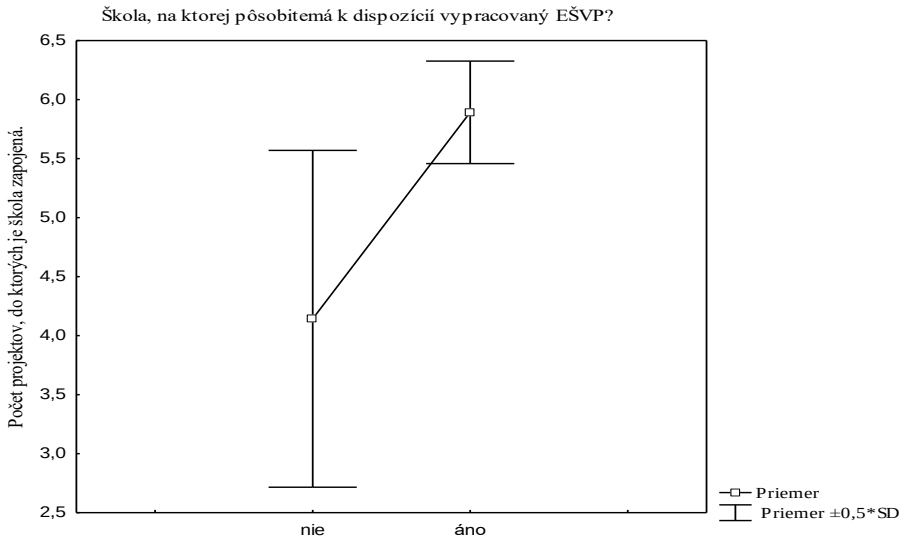
Odpovede na stanovené otázky sme získavali pomocou elektronického dotazníka ktorý bol distribuovaný do základných škôl pričom sme využili platné e-mailové adresy jednotlivých škôl získané z databázy zoznamu škôl, ktoré sú verejne prístupne na internete. Dotazník bol anonymný a určený zástupcom a zástupkyniam pre prvý stupeň primárneho vzdelávania. Dotazník mal štruktúrovanú formu, ktorá pozostáva z jednej škálovej a dvanástich

uzatvorených otázok. V uzatvorených otázkach mali respondenti možnosť označiť jednu alebo viacero možností, v škálovej otázke mali vybrať jednu z možnosť v rozmedzí od 1 po 4. Prvé dve otázky boli zamerané na implementáciu environmentálnej výchovy do školského vzdelávacieho programu. Tretia až šiesta otázka smerovala na zistenie informácií zapojenia sa jednotlivých škôl do súťaží, programov a ktoré školské a mimoškolské zariadenia tvoria súčasť školy. Obsahom siedmej, ôsmej a deviatej otázky bolo zisťovanie akým spôsobom sa realizuje, organizuje a vykonáva environmentálna výchova a aké má zastúpenie v jednotlivých ročníkoch a vo vyučovacích predmetoch. V desiatej a jedenástej otázke sme zisťovali, ktoré kľúčové kompetencie sa najviac rozvíjajú v oblasti environmentálna výchova a aký spôsob hodnotenia a organizácie práce preferujú. Posledné dve otázky boli smerované na školského koordinátora environmentálnej výchovy a hodnotenie jeho pracovnej náplne.
Výskum sme realizovali v školskom roku 2020/2021 v Prešovskom kraji. Do výskumu sa zapojilo 72 základných škôl v okresoch Kežmarok, Poprad a Stará Ľubovňa.
Na analýzu získaných údajov sme použili korelačnú analýzu a Mann - Whitney ANOVu, ktoré sme vykonali v programe STATISTICA 8 (Stat soft).

3 VÝSLEDKY A DISKUSIA

Prevažná časť opýtaných škôl (65) má vypracovaný environmentálny program na škole a len sedem škôl (čo je 10%) označilo negatívnu odpoveď. Taktiež až 97 % škôl sa zapája (ale v rôznej miere) do environmentálnych súťaží a projektov, našli sa však aj dve školy, kde sa nezapájajú do ničoho. Dlhodobé projekty, do ktorých sa najčastejšie zapájajú sú Školské ovocie (94% škôl) a Zdravá škola (90% škôl). Projekt Zelenú školu označilo 58 % respondentov, ďalšie menej preferované sú Enviroprojekt (46% škôl), Pite čistú vodu (35% škôl), Ekostopa (25% škôl)a projekt Jar na Krídlach (11% škôl). Z krátkodobých projektov je najviac uplatňovaný v rámci škôl projekt Svetový deň zdravia (82% škôl), Deň Zeme (59% škôl), Deň vody (49% škôl) a medzi najmenej uplatňované je Deň stromov (25 % škôl). Respondenti nevyužili možnosť uviesť aj iné projekty.
Environmentálne činnosti jednotlivých škôl, ktoré sa realizujú vo výchovno-vzdelávacom procese sme rozdelili na súťaže, akcie a aktivity škôl. Medzi najviac realizované súťaže patrí Vyčistíme si Slovensko (53 % škôl), ProEnviro (44 % škôl), Kvíz ENV (40 % škôl), Ekoplagát (34 % škôl), Oči na stopkách (25 % škôl), Zelený svet (21 % škôl), Ekopaky (14 % škôl), a najmenej sa realizuje súťaž Európa v škole (10% škôl). Z akcií Čisté hory označilo 35 % škôl a Celoslovenský týždeň aktivít pre vratné obaly 11 % škôl. Medzi aktivity škôl označovali hlavne Brigády v okolí školy (94 % škôl), Separovanie odpadu (87 % škôl) a Zber papiera (35 % škôl). Pre získanie uceleného obrazu o školách sme sa zamerali aj na školské a mimoškolské zariadenia, ktoré tvoria súčasť školy. Školský klub detí tvorí súčasť 78 % škôl. Škola v prírode patrí medzi organizáciu, ktorú školy (68 % škôl) využívajú v rámci možností. Centrum voľného času 22 % majú jednotlivé školy k dispozícií ale spolupráca s nimi je nižšia.
Z hľadiska organizácie a realizácie prierezovej témy environmentálna výchova respondenti vyberali preferované spôsoby využívané vo výchovno-vzdelávacom procese. Okrem vytvoreného zoznamu mali respondenti možnosť uviesť aj iné spôsoby. Najčastejšou preferenciou bolo V rámci viacerých predmetov (38 % opýtaných) menej cez Samostatný projekt (28 %) a celkovú realizáciu projektov(21 %). Kurzy environmentálnej výchovy predstavuje 11 % a najmenej zaužívaným spôsobom je v rámci jedného predmetu (2 %).
Najviac sa realizuje environmentálny výchova vo 4. ročníku (31 %), nasleduje 3. ročník (26 %), 2. ročník (21 %) a najmenej sa realizuje v 1. ročníku (17 %). Najväčšie zastúpenie tejto prierezovej témy je do predmetov Prírodoveda (24 %), Vlastiveda (22 %), Telesná a športová výchova (22 %) nasleduje Výtvarná výchova (10 %), Slovenský jazyk a literatúra (9 %), Matematika (7 %) a predmety Informatika a Hudobná výchova majú len 3 % zastúpenie environmentálnej výchovy v školách. Kľúčové kompetencie žiakov na rozvíjajú najviac v

oblasti environmentálnej výchovy pričom najefektívnejšie sa podľa respondentov rozvíjajú vedomosti (33 %) a zručnosti (29 %), menej už postoje (21 %) a návyky (17 %). Z hľadiska spôsobov hodnotenia v rámci environmentálnej výchovy sa respondenti priklonili predovšetkým k slovnému hodnoteniu (16 %) kým k sebahodnoteniu najmenej (6%). V rámci organizácie v oblasti prierezovej témy respondenti najviac využívajú brigády (19 %), ekohry (18 %) najmenej časté sa využívajú prekvapivo didaktické hry (2 %).
V školách majú prevažne zriadených školských koordinátorov environmentálnej výchovy (96 %), miera spokojnosti s ich činnosťou sa ale líši. Tvorba ročného plánu hodnotilo veľmi dobré 85 %, dobré 14 %. Koordinácia aktivít pedagógov hodnotili veľmi dobré 61 % a dobré 39 %, kým koordináciu aktivít žiakov hodnotili veľmi dobré 74 % a dobré 26 %. Spolupráca s organizáciami v oblasti ENV hodnotili najslabšie, len 58% veľmi dobré, dobré 30 % a uspokojivé 12 %.
Na základe výsledkov jednotlivých otázok dotazníka, môžeme konštatovať, že vypracovanie Environmentálneho školského vzdelávacieho programu na školách signifikantne ovplyvňuje začlenenie prierezovej témy do ročníkov (p=0,0944) a tiež zapájanie sa škôl do projektov a súťaži (p=0,1271; Obr. 1). Účasť škôl na projektoch a súťažiach je ale do určitej miery ovplyvnená dostupnosťou danej škole.



Obrázok 1 Vplyv vypracovania Environmentálneho školského vzdelávacieho programu na účasť škôl na projektoch s environmentálnou problematikou

Predpokladali sme tiež, že environmentálne projekty a súťaže ovplyvňujú implementáciu prierezovej témy do predmetov prírodoveda a vlastiveda. To či sa školy zapájajú do dlhodobých a krátkodobých projektov, rôznych súťaží, organizujú akcie, spolupracujú s rôznymi organizáciami a zariadeniami, neovplyvňuje zastúpenie environmentálnej výchovy do týchto dvoch vyučovacích predmetov. Je to zrejme z dôvodu predpokladaného dostatočného naplnenia environmentálneho obsahu v daných predmetov, nakoľko aj najčastejšie uvádzajú aplikáciu environmentálnej výchovy na týchto dvoch predmetoch. Naopak, účasť na environmentálnych projektoch a súťažiach pozitívne koreluje s telesnou a hudobnou výchovou. Signifikantne negatívne ale koreluje s nosnými predmetmi matematikou a slovenským jazykom. Akoby účasť na týchto aktivitách má byť dostatočná a nemusia sa im teda venovať na hodinách týchto predmetov (Tab. 1).

Tabuľka 1. Korelácia medzi aplikáciou environmentálnej výchovy do jednotlivých predmetov a intenzitou účasti škôl na environmentálnych projektoch a súťažiach

Predmet	Účasť na projektoch	Účasť na súťažiach
PRI	-0,17	0,06
VYV	0,05	0,09
VLA	-0,07	0,08
SJL	-0,12	**-0,23**
INF	0,06	0,04
MAT	**-0,30**	**-0,27**
HUV	**0,21**	0,07
TEV	**0,41**	**0,44**

Predpokladali sme tiež, že ak sa školy zúčastňujú na projektoch a súťažiach častejšie, tak to ovplyvňuje spôsoby hodnotenia žiakov, nakoľko je to priam v charakteristikách daných metód či foriem. Očakávali sme teda napríklad, že sebahodnotenie bude mať vyššiu frekvenciu využívania, pretože tvorí súčasť formatívneho hodnotenia žiakov. Výsledky boli prekvapujúce, preukázalo sa, že práca na projektov, ktorá sa sama považuje za časté hodnotenie v oblasti environmentálnej výchovy, dosiahla 5% oproti brigádam 19% a dokonca negatívne koreluje s účasťou na projektoch a súťažiach. Môže to byť spôsobené aj tým, že mnohí prácu na projektoch nepovažujú za súčasť hodnotenia. Pri čom, projekty predstavujú možnosť žiakov samostatne tvoriť, organizovať, samostatne pracovať a hodnotiť vykonanú prácu. Brigádu už ale ako hodnotenie považujú, ide pri nej skôr o manuálnu a inteligenčne nenáročnú činnosť. Pozitívne vnímame aj nárast slovného hodnotenia a ekohier v súvislosti s účasťou na projektoch a súťažiach s environmentálnym zameraním (Tab. 2).

Tabuľka 2. Korelácia medzi jednotlivými spôsobmi hodnotenia a intenzitou účasti škôl na environmentálnych projektoch a súťažiach

Spôsob hodnotenia	Účasť na projektoch	Účasť na súťažiach
slovné hodnotenie	**0,30**	**0,22**
sebahodnotenie	**-0,30**	**-0,22**
pracovné listy	0,19	0,18
práca na projektoch	**-0,40**	**-0,39**
environmentálne kvízy	0,02	**0,24**
výtvarné súťaže	-0,01	-0,17
brigády	**0,28**	**0,24**
ekohry	**0,36**	**0,20**
didaktické testy	**-0,35**	**-0,30**

4 ZÁVER

Prierezové témy environmentálnej výchovy so zameraním na ochranu životného prostredia a zdravia na regionálnej a globálnej úrovni majú význam aj pre primárne vzdelávanie. Všeobecne môžeme potvrdiť, že základné školy majú vypracovaný environmentálny program a zapájajú sa v rôznej miere do environmentálnych súťaží a projektov. Prevažnú časť projektov z dlhodobého pohľadu majú skôr charakter zameraný na zdravie a krátkodobé realizované projekty na ochranu životného prostredia. Zastúpenie environmentálnej výchovy do vyučovacích predmetov prírodoveda a prvouka neovplyvňuje to či sa školy zapájajú do týchto projektov, rôznych súťaží, organizujú akcie, spolupracujú s rôznymi organizáciami

a zariadeniami. Pozitívne vnímame aj aplikovanie ekohier v súvislosti s účasťou na projektoch a súťažiach s environmentálnym zameraním. V neposlednom rade v edukačnom procese by environmentálna výchova mala rozvíjať pozitívny vzťah k prírode a miestu, pochopiť ekologické deje a zákonitosti ako aj environmentálne problémy a rozvíjať schopnosť konať v prospech životného prostredia a ochrany zdravia.

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PREDSTAVY ŽIAKOV A UČITEĽOV PRVÉHO STUPŇA ZÁKLADNÝCH ŠKÔL O OCHRANE PRÍRODY

PERCEPTIONS OF PRIMARY SCHOOL PUPILS AND TEACHERS REGARDING NATURE CONSERVATION

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Abstrakt

Environmentálne problémy dosiahli tomto storočí už viaceré kritické hranice a naďalej rýchlo narastajú. Na zachovanie nevyhnutných podmienok pre najbližšie generácie je potrebné začať myslieť racionálne, uvedomovať si potreby životného prostredia a budovať si pozitívny postoj k prírode. Významnú úlohu v tom má i vzdelávanie, ktoré je primárne spojené so školským prostredím. Zisťovali sme preto, aká je úroveň vedomosti a názorov o ochrane prírody u žiakov a učiteľov primárneho vzdelávania, ako aj aké faktory vplývajú na tieto dve premenné. Zistili sme signifikantnú koreláciu medzi vedomosťami a postojmi ako u žiakov tak i učiteľov. Hlavný vplyv na vedomosti i názory žiakov má s kým chodia do prírody, pričom najlepšie výsledky dosiahli tí čo chodia so školou. Učitelia s najlepšími výsledkami zároveň sú tí, ktorí považujú prechádzky v prírode za najzaujímavejšie pre žiakov v rámci environmentálnej výchovy.

Kľúčové slová: *environmentálna výchova, postoje a vedomosti, ochrana prírody*

Abstract

Environmental problems have already reached several critical thresholds in this century and continue to grow rapidly. To preserve the basic conditions for future generations, it is necessary to start thinking rationally, being aware of the needs of the environment, and building a positive attitude towards nature. Education, primarily within the school environment, also plays a significant role in this regard. Therefore, we investigated the level of knowledge and opinions about nature protection among pupils and teachers in primary education, as well as the factors influencing these two variables. We found a significant correlation between the knowledge and attitudes of both students and teachers. The main influence on students' knowledge and opinions lies in their exposure to nature, with the best results observed among those who engage in school-based activities. Simultaneously, teachers who considered nature walks to be the most interesting for students in environmental education achieved the best outcomes.

Key words: *environmental education, knowledge and attitudes, nature protection*

1 LITERÁRNY PREHĽAD

Za posledné desaťročia sa kvalita nášho životného prostredia stále zhoršuje. Environmentálne problémy dosiahli v 21. storočí viaceré kritické hranice a naďalej rýchlo narastajú. Medzi najzávažnejšie environmentálne problémy rozhodne patria neustále znehodnocovanie prírodného prostredia, poškodzovanie ozónovej vrstvy, nárast odpadov, jadrové znečistenie, degradácia habitatov a vymieranie mnohých druhov živočíchov a rastlín. Okrem toho súbežne s nárastom počtu obyvateľov sveta narastajú aj ich potreby, neustále tak prebieha aj nevedomá spotreba prírodných zdrojov (Smyth 2004, Bonnett 2007). Stále vznikajúce nové environmentálne problémy sú podnetom na to, aby človek začal uvažovať racionálnejšie a

hlavne, aby zachoval vhodné životné prostredie pre budúce generácie. Jednou z možností, ako dosiahnuť tento cieľ, je budovať pozitívny vzťah ľudí k životnému prostrediu (Stevenson 2007).

Na rozvoj proenvironmentálnych postojov vplýva ale viacero faktorov od všeobecných postojov k životnému prostrediu, cez vedomosti o environmentálnych témach až po individuálne vlastnosti, ako je pohlavie, kultúra, úroveň vzdelania či politické presvedčenie (Evans et al. 2018). U detí environmentálna výchova a informovanosť závisí najmä od sociálno-ekonomického postavenia, charakteristík rodičov, úrovne žiakov v prírodných vedách ale aj od verejných alebo súkromných inštitúcií s kvalitnými vzdelávacími zdrojmi (Edsand & Broich 2020). Je to teda pomerne široká škála faktorov, niektoré z nich však predstavujú výsledky vzdelávania a skúseností. Detstvo pritom zároveň predstavuje obdobie najintenzívnejšieho učenia, preto môžeme očakávať, že hodnoty a vzorce správania súvisiace s ochranou životného prostredia sa intenzívne budujú práve v tomto období (Marković et al. 2022). Najväčší vzťah k prírode sa podporuje prírodnými skúsenosťami (Capaldi et al. 2014). Už v rannom detstve by dieťa teda malo zažívať pozitívne prírodné skúsenosti, aby neskôr bolo citlivejšie na prírodu a budovalo si k nej vzťah (Schultz et al. 2004).

Jedným z hlavných predpokladov pri vytváraní citlivosti, hodnôt a postojov detí sú aj vedomosti o environmentálnych otázkach, pretože existuje úzky vzťah medzi rozvíjaním pozitívneho postoja k životnému prostrediu a vedomosťami o životnom prostredí. V záujme riešenia environmentálnych problémov predstavuje tak vzdelávanie významnú úlohu (DiEnno & Hilton 2005). Je nevyhnutným predpokladom na podporu zmien správania aj detí (Hungerford & Volk 1990).

Vzdelávanie je primárne spojené so školským prostredím a teda pri formovaní proenvironmentálnych postojov zohráva dôležitú úlohu škola. V rámci nej, na všetkých úrovniach, sú to zase hlavne učitelia, ktorí majú významnú úlohu pri zvyšovaní povedomia o životnom prostredí a jeho problémoch. Mali by sa preto úprimne zaujímať o jeho problémy, bezpečnosť a fungovanie. O to významnejšia je úloha učiteľov primárneho vzdelávania, pretože ako sme už spomenuli, pre deti je obdobie primárneho vzdelávania kľúčové, lebo sú vo veku, kedy sa môžu formovať a podporovať dôležité postoje, a preto možno očakávať, že environmentálna výchova bude mať na nich maximálny vplyv (Pandey et al. 2022).

Na základných školách na Slovensku je v rámci primárneho vzdelávania hlavným cieľom z hľadiska ochrany prírody, aby si žiak osvojil základné pravidlá a zručnosti pre správanie sa v prírode, správal sa šetrne k prírodným zdrojom, zveľaďoval životné prostredie, posilňoval pocit zodpovednosti vo vzťahu k živým organizmom a ich prostrediu, vážil si prírodu a iné. Tieto ciele sú súčasťou štátneho vzdelávacieho programu, konkrétne ich nájdeme v prierezovej téme environmentálnej výchovy (ŠVP 2015). V školách sa environmentálna výchova realizuje vo viacerých podobách. Prvá, asi najčastejšia podoba, je environmentálna výchova ako súčasť učebného obsahu vyučovacích predmetov. Uskutočňuje sa hlavne na hodine prírodovedy či prvouky, ale aj na iných, najčastejšie na hodinách vlastivedy, pracovného vyučovania a etickej výchovy. Avšak mala by sa uskutočňovať na všetkých predmetoch.

Najčastejšie sa environmentálna výchova realizuje formou projektov, seminárov, vyučovacích blokov, kurzov. V súčasnosti táto téma umožňuje spájať formálne vzdelávanie s neformálnym, čím sa výučba pre žiakov aj z hľadiska ochrany prírody, stáva zaujímavejšou, pútavou a pestrejšou (Peterková, 2013). Napriek tomu práve formy environmentálnej výchovy sú častým problémom výučby. Prístupy, ktoré sú využívané, žiakov neoslovujú (Jančaříková 2008), nie sú spojené s problémami, ktoré ľudstvo v súčasnosti ťažia (Janík & Stuchlíková 2010). Často vzniká nedostatočná schopnosť aplikovať učivo v každodennom reálnom živote. Skúmaním odpovedí žiakov základných škôl sa zistilo, že pokiaľ ide o vedomosti a pochopenie environmentálnej terminológie a otázok, ako je recyklácia, zachovanie,

znečistenie a ochrana životného prostredia, sa často obmedzuje na terminologický a fyzikálny prístup. Žiaci si myslia, že životné prostredie je miesto, v ktorom sa nachádzajú živé veci a ľudia (Boylan 2017, Pandey et al. 2022), bez intenzívnejšieho emočného zapojenia a reálneho vnímania problémov.

Pri reštrukturalizácii a pretváraní myslenia detí vo vzťahu k životnému prostrediu pomôže tak len dôraz na efektívnejšie formy environmentálnej výchovy (Pandey et al. 2022). Dokonca i digitálne technológie môžu slúžiť mladým ľuďom pri zvyšovaní environmentálnej zodpovednosti a zmysluplného správania sa voči prírode. Rôzne mobilné aplikácie, videokonferencie, virtuálne a rozšírené techniky, pomáhajú získavať skúsenosti v miestnom a vzdialenom prostredí, zbierať údaje a zdieľať výsledky medzi skupinami. Pomáhajú pri rozvíjaní záujmu žiakov (Buchanan et al. 2018). Napriek tomu dôležitejšou metódou je zážitkové učenie, kedy sa žiaci vzdelávajú prostredníctvom pozorovania a interakcie s prostredím. Učitelia základných škôl sú však najmenej presvedčení o význame využívania aktivít v prírode v porovnaní s inými učebnými aktivitami (Torquati et al. 2013). Súčasťou výuky síce sú výlety, inštruktážne učenie, pohybové aktivity a učenie sa rôznymi aktivitami v prírode, ich vplyv však nie je príliš silný, pretože žiak zvyčajne navštívi prírodnú školu raz alebo dvakrát počas celého jeho školského obdobia (Jeronen et.al. 2009). Potrebné je však, aby prírodovedný pedagóg kvalitatívne analyzoval myšlienky súvisiace s poznávaním prírody, mal dostatočné vedomosti a úprimný záujem o ochranu životného prostredia, ktoré následne intenzívne aplikuje do vzdelávania formou vhodných a účinných metód v rámci environmentálnej výchovy.

Hlavným cieľom bolo preto nielen zistiť predstavy učiteľov a žiakov primárneho vzdelávania o ochrane prírody ale zaujímala nás tiež aká forma environmentálnej výchovy by mohla byť zaujímavá pre žiakov z pohľadu učiteľov. Skúmali sme ako názory tak i aktuálne vedomosti učiteľov a žiakov o ochrane prírody a porovnávali ich z hľadiska pohlavia, bydliska, času tráveného v prírode aj s hľadiska toho s kým trávia čas v prírode

2 MATERIÁL A METÓDY

Odpovede na otázky vytýčené v cieli sme hľadali pomocou elektronického dotazníka. Dotazník sme rozosielali v prvom polroku roku 2021 žiakom prvého stupňa ZŠ (vo veku 8 - 11 rokov) ako i učiteľom primárneho vzdelávania. Respondenti mohli v jednotlivých otázkach vybrať jednu alebo viacero odpovedí, pričom v niektorých otázkach sme využili aj možnosť pridania obrázku. Dotazník obsahoval pre žiakov 17 otázok a pre učiteľov 14 otázok. Otázky v dotazníku sme si rozdelili do troch kategórií.

Prvá kategória boli demografické otázky, kde sme zisťovali napríklad, ako často trávia učitelia a žiaci čas v prírode, s kým ho trávia, či sú z mesta alebo dediny, ich pohlavie. U žiakov sme tiež zisťovali nakoľko pomáhajú doma so starostlivosťou o živé organizmy. Druhá kategória boli vedomostné otázky, ktorými sme skúmali doterajšie vedomosti žiakov a učiteľov o ochrane prírody a životného prostredia. Otázky boli z hľadiska recyklácie, ohrozenia živočíchov a rastlín, ochrany pôdy a iné. Treťou kategóriou boli názorové otázky, kde sme zisťovali názory učiteľov a žiakov o ochrane prírody. Otázky boli zamerané na to, prečo je príroda pre človeka dôležitá, ako lepšie udržať životné prostredie, kto je povinný sa starať o prírodu a iné. U žiakov sme ešte zisťovali čo je ich najväčším zdrojom informácii o životnom prostredí a učiteľov sme sa zasa pýtali, aká forma výučby by bola pre žiakov najviac atraktívna.

Na analýzu údajov sme použili program STATISTICA 8. Na zistenie štatistických významných rozdielov medzi vedomostnými i názorovými otázkami z hľadiska jednotlivých demografických kategórií sme použili analýzu ANOVA. Vzťah medzi vedomostnými a názorovými otázkami sme zisťovali koreláciou.

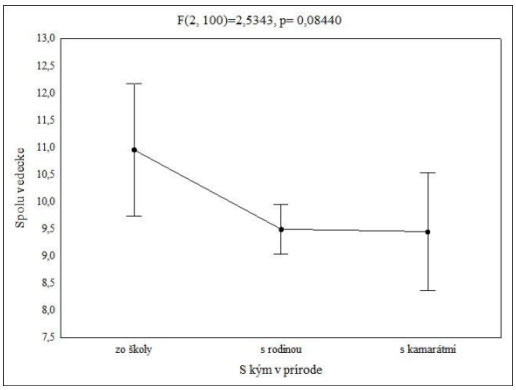
3 VÝSLEDKY A DISKUSIA

Výskumnú vzorku tvorili žiaci a učitelia primárneho vzdelávania. Počet žiakov, ktorí sa zapojil do vyplnenia elektronického dotazníka bol 103. Počet dievčat a chlapcov bol takmer rovnaký, 53 dievčat a 50 chlapcov. Väčšina respondentov žiakov bývala v meste, až 64 a na dedine iba 39. Učiteľov, ktorí sa zapojili do dotazníka, bolo 49. Mužov bolo podstatne menej iba 6 a žien 43. Rovnako ako u žiakov väčšina bývala v meste (30, na dedine len 19). Veková kategória u učiteľov nebola zisťovaná.

3.1 Vyhodnotenie a interpretácia výsledkov žiakov

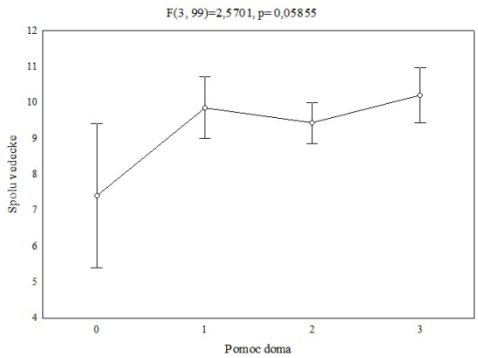
V elektronickom dotazníku sme rozdelili otázky pre žiakov primárneho vzdelávania do troch kategórii, demografické, vedomostné a názorové. V kategórii vedomostných otázok mohli žiaci získať maximálny počet bodov 20, pričom ale získali maximálne 15,5 bodov. Priemerný počet, ktorý žiaci dosiahli v kategórii vedomostných otázok bol 9,6 bodov. Dobre zodpovedanou otázkou bola taká, kde žiaci mali vybrať možnosti, prečo dochádza k úbytku hmyzu; získali priemerný počet 1,8 (z max 2) bodov. Väčšina žiakov označilo odpoveď, pretože strácajú miesto pre život. Najhoršie zodpovedajúcou otázkou bola otázka, v ktorej mali žiaci vybrať najlepšie recyklovateľný materiál. Väčšina označila papier a nie sklo.

Počet bodov za všetky vedomostné otázky spolu sme porovnali medzi jednotlivými kategóriami z demografických otázok. Zistili sme tak, že nebol štatistický významný rozdiel v získaných bodoch v závislosti od toho, s kým trávia čas v prírode (p= 0,0844). Najvyšší počet bodov získali žiaci, ktorí trávia čas v prírode zo školy (11 bodov), menej ak s rodinou (9,5 bodov) a s kamarátmi 9,5 bodov (Obr. 1).



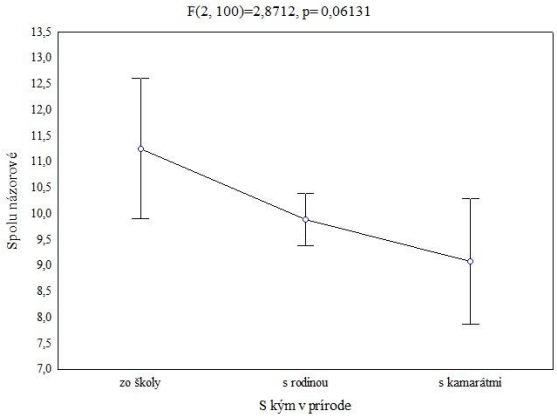
Obrázok 1. Priemerný počet bodov získaných vo vedomostných otázkach v závislosti od toho, s kým žiaci trávia čas v prírode

Rozdiel medzi chlapcami a dievčatami v zodpovedaní vedomostných otázok bol len o 0,1 bodu (v prospech chlapcov), tento rozdiel ale nebol štatistický významný (p=0,9713). Rozdiel či bývajú žiaci na dedine alebo v meste taktiež nebol štatisticky významný (p= 0,7038). Z mesta získali žiaci priemerne o 0,2 bodov viac ako žiaci z dediny. Štatisticky významný rozdiel sme nezistili ani medzi týmto počtom bodov a pomocou doma so starostlivosťou o záhradu či zvieratá (Obr. 3, p= 0,0586). Ak žiaci pomáhajú doma len s izbovými kvetmi získali ale najnižší počet bodov 7,4. Naopak, ak pomáhajú so starostlivosťou o záhradu získali najvyšší počet bodov v kategórii vedomostných otázok a to až 10,2 bodov. Vyššie hodnoty dosiahli aj tí, čo pomáhajú doma s bytovým zvieratkom (9,9 bodov) a vonkajším zvieratkom (9,4 bodov, Obr. 2).



Obrázok 2. Priemerný počet bodov získaných vo vedomostných otázkach v závislosti od pomoci doma, kde 0 je pomoc o izbové kvety, 1 je pomoc s bytovým zvieratkom, 2 je pomoc s vonkajším zvieratkom a 3 je pomoc so záhradou

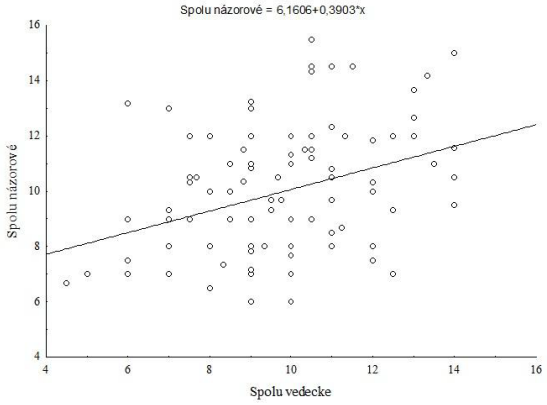
V kategórii názorových otázok mohli žiaci získať 17 možných bodov pričom získali maximálny počet 12,9 bodov. Priemerný počet získaných bodov bol ale 8,8 bodov. Pri otázke prečo je príroda pre človeka dôležitá väčšina žiakov označilo odpoveď, pretože je to miesto, kde môžem využiť svoj voľný čas. Najnegatívnejšie vnímame zodpovedanie otázky, v ktorej mali žiaci vybrať, čo je potrebné robiť, aby si človek udržal dobré životné prostredie. Konzumný spôsob života označilo iba 17,5 % žiakov, väčšina označila možnosť zabezpečiť čistý vzduch obmedzením automobilovej dopravy (47,6 %). V závislosti od kategórie názorových otázok spolu, sme nezistili štatistický významný rozdiel medzi demografickou otázkou, s kým žiaci trávia čas v prírode (p= 0,0613). Rovnako ako v kategórii vedomostných otázok aj v názorových nám vyšlo, že najlepšie zodpovedali na ňu žiaci, ktorí trávia čas v prírode zo školy. Dosiahli 11 bodov. Tí, ktorí trávia čas s rodinou získali v názorových otázkach 9,9 bodov a s kamarátmi najmenej, 9 bodov (Obr. 3).



Obrázok 3 Priemerný počet bodov získaných v názorových otázkach v závislosti od toho, s kým žiaci trávia čas v prírode

U dievčat bol priemerný počet bodov v tejto kategórií vyšší o 0,3 bodov ako u chlapcov. Rozdiel nebol štatistický významný (p=0,4438). Rozdiel medzi tým či bývajú žiaci na dedine alebo v meste tiež nebol štatisticky významný (p= 0,9923). Žiaci z mesta aj z dediny získali rovnaký priemerný počet 10 bodov. Ani tentokrát sme nezistili štatistický významný rozdiel ani v závislosti od toho, s čím pomáhajú žiaci doma (p= 0,2371). Najväčší priemerný počet získali ale tí, ktorí pomáhajú so starostlivosťou o záhradu a najmenej tí, ktorí pomáhajú o izbové kvety. Trend bol teda podobný ako v kategórii vedomostných otázok.

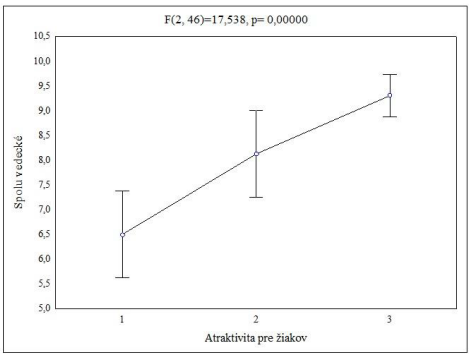
Pri skúmaní závislosti medzi vedomosťami respondentov a názormi na ochranu prírody bola zistená mierna ale signifikantná pozitívna korelácia (r = 0,35). S rastúcim vzdelaním stúpala názorová podpora ochrany prírody u sledovaných žiakov. Vzdelanie (vedomosti) na základe tohto výskumu má významný vplyv na žiacke názory. Súvisí to aj vyššie spomenutým výsledkom, že ak deti trávia čas v prírode zo školy, majú lepšie vedomosti a názory o ochrane prírody (Obr. 4). Škola je tak nositeľom vedomostí i zdrojom správnych postojov.



Obrázok 4 Závislosť medzi kategóriami vedomostných a názorových otázok

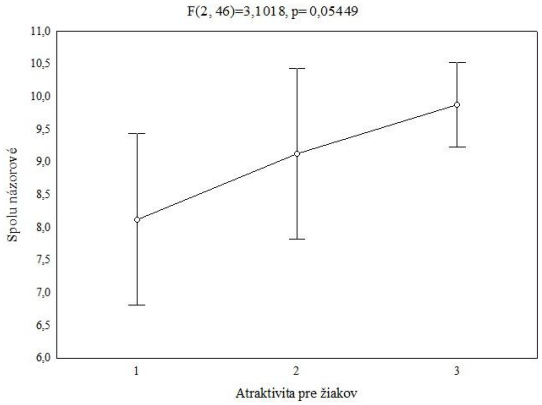
3.2 Vyhodnotenie a interpretácia výsledkov učiteľov

V kategórii vedomostných otázok mohli učitelia získať maximálny počet 8 bodov, pričom získali maximálne 7 bodov. Priemerný počet, ktorý učitelia získali bol 6,1 bodu pričom najlepšie zodpovedanou otázkou bola otázka 11, v ktorej sme sa pýtali, čo je zakázané, ak ide o rastliny, ktoré sú ohrozené? Najčastejšie odpovedali správne *odtrhnúť si hoci len kvet*, ktorú označilo 44,4 % učiteľov, pričom možnosť *ničiť rastlinu v jej prirodzenom areáli* vybralo 42,6 % učiteľov. Najhoršie zodpovedaná otázka z tejto kategórie bola otázka, kde sme sa pýtali, či *si môže človek, len tak vo voľnej krajine, mimo mesta a obce vysadiť, napríklad tuju alebo iný druh stromu*, kde učitelia získali priemerne len 0,4 bodu z možných dvoch bodov. Táto otázka bola spoločná i u žiakov a tí ju dokonca zodpovedali lepšie než učitelia. V kategórií vedomostných otázok u učiteľov bol zistený štatistický významný rozdiel medzi tým aká forma výučby environmentálnej výchovy by bola podľa nich pre žiakov najatraktívnejšia (p = 0,0000). Najviac bodov (9,3) získali učitelia, ktorí si zároveň myslia, že formou výučby realizovanej prechádzkami do prírody. Najmenej bodov (6,5) získali naopak tí, čo si myslia ak by bola environmentálna výchova formou výučby prednášok alebo videofilmoch (Obr. 5).



Obrázok 5 Priemerný počet bodov získaných vo vedomostných otázkach v závislosti od atraktivity výučby ENV pre žiakov, kde 1 sú prednášky a videofilmy, 2 je ENV ako samostatný predmet a 3 sú prechádzky do prírody.

Počet bodov v tejto kategórii bol vyšší (ale nie štatistický významne p = 0,9225) u žien o 0,4 bodov ako u mužov. Rozdiel medzi tým či bývajú učitelia na dedine alebo v meste tiež nebol štatisticky významný (p = 0,6634). Učitelia z mesta získali o 0,2 bodov viac ako z dediny.
V názorových otázkach učitelia získali maximálny počet 13 bodov zo 14 možných bodov. Priemerný počet, ktorý učitelia získali v kategórii názorových otázok bol 7,5 bodov. Najlepšie zodpovedanou otázkou bola, kde sme sa pýtali *kto je povinný chrániť prírodu pred poškodzovaním a ničením*. Správnu odpoveď *každý* označilo 85,7 % učiteľov. Najhoršie zodpovedanou bola otázka, *Čo si predstavujte pod pojmom ochrana prírody*? Až 44,9 % učiteľov vybralo možnosť *predchádzanie znečisťovaniu životného prostredia*, správnu odpoveď *obmedzovanie zásahov do prírody a krajiny* označilo iba 24,5 %. V kategórií názorových otázok nebol zistený štatistický významný rozdiel medzi tým, akú formu výučby ENV považujú za najatraktívnejšiu pre žiakov (p = 0,0545). Najviac bodov (9,9) ale zase získali tí učitelia, čo si myslia, ak by bola forma výučby realizovaná prechádzkami do prírody. Najmenej bodov (8,1) zase tí, ak by bola ENV formou výučby prednášok alebo videofilmoch. Tento výsledok nám vyšiel podobne pri vedomostných otázkach. Z daného vyplýva, že najlepšie názory a vedomosti o ochrane prírody majú tí učitelia, čo zároveň zastávajú názor, že ENV realizovaná formou výučby prechádzkami do prírody, by mohla byť pre žiakov najzaujímavejšia (Obr. 6).



Obrázok 6 Priemerný počet bodov získaných v názorových otázkach v závislosti od atraktivity výučby ENV pre žiakov, kde 1 sú prednášky a videofilmy, 2 je ENV ako samostatný predmet a 3 sú prechádzky do prírody

Počet bodov v kategórii názorových otázok bol vyšší u mužov o 0,6 bodov ako u žien. Rozdiel nebol štatistický významný (p = 0,4748). Taktiež rozdiel medzi tým, či bývajú učitelia na dedine alebo v meste nebol štatisticky významný (p = 0,9225), pričom učitelia z mesta získali o 0,1 bodu menej ako z dediny. Rovnako ako žiakov aj u učiteľov bola zistená mierna signifikantná závislosť (r = 0,3) medzi vedomosťami respondentov a názormi na ochranu prírody. S rastúcimi vedomosťami stúpala i názorová podpora ochrany prírody u učiteľov primárneho vzdelávania.

Ochrana prírody je súčasťou prierezovej témy environmentálna výchova, ktorá sa vyučuje v základných školách. Jej realizácia a formy sa líšia a nie všetky sú rovnako účinné. Otázkou tiež zostáva, či základné školy vôbec zapájajú aspoň jednu z foriem environmentálne výchovy do výučby. Pri zisťovaní stavu environmentálnej výchovy detí a mládeže na Slovensku v minulosti, väčšina respondentov v rozhovore hodnotilo environmentálnu výchovu neuspokojivo. Riaditelia týchto škôl sa však vyjadrili, že stav environmentálnej výchovy na základných školách je uspokojivý, len niektorí z nich sa vyjadrili negatívne. Učitelia sa ale tiež vyjadrili, že výučba environmentálnej výchovy prebieha skôr formálne a nekvalitne.

Väčšina učiteľov sa zároveň stotožnila s názorom, že environmentálnu výchovu ovplyvňuje najmä škola, potom spoločnosť, mimoškolské subjekty, rodina a podobne (Milová 2012). My sme sa zamerali na aktuálnejšie zisťovanie toho, aká forma výučby environmentálne výchovy by bola pre žiakov najatraktívnejšia z pohľadu učiteľa, ale tiež aký vedomostný a názorový základ majú učitelia a žiaci o ochrane prírody. Tieto vedomosti a názory sme zisťovali nepriamo, až na konci dotazníka sme prvý krát použili pojem ochrana prírody. U žiakov sme zistili, že ich doterajšie vedomosti a názory z hľadiska ochrany prírody sú priemerné. Ich vedomosti a predstavy o ochrane prírody sú skreslené, respektíve často zredukované na vedomosti o odpadoch. Žiaci aj z hľadiska negatívnych činností v prírode za najväčšie ohrozenie považujú skládky odpadov. V našom výskume sme chceli od žiakov, aby vybrali aj jednu možnosť, ktorá najlepšie pomôže k udržateľnému životnému prostrediu. Žiaci vybrali možnosť menej využívať automobilovú dopravu a ako druhú najčastejšiu možnosť označili zbieranie odpadkov. Zabraňovaniu zvyšovaniu odpadu by najčastejšie dosiahli recykláciou, ako druhú možnosť až označili predchádzaním jeho vzniku. Prekvapilo nás ale, že väčšina žiakov označila ako najlepšie recyklovateľný papier. Všeobecne ale žiaci základných škôl aktuálne majú dobré znalosti a prístup k recyklácii. Napriek tomu ich ale neraz nepraktizujú vo svojom živote (Rahman, 2016). Vyšší rozmer chápania ochrany prírody však žiaci nedosiahli a ich sú proenvironmentálne postoje sú tiež skreslené korelujúc s úrovňou vedomostí. vedomosťami.

Učitelia na rozdiel od žiakov dosiahli nadpriemerné výsledky a ich názory a vedomosti sú aktualizované. Za najviac atraktívnu formu environmentálnej výchovy pre žiakov považujú prechádzky do prírody. Učitelia, ktorí vyslovili túto domnienku dosiahli zároveň lepšie výsledky vo vedeckých a v názorových otázkach. Menej aktivizujúcu formu, prednášky a videofilmy, volili učitelia, ktorí boli aj menej úspešní vo vedeckých a názorových otázkach. Len jeden respondent však spomenul priamu výuku v prírode. Environmentálna výchova na ich školách však najčastejšie prebieha ako súčasť viacerých predmetov. Túto možnosť označilo až 68,8 % učiteľov. Výučba je hlavne formálna, pretože neformálnu výučbu označilo menej ako 20 % respondentov čo je zároveň v kombinácií s absenciou priamej výuky v prírode. Najviac spájaný s učivom o ochrane prírody je predmet Prírodoveda. So stúpajúcim vekom však žiaci majú menej pozitívne postoje k tomuto predmetu ako i neskôr k biológií. Najradšej žiaci na tomto predmete preberajú živočíchy, prírodu samotnú, obľubujú i vychádzky v prírode (Chudá 2007).
V našom výskume sme tiež zistili, že škola je miesto, kde žiaci získavajú najviac informácií ohľadom ochrany životného prostredia ako i formujú si názory. Až potom nasledovala rodina a televízia. Avšak i žiaci, ktorí sa intenzívnejšie podieľajú na starostlivosti o živé organizmy doma, majú lepšie informácie i postoje k prírode a jej ochrane.

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DEVELOPMENT OF SOME DIMENSIONS OF HUMAN PERSONALITY USING AN EXPERIMENTAL MOVEMENT PROJECT IN INDIVIDUALS WITH SELECTED SENSORY DISABILITIES

Martin Dlouhý

Abstract

The contribution focuses on changes in performance motivation (hereinafter referred to as VM) in young people with a hearing handicap during adolescence using a specific movement project. As part of the methodology of the work, a basic empirical procedure was chosen through a pedagogical experiment. thanks to a special movement project that consisted of the basics of self-defense. The standardized Aspiration Test (Bakalář, 1987) was used as part of the methodology for determining the level of performance motivation. An intervention exercise program was created using the method of analysis and synthesis of the researched data, and the evaluation of the obtained results was carried out using basic statistical methods. The established hypothesis that this program would increase the level of VM in an experimental group of young people with hearing impairment was confirmed. The research confirmed the assumption, which no one has scientifically verified so far, that the basics of self-defense have a significant influence on the development of this motivation in a selected group of young people with hearing impairment.

Key words: *movement project, sensory impairment, hearing, youth*

1 INTRODUCTION

Apart from sight, hearing is one of the main senses of man and is also one of those that work continuously without us realizing it. Damage or even loss of any senses is a significant handicap for a person. Sport and physical activity, as an important phenomenon of our being, is also an indispensable part of the integration of individuals not only with sensory disabilities. Sports, specifically physical activity, affects the personality and its dimensions such as attention or performance motivation, etc. and is often in our society quite underestimated, among other things, a therapeutic factor in promoting a healthy lifestyle – not only for individuals with hearing impairment.

The process of teaching physical education at schools by teachers is generally the same, but the method of learning is different, meaning the strategy of the way the teacher provides the material to be taught to students at the disability level. All instructions are provided using sign language (Reid, 2013).

Physical education is for sport and health very important element that supports the growth of physical and psychological development, motor skills, knowledge, reasoning, appreciation of values and addictive healthy life patterns, which aims to stimulate growth and development of quality of physical and mental balance (Blahutková, 2005).

Performance motivation is understood as the expectation of certain affective changes in relation to the achievement or non-achievement of the goal, specifically the motivational effect of hope on success and fear of failure, dependent on experience going to family upbringing, causal attributes and other factors (Blahutková, Slížik, 2014). Motivation to performance is often referred to as the subject's need to achieve success in various types of activities, especially when competing with other people. The basis of performance motivation are affectively tinted associations that connect a person's inner experiences and behaviour (Nakonečný, 2014).

However, the education of hearing-impaired individuals in the field of physical education, specifically physical activities and individual sports, is a very difficult and complicated process (Nugraha, Sukoco, Annisa, 2019).
Deaf children are children who have partial or total hearing loss. Deaf children have a unique perspective on learning (Braun et al. 2018). Deaf children must therefore be provided with real and concrete experiences (Cheng et al. 2016).
One of the most important components that fundamentally affects the level of performance motivation is aspiration (Brown, 2017).
The aspiration level is one of the topics that has previously received a great deal of attention in connection with the interest in motivation (Bailey, 1996). We can define it as the level of goals that a person sets and expects to achieve. Achieving these goals is then experienced as a success, failure to achieve as a failure (Nakonečný, 2014).
Aspiration always has a certain content and certain qualitative aspects. The aspiration level is an important characteristic of an individual's activity. These are life goals and the associated level of effort required to achieve them (Nakonečný, 2015). The level of aspiration and the motivation is also significantly influenced by the classroom climate or in the work of a group.
It is generally known that activities, specifically sports activity, affect among other things, the area of performance motivation (Daly, 2016). One of the specific physical activities that is very suitable in this case for psychomotor development (Blahutková, 2005) is self-defence, specifically martial arts (Nakayama, 2007, Dlouhý, 2002; Kurfűrst, 1994) and these physical activities are also generally suitable for individuals with various types of sensory impairment - not excluding hearing impairment.
Therefore, the main purpose of this study was to create a specific exercise program, verify it in practice and then verify whether it helped to improve the level of performance motivation of individuals with hearing impairment.

2 METHODOLOGY

The aim of the work
The aim of the work is to demonstrate the influence of an intervention exercise program composed of basic elements of self-defence on performance motivation of adolescents with hearing impairment.
Hypothesis – We assume that the influence of the pedagogical experiment will significantly increase the performance motivation of the experimental group of adolescents with hearing impairment in comparison with the control group.

Methods

Within the methodology of this work, was the basic empirical procedure chosen through a pedagogical experiment with a control and experimental group. Based on the scope of research, selection of subjects and their conditions, monitoring time and stimuli. Assuming that in our research we intentionally manipulate an independent variable and then monitor the response to the dependent variable and the influence.
The main experimental factor was a specific intervention movement program, which consisted of the basics of self-defence (i.e. fights, combat games, preparatory, basic and other fights; techniques such as covers, blocks, kicks, punches and self - defence techniques such as rescue from grips, techniques for seducing and immobilizing the opponent), designed with regard to pupils with hearing impairments and their special educational needs. The intervention program was focused on increasing the level of performance motivation.
The control group continued the standard teaching of physical education with a predominance of movement and sports games - without any elements of self-defence or martial arts in these classes. As part of the attention measurement, a standardized Aspiration Level Test was chosen (Bachelor, 1987). The measurement took place in the form of pre-test and post-test.

The most important component of performance motivation is the level of aspiration, which, as an essential sub-system, is also the main measure of the size of performance motivation (therefore the subject of measuring performance motivation) and therefore, if it is necessary to determine the level of performance motivation standardized Aspiration Level Test (Bachelor 1987). The evaluation of the obtained data was performed by the method of statistical analysis of basic statistical quantities.

Based on cooperation and mutual agreement with the school management, the entire research took place in 2022 at the Secondary School for the Hearing Impaired in Hradec Kralove in the form of one full lesson twice a week for a period of six months with the content of the above exercise program (within school physical education). The lessons were attended by PE teachers, translators (who did not intervene during the lessons) and a researcher. There were applied forty hours of special exercise program in total.

The aspiration level test is performed in the form of a pencil - paper in a predetermined form. A record sheet is placed in front of the subject and it is explained to him that his task is to make as many crosses as possible in squares in ten seconds (in a 3x9 figure, i.e. 3 rows and 9 columns). When asked for its estimate, it is written in the square next to the table marked E_1 (estimation 1). Then a test is performed for ten seconds. Time and other instructions must be followed exactly. The actual number of crosses on the first attempt is written in square P_1 (performance 1) next to the table (below square E_1). In further experiments, the instructions are analogous. There is a total of four attempts. However, on the third attempt, without the subject's knowledge, the time limit is shortened by two seconds, i.e. to eight seconds. The last fourth attempt is again in the original time limit of ten seconds. The results are compared with the standard and evaluated.

Formula for calculating the aspiration level test:

$$A = \frac{E2 - P1 + E3 - P2 + E4 - P3}{3}$$

A – aspiration; E2 - 4 – estimate; P1 – 3 – performance

Result compared to the standard:

5.00 - more – very high
3.00 - 4.99 - high
1.00 - 2, - normal
-1.5 - 1 - low
-1.5 - below - very low

Characteristics of the research set

The selection of the research set was intentional (according to the criteria below). The experimental group consisted of a total of 14 subjects (8 girls and 6 boys) from the Secondary School for the Hearing Impaired, respectively pedagogical Secondary School for the hearing impaired in Hradec Kralove in the age category of adolescence in this case in the range of 17 - 21 years (Table 2). Character of hearing impairment: (Horáková, In Pipeková, (2006) moderate - severe hearing impairment. The control group also consisted of a total of 14 subjects (8 girls and 6 boys) of the above school in the same age category of adolescence in the range of 17-21 years (Table 1) as in the experimental group. The nature of the hearing impairment was also the same as in this group. Due to the fact that it is the largest school of this type in the Czech Republic, it is almost an exhaustive number.

The choice of control and experimental set was intentional. The main criteria in both groups were age (17-21, i.e. adolescence), level of hearing impairment (moderate - severe hearing impairment), representation of men and women in both groups (always 6 M and 8 W,

respectively), no movement restrictions and no previous experience practicing self-defence or martial arts.

3 RESULTS

For verifying the hypothesis was used an aspiration level test. (Bachelor, 1987).
The results of the aspiration level test in the control and experimental groups are expressed in points (Table 1 - 2). The values obtained show that in men, the results in the test of aspiration level at the end of the experiment were higher by 2.73 points than in the control group. In women, the results in the aspiration level test at the end of the experiment were lower by -0.12 points than in the control group. Overall, the results were 1.1 points higher in the experimental group at the end of the experiment due to the intervention exercise program in the aspiration level test than in the control group.

Table 1: Results of aspiration level test measurements in a control group of adolescents

Test person – sex (M, F)	Entrance survey (pre-test)	Output survey (post-test)	Difference
TO 1 M	- 2,33	- 4,66	- 2,33
TO 2 M	+2,33	- 1,33	- 3,6
TO 3 M	+3,66	+4,66	+1
TO 4 M	+0,66	+0,33	- 0,33
TO 5 M	+5,33	+5	- 0,33
TO 6 M	-2	- 2	0
TO 7 W	-0,66	- 1	- 0,34
TO 8 W	+0,66	- 1,33	- 1,99
TO 9 W	0	+0,33	+0,33
TO 10 W	+1	+2,66	+1,66
TO 11 W	- 7	- 5,66	+1,34
TO 12 W	- 0,33	0	+0,33
TO 13 W	- 6,66	- 7	- 0,34
TO 14 W	+2,66	+4,66	+2

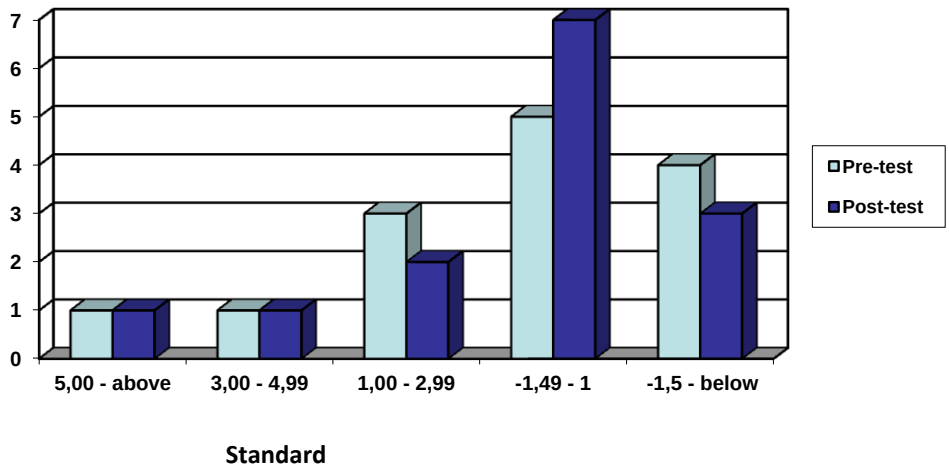
Table 2: Results of aspiration level test measurements in the experimental group of adolescence

Test person – sex (M, F)	Entrance survey (pre-test)	Output survey (post-test)	Difference
TO 1 M	- 5	- 3	+2
TO 2 M	0	0	0
TO 3 M	- 1,45	+1,15	+2,6
TO 4 M	- 1	- 1	0
TO 5 M	- 2	+1,66	+3,66
TO 6 M	- 1,45	+1,15	+2,6
TO 7 W	+3	+4	+1
TO 8 W	- 1,66	0	+1,66
TO 9 W	+0,33	- 5,3	-5,66
TO 10 W	+1,33	- 4,3	-5,66

TO 11 W	+0,66	+3,06	+2,4
TO 12 W	- 2,66	+3,33	+5,99
TO 13 W	- 6,3	- 7,1	- 0,8
TO 14 W	- 2	+1,1	+3,1

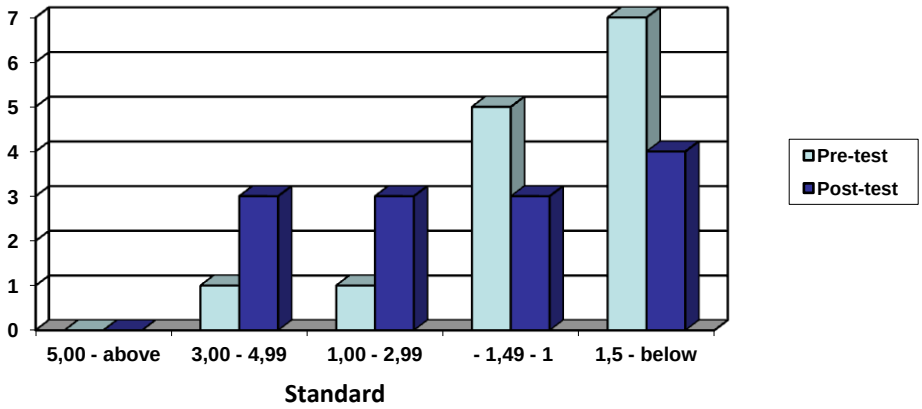
The results of measurements in terms of frequency distribution in the given bands of the standard in the control and experimental group within the test of the level of aspiration and their comparison are shown in pictures 1 - 2.

Subjects / Respondents



Picture 1: Results of measuring the level of aspiration in control groups

Subjects / Respondents



Picture 2: Results of measuring the level of aspiration in the experimental group

Basic statistical characteristics

We found the following facts in the statistical evaluation of performance motivation (Table 3 –5).

Table 3: Control group – ASPIRATION

Quantity	N	Average	Minimum	Maximum	Decisive

					deviation
Aspiration: Pre-test all	14	-0,19143	-7,00000	5,3300	3,49721
Aspiration: Post-test all	14	-0,38143	-7,00000	5,0000	3,77213
Average deterioration		0,19			
Sex =M					
Aspiration: Pre-test	6	1,27500	-2,33000	5,33000	3,07715
Aspiration: Post-test	6	0,33333	-4,66000	5,00000	3,83777
Average deterioration		0,94167			
Sex =F					
Aspiration: Pre-test	8	-1,29125	-7,00000	2,6600	3,56717
Aspiration: Post-test	8	-0,91750	-7,00000	4,6600	3,89083
Average improvement		-0,37375			

Table 4: Experimental group - ASPIRATION

Quantity	N	Average	Minimum	Maximum	Decisive deviation
Aspiration: Pre-test all	14	-1,30000	-6,30000	3,0000	2,40799
Aspiration: Post-test all	14	-0,37500	-7,10000	4,0000	3,37507
Average deterioration		-0,925			
Sex =M					
Aspiration: Pre-test	6	-1,81667	-5,00000	0,00000	1,69725
Aspiration: Post-test	6	-0,00667	-3,00000	1,66000	1,75501
Average deterioration		-1,81			
Sex =F					
Aspiration: Pre-test	8	-0,91250	-6,30000	3,0000	2,88279
Aspiration: Post-test	8	-0,65125	-7,10000	4,0000	4,33028
Average improvement		-0,26125			

Table 5: ASPIRATION - pre-test & post-test - summary

Aspiration	all	men	women
control	0,19	0,94	-0,37375
experimental	-0,925	-1,81	-0,26125

4 DISCUSSION

The results of the research show that the above pedagogical experiment, specifically the intervention exercise program, had a clear effect on performance motivation, which was changed as a result of the intervention program. The pedagogical experiment was attended by 28 adolescents (14 subjects in the control group and 14 experimental groups). It is a significantly higher number of students than the standard number of students in classes of PE for pupils with hearing impairment, where this number of students is significantly lower (see Regulation 62/2007 Coll.). This made the whole implementation of the pedagogical experiment much more demanding and it is possible that it could affect the results of this experiment, which could be lower than originally expected and the special intervention program could paradoxically have a substantially smaller effect, which was reflected in the results.

In men, the results of the aspiration level test were on average 1.81 points better at the end of the experiment than at the beginning of the experiment, with the greatest improvement of 3.66 and the lowest of 0. In women, the results in the aspiration level test were on average 0, 25 better at the end of the experiment than at the beginning of the experiment, with the largest improvement of 5.99 and the smallest of 1.00. The largest deterioration was -0.66 and the smallest -0.8 points. Overall, the results due to the intervention exercise program in the aspiration level test, measured by the standardized Aspiration Test (Bachelor, 1987), were 0.92 better at the end of the experiment than before it started. There was an improvement in 9 cases (4 boys and 5 girls), the state remained unchanged for 2 subjects (2 boys) and for 3 subjects there was a certain decrease in aspiration level, i.e. in 3 girls (Table 2, Pic. 2). We assume that the reason for this fact was the effect of self-defense training within the implemented intervention program, which positively stimulated the examined performance motivation. According to tables 1-2 and pictures 1-2 it can be stated that based on the measurement results and comparison of the change in the frequency distribution in the given bands of the attention test standard, it was found that most individuals in the input measurement were in the last five bands, i.e. in the range of values - 1.5 and below (7 participants). During the output measurement, most individuals ended up in the 3rd and 4th bands, i.e. in the range of -1.5 to +1 (four individuals), respectively in the range of -1.5 and below (also 4 participants). Another change is also evident in the 2nd and 3rd bands, i.e. in the range of 3.00 - 4.99 (three individuals) respectively, in the range of 1.00 - 2.99 (3 participants), that is an improvement. In the last band of the standard, i.e. in the range of values -1.5 and below, the number decreased from the original seven to only four subjects. We assume that the reason for this was the long-term effect of this experimental program on participants. At the beginning of the experiment there were 12 pupils out of a total of 14 in the fourth and last fifth category, the so-called low and very low level of aspiration. At the end of the experiment, this number was reduced to eight pupils. In the second and in the third category, i.e. normal and high level of aspiration were only 2 students at the beginning of the experiment. At the end of this experiment, however, the number of pupils increased from 2 to 6 pupils. The subjective feelings and responses of the participating subjects were very positive from this program with an effort to continue this experiment. Thanks to this disability, hearing-impaired individuals have, among other things, weakened attention and reduced

performance motivation. And this can then have a negative effect on the quality of study results. Overall, it can be stated that the above experimental factor and its content had a significant effect on the aspiration development of youth of this category, although this statement is valid only for this group.

The established hypothesis - the intervention program will increase the level of aspiration in the experimental group of young people with hearing impairment **was confirmed.**

5 CONCLUSION

The established hypothesis - the intervention program will increase the level of aspiration in the experimental group of young people with hearing impairment compared to the control group was confirmed. The research confirmed the assumption that self-defence, specifically its technique, have a clear influence on the development of aspiration in a selected group of adolescents with hearing impairment. The results in the aspiration level test of men were on average 1.81 points better at the end of the experiment than at the beginning of the experiment, with the greatest improvement of 3.66 and the lowest of 0. The results in the aspiration level test of women were on average 0.25 better at the end of the experiment than at the beginning of the experiment, with the largest improvement of 5.99 and the smallest of 1.00. The largest deterioration was by - 5.66 and the smallest by - 0.8 points. Overall, the results were due to the intervention exercise program in the aspiration level test 0.92 points better at the end of the experiment than before the start of the experiment. There was an improvement in 9 participants (four boys and five girls), the state remained unchanged in two subjects (two boys) and in three there was a certain decrease in aspiration level, i.e. in case of 3 girls. Thus, it can be stated that the content of the experimental factor, i.e. self-defence and psychomotor skills, clearly affects the above parameters of young people with hearing impairment. Therefore, it is appropriate to include these activities in the teaching of physical education and it can be stated that this experimental program of self-defence has the potential to help increase performance motivation of people with hearing impairment, which is important for them in life in connection with their hearing impairment. Therefore, with this experiment we wanted to help with improving - the quality of the educational process and reducing the complications associated with the study of such disadvantaged students.

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TRADITIONAL CULTURE IN LANGUAGE FOR SPECIFIC PURPOSES AND ITS TEACHING IN THE UNIVERSITY ENVIRONMENT

Andrea Molnárová, Ján Válek

Abstract

The paper deals with language for specific purposes, its definition and classification and its specificities in humanities with an emphasis on the area of traditional culture, which combines several scientific disciplines. We practically applied the acquired knowledge to create a professional trilingual dictionary and an online language course intended for students, but also for experts in the fields of traditional culture. The article describes the processes of their creation and the problems associated with the translation of regionally, historically and linguistically specific Slovak words into English and German. At the same time, it outlines the ways in which the international presentation of Slovak traditional culture in foreign languages could be improved.

Keywords: *education, foreign language, language for specific purposes, traditional culture*

Introduction

The rapid development of industry and technology is closely linked to the rise and spread of specific terms and new concepts. The vocabulary of language for specific purposes (further LSP) is rapidly expanding and subdividing into many specialised areas, the number of which is constantly increasing, creating the problem of adequate structuring of LSP. Very simplistically, LSP can be defined as language enabling communication and understanding between people working in a specific field. The problem of distinguishing between LSP (German: Fachsprache) and ordinary, colloquial language (German: Gemeinsprache) is among main ones. In other aspects of linguistic reflection, the notions of LSP, used mainly in older theoretical approaches, and professional language communication, which appears in more recent conceptions of professional language, resonate. While several branches of science have sophisticated specialist vocabularies (e.g. medicine, engineering, technical branches, law), the similar vocabulary of the humanities is limited, with exception of a few branches. One reason for this is undoubtedly the affinity between terminology of their LSP and everyday language. In foreign language education in a university environment, the acquisition of terminology close to the field is required. In education at universities we are thus faced with the difficult task of combining the teaching of everyday, communicative language and LSP. An even more difficult situation arises when there is no definition of the professional vocabulary of a given field.

In the article we will focus on the LSP, with the subject of our investigation aimed primarily on the partial field of traditional culture. We describe the theoretical background of the understanding of the concept of LSP in different contexts. Then we will describe the methodological approaches to the definition of vocabulary in the field of traditional culture, which were the basis for our conception of a multilingual dictionary. Our interest in the problem of defining the vocabulary of traditional culture is based on our activities in project KEGA 001UKF-4/2021 Traditional Culture of Slovak Regions in Foreign Language Teaching - Distance Learning. Within the framework of the project, we worked on research and definition of the above-mentioned specialised vocabulary. Then, based on created dictionary,

we were able to create didactically prepared texts which serve as a basis for online language course. In the conclusion of the paper, we outline possible application of the selected vocabulary, which in our case is an online-course on the LMS Moodle platform in English and German aimed on strengthening professional skills of students in presenting Slovak traditional culture in international forums.

1 LANGUAGE FOR SPECIFIC PURPOSES

The definition of content of LSP in the cultural studies, with the focus on traditional culture, is preceded by an explanation of the interconnection between the use of professional and common vocabulary. The issue of the definition of LSP has been resonating in linguistic studies since the beginning of the 20th century, being fuelled mainly by the development of industry. In the 1930s, the so-called economic linguistics began to be established. Its task was primarily to lay the theoretical foundations for the teaching of foreign LSP in secondary and higher education. At the same time, representatives of Prague structuralism began to pay attention to professional vocabulary, who, within the framework of the concept of functional stylistics, distinguished between LSP with its own linguistic means and the way of their use, and economic language as one of the "functional dialects" (Levická & Zumbík, 2019: 569). A more elaborate structure of the LSP can be found in the works of German linguists. In the Slovak environment, there is a tendency to use the term LSP as the equivalent of the term professional style (Levická & Zumbík, 2019: 570).

Since we have identified a sophisticated theory in German linguistics about the content, definition, and delimitation of LSP, we present in the following paragraphs of the paper a brief reflection on this issue from the perspective of the German linguistic milieu. We refer to the codified, basic form of the national language as the standard language. The standard language serves as the universal means of communication of a nation. While standard language is intended for all users, it is characteristic for LSP that a certain degree of professional education or at least a general understanding of the field is required to understand it, since used vocabulary usually only suggest their meaning. Only an expert knows their exact meaning, especially for less common terms. LSP (German: Fachsprache) is closely related to ordinary language (German: Gemeinsprache) and the common vocabulary. A text of LSP does not consist only of specialist expressions, but uses a variety of common linguistic tools, whether at the grammatical, lexical, or syntactic level. Common vocabulary is understood by Möhn and Pelka (1984) as a variant of the national standard language (German: Gesamtsprache), which all members of a given nation know at approximately the same level. Ordinary language, in written or oral form, primarily serves the communication of general topics of everyday, social and public life.

LSP uses both the general linguistic basis of standard language (vocabulary and grammar) and professional terminology. It is understood as the sum of all linguistic means that are used in the field defined by the scope of a certain profession - scientific field (Felber, 1986: 133). An essential part of professional texts is a vocabulary (professional vocabulary, terms). A term is generally understood as the naming of a concept in the system of some scientific and technical field; however, from the point of view of communication theory, attention is drawn to their functionality, i.e., that they are means of professional expression. A term is an element of vocabulary denoting a concept defined by its definition and place in the system of concepts of a particular scientific field (Imrichová, 2014: 209).

In older conceptions, the meaning of LSP, according to Schmidt (1969: 17), is understood as a means of optimal communication about a subject among experts, and it is characterised by a

specific expert vocabulary and specific norms for the selection, use, and frequency of lexical and grammatical tools of ordinary language. He further argues that technical language is not an independent manifestation of language, but is actualised in professional texts, which, in addition to the LSP, always contain elements of ordinary language.

Among more recent conceptions of the content focus of LSP in the German linguistic environment, we can mention the one of Hoffmann (1987: 53). According to him LSP represents the sum of all linguistic tools used in a technically definable field of communication to ensure understanding between people working in that field. Paintner & Schmäling (2019: 23) argue that a universally valid definition of LSP is neither possible nor meaningful against the background of the evident professional and thus linguistic complexity and difference of various (academic) disciplines and their technical and linguistic characteristics. In this context, they find it more appropriate to speak of a model of linguistic for special purposes that combines systemic linguistic, pragmalinguistic and cognitive linguistic elements. In this model, systems of technical linguistic features with their lexical and morphosyntactic peculiarities, as well as their use in oral or written communicative situations and the cognitive and emotional assumptions of the producer and the recipient are equally adequately considered (compare Roelcke 2010: 14).

The most recent conception is the cognitive-linguistic functional model (from the 1990s to the present). In addition to human cognition and knowledge and its actual processing, this model represents certain specialised disciplinary communicative functions such as abstraction and concretisation, association, and dissociation, as well as internalising and externalising the transfer of knowledge to the centre of scientific interest. In this process, applied communicative functions such as exactness and unambiguity, but also clarity, intelligibility or economy, receive a new evaluation, which is often diametrically opposed to the evaluation from the perspective of the systemic language model (Roelcke, 2019).

1.2 Horizontal and vertical division of LSP

In the division of LSPs, horizontal and vertical divisions are used. According to Hoffman (1987: 107), the horizontal division corresponds to the extra-linguistic classification into communicative spheres used to delimit the language of the different disciplines among each other. This is the LSP within economics, law, medicine, or technology, which can then be specified within narrower professional domains, e.g., in medicine we can define surgical, dental, or psychiatric professional vocabulary. There is no comprehensive and uniform horizontal division, as new fields of science and their associated specialist vocabulary are constantly emerging.

The vertical division is implemented within the individual disciplines. This division is not uniform, it depends on the applied criteria and the disciplines. According to the terminology handbook of the KÜDES publishing house (2002: 19), the criteria of the subdivision can be the degree of expertise, the participants of the communication, the mode of communication (oral, written). The most widespread is the vertical subdivision according to Hoffmann (1987: 65 – 66), who lists several distinguishing criteria, such as the degree of abstraction, the external expression, and the environment of communication. Based on the degree of abstraction, he describes five levels of vertical subdivision of professional languages.

- *The highest degree of abstraction* (German: höchste Abstraktionsstufe) is used by experts as a means of communication to express theoretical technical content in professional areas.

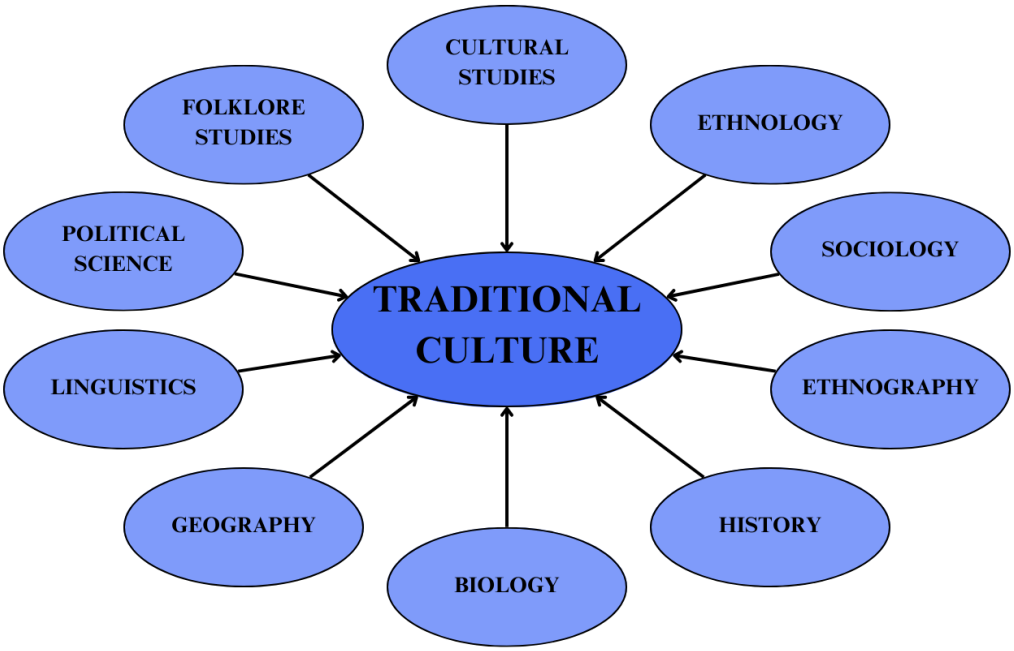
- *A very high degree of abstraction* (Ger.: sehr hohe Abstraktionsstufe) is used among experts and workers in certain fields to communicate theoretical and practical professional content.
- *A high degree of abstraction* (Ger.: hohe Abstraktionsstufe) is used as a common language with a very high proportion of technical terminology.
- *The low level of abstraction* (Ger.: niedrige Abstraktionsstufe) represents a common language with a high proportion of technical terminology in the production sphere.
- *A very low degree of abstraction* (Ger.: sehr niedrige Abstraktionsstufe) represents a common language with a low proportion of technical terminology by which content is communicated between laypeople.

As another example, the vertical division of professional languages according to Ischreyt (Fluck, 1996: 20 – 21) divides professional language into three professional and linguistic levels:

- *Workshop language* (German: Werkstattsprache) is characterised by the use of professional terminology mainly from the environment of technical production, it is characterised by the use of many terms from the field of craft production.
- *Scientific professional language* (Ger: wissenschaftliche Fachsprache), which is characterised by a high degree of abstraction, objectivity, precision, and accuracy. Hahn mentions the *theoretical language* (German: Theoriesprache), referred to as the language of science, which exists mainly in the written form of language, and is used mainly in the field of science and technology, and therefore possesses the corresponding linguistic tools.
- *Professional colloquial language* (Ger: Fachliche Umgangsprache) serves the communication of professionals and contains elements of both professional and ordinary language. It could be characterised as a language in the technical-industrial field. It is a means of communication in warehousing, sales and marketing and is in closer contact with advertising language.

2 DEFINITION OF SPECIALISED VOCABULARY IN TRADITIONAL CULTURE

As is evident from the above attributes, technical-industrial, manufacturing, scientific, and business terminology dominate in the vocabulary of LSP. Areas of the humanities, such as cultural studies, ethnology or ethics, are not given sufficient space. However, it cannot be argued that these fields do not have a specialist vocabulary. Consequently, the lack of definition of these fields affects the teaching of foreign LSP. Within the focus of our paper, we will attempt to incorporate a partial field of cultural studies: traditional culture, into horizontal and vertical subdivisions, and then present the procedures we used to create a terminological basis for the creation of a trilingual dictionary of terms from traditional culture.



Traditional culture is most easily defined by defining the individual parts of the term. While culture has received countless definitions over the decades of research (Kroeber and Kluckhohn (1952) collected over 160 definitions from English-language sources alone in publication named Culture: A Critical Review of Concepts and Definitions), one of the most widely used definitions to this day is that of Tylor (1871: 1), which states that culture is a complex whole including 'knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society'. In practical terms, it can be argued that culture is a phenomenon that encompasses all aspects of human creative activity. Thus, in addition to abstract constructs such as morals, skills, or customs, it also includes material artefacts of anthropogenic origin (from tools to money, clothing, food to architecture). The fact that a particular part of a culture is traditional, refers to its mode of transmission. Tradition means the transmission of knowledge from one generation to the next, primarily by oral transmission. In this way, we can distinguish, for example, traditional log houses from socialist prefabricated housing.

Given that despite the narrowing of culture to the traditional, it is still a broad concept, its study requires interdisciplinarity and examination from different perspectives. The disciplines most widely dealing with traditional culture include cultural studies, ethnology and ethnography, with folklore studies dealing with the folkloric part of it, but some aspects are also dealt with by history (the development of culture at the background of other events, migrations, trade routes), geography (the influence of natural conditions on the development of cultures, the use of land), sociology (traditional social hierarchies, social classes), linguistics (linguistic expressions, dialects, vernaculars), biology (the relationship between humans and indigenous flora and fauna) or even political science (state systems, forms of government). Therefore, the horizontal classification of the lexis of traditional culture is also problematic. Although most of it comes from the fields of cultural studies and ethnology, other disciplines cannot be omitted. This intermingling of disciplines also gives the specialist lexis associated with traditional culture not only expressions from all fields, but also several specific features. On the one hand, there is the archaic and colloquial part of the lexis, on the other hand, there is the exactness and expertise coming from different scientific fields, and

thus we can assign it to the professional colloquial language, but also to the scientific language.

2.1 Attributes of the definition of LSP in traditional culture

The intention of our research, which was carried out within the framework of the project activities, was to define the professional terms of traditional culture in Slovak, then to search for their equivalents in German and English. We used the defined terms in the realisation of a dictionary of traditional culture in English, German and Slovak. The summarised terminology was subsequently used in the conception of didactically processed texts in foreign languages. The first step was to define the LSP of traditional culture. The characteristic features of a LSP are precision, unambiguity, conceptuality, and systematicity (Fluck, 1985: 22). In the case of defining the LSP of traditional culture, we encounter the problem outlined above that the overlaping with the general colloquial style is very strong, the relevant concepts are familiar to the laypeople and are part of the active or passive vocabulary. Often, regionally specific terms are found in the language of traditional culture (e.g., *drevenica, žinčica*…).

The task of graduates of cultural studies and professionals in cultural institutions is to be able to translate or express, if necessary, also such specific terms that are not part of everyday language. For this purpose, we have specified the basic concepts of the professional vocabulary in traditional culture, to which we have subsequently assigned their equivalents in English and German. Professional publications and information from museums of traditional culture served for the initial definition of the terms. The actual realisation of the dictionary was preceded by the defining of the main categories of traditional culture terms. The categories we investigated were: construction - clothing - traditional diet and cuisine – ways of making a living - traditions. The selected categories reflect the professional focus of each aspect of traditional culture. The division is presented in the following table.

CONSTRUCTION	**CLOTHING**	**DIET**	**WAYS OF MAKING A LIVING**	**TRADITIONS**
Profane buildings	**Men's clothing**	**Food procurement**	**Crafts associated with agriculture**	**Annual**
Urban dwellings Village dwellings	Trousers Shirt Belt Apron Hat	Gathering Hunting Honey picking Farming Husbandry	Viticulture Pastoralism Hunting Fishing	*Spring* Morena Easter Maypoles *Summer* Solstice Feast of St. John *Autumn* Harvest Festival *Winter* St. Lucy Christmas
Sacral buildings	**Women's clothing**	**Diet of cereals and legumes**	**Crafts associated with woodworking**	**Family**
Temple Rotunda Cross Chapel	Shroud Bodice Apron Skirt Bonnet	Types of legumes Types of cereals Porridges Cakes Types of dishes	Woodworking Carpentry Woodcarving	Christening Transition to Adulthood Wedding Funeral
Technical buildings	**Children's clothing**	**Dairy products**	**Crafts associated with ironworking**	**Work**
Mills Bridges	Diaper Shirt	Milk Cheese	Blacksmithing Tinkering	Building a house Cattle drive

Wells Mines	Bonnet	Preparations Dairy dishes	Bell making	Harvest
Farm buildings	**Festive Clothing**	**Meat**	**Crafts associated with transport**	
Stables Pigsty Barn	Circlet Embroidered sleeves Coat	Pork Beef Poultry Meat dishes	Rafting Coachmanship	
Museums	**Materials**	**Food preparation**	**Other crafts**	
Ethnographic Mining Museums of traditional culture	Wool Linen Leather	Cooking Stewing Baking	Saffron production Pipe making Tanning	
	Methods of production	**Food preservation**		
	Weaving Sewing Embroidering	Drying Smoking		
	Decoration	**Drinks**		
	Blueprinting Embroidery Lace	Boiled sheep whey Juniper spirit		

We further subdivided these thematic categories into sub-categories, for example, in the ways of making a living category, based on the available literature, we identified different types of traditional crafts, e.g.: crafts related to agriculture, wood and iron processing, transportation, and other specific types of crafts.

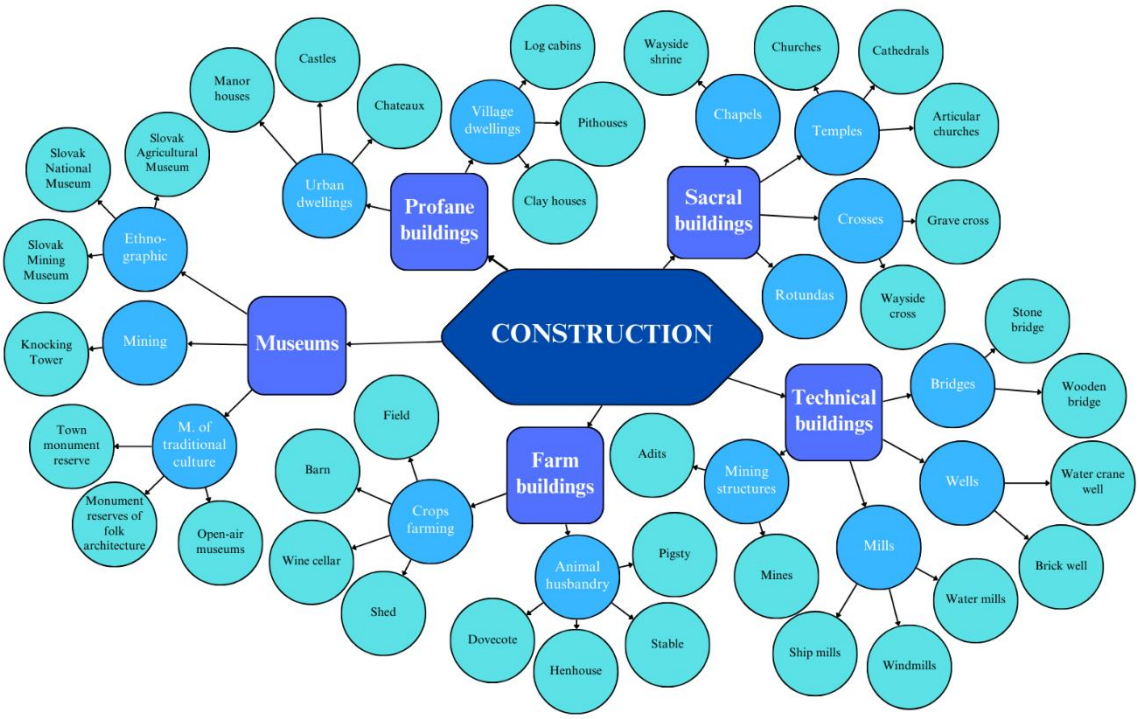
We then expanded each sub-category with relevant terms that were related to the issue. We selected appropriate number of terms, different for each category. In the case of crafts, we proceeded as follows:

- The name of the person who practiced the craft;
- The place where the craft was practiced;
- The activity he performed;
- The raw materials that were necessary for the craft;
- The tools that the person used in performing the craft;
- The products that his work produced.

We were able to assign most terms to the raw materials, tools and products. We were able to assign the fewest terms to the subcategories place and occupation name.

	PERSON	PLACE	ACTIVITY	MATERIAL	TOOL	PRODUCT
SK	kováč	vyhňa	kuť	kov železo uhlie oceľ	kladivo kliešte mech nákova	podkova motyka klinec meč
GER	Schmied	Esse	schmieden	Erz Metall Kohle Stahl	Hammer Zanke Schmiedebalg Amboss	Hufeisen Hacke Nagel Schwert
EN	blacksmith	forge	to forge	ore iron coal steel	hammer tongs bellows anvil	horseshoe hoe nail sword

In this way we have created a thesaurus of traditional culture concepts in the Slovak language. Nouns and verbs have a dominant position in it. To a lesser extent, adjectives and phrases occur. Other parts of speech are absent in the dictionary. Below is an example of the breakdown for the category construction with the subcategories and further division.



We used various publicly available dictionaries or other foreign language corpora, and we also verified the correctness of the terms by searching for images on the Internet. Due to the specificity of lexis related to traditional culture, we encountered several types of problems with translation. Some expressions do not exist in the foreign language since the named phenomenon is not found in the culture of the given nation (e.g., *bryndza* or *tajch* have no equivalent in English). Other objects and phenomena exist in the cultures but do not have a specific one-word name. In these cases, we have either translated the terms in a descriptive way or retained the Slovak expression. In specific cases, we combined both variants, using the Slovak term in the descriptive way (e.g., we translated the word *guba* into English descriptively as woollen cloth with long woollen strands on the outside, and in the case of name of the craft *gubárstvo* we used the Slovak term guba handicraft for simplicity). When translating the terms, we also encountered the problem of the meaning shift of the term in a foreign language, which probably stems from the cultural and historical specifics of the traditional Slovak culture (*Beánie* - a student festival in the Slovak language context, *die Beanie* - a cotton cap). Another specificity are terms that are differentiated in Slovak, but foreign languages know only one wider term. These are mainly names of family members (e.g., English and German do not differentiate between the female relatives *teta*, *tetka*, *ujčiná*, *stryná*, they use only one term for all of them). This regional phenomenon of defining Slovak traditional culture and its cultural and social specifics was realised in the context of translation by using a universal term, or we used its descriptive explanation.

The most distinctive feature of the identified terms from traditional culture is archaicity, which can be seen, for example, in terms denoting extinct professions, ways of processing raw materials, or parts of clothing (*fajkár* - pipe maker, *voštinár* - beeswax harvester, *rubáš* -

shroud). Archaicity is closely related to regional and historical-cultural specificity. Many of the terms are part of the passive vocabulary in the Slovak language and are familiar to the public, but they do not have any specific content attached to them (e.g., *rubáš* - a garment, *fajkár* - one who made pipes, *jarmo* - work in the field). We tried to translate archaic forms of some words that have now been replaced by newer expressions (e.g., *pobehlica* - slut) in a similar archaic form; if we did not find such an equivalent, we translated the word with a contemporary expression. In order to determine the adequacy of the translation of archaic terms that do not belong to the active foreign language vocabulary, we used the method of multiple verifications through historical documents as well as through research. Paradoxically, we experienced the least problems with highly specialised terms (autochthonous, socialisation) since these terms often have the same origin (especially in Latin) and only their form changes based on language.

3 CONCLUSION

In general, LSP has its own specific features that distinguish it from ordinary speech. In addition, each scientific discipline adds to it characteristics of its own, adapting it to its own needs and thus simplifying its use. The field of traditional culture is more specific in its broad interdisciplinarity because it combines the characteristics of the LSPs of several fields and, in addition to these, combines not only ordinary colloquial language but also archaic and historic vocabulary. When translating terminology, experts in this field encounter several problems which they are not always able to resolve adequately (e.g., *modrotlač* is often mistranslated into English as blueprint with the presumption of simplicity). With the increasing emphasis nowadays on the internationalisation of science, it is not only necessary to be able to research thoroughly and professionally, but also to present research results in a foreign language accurately. This is one of the reasons why the Slovak-English-German Dictionary of Terms from Traditional Culture was created.

Another reason is the improvement of higher education in the fields of traditional culture research. If students are already exposed to the correct equivalents of words in a foreign language, this can only increase the quality of their publications or other scientific results in their future. For the same reason, a course aimed at educating students in the field of traditional culture in a foreign language has also been created. To make it more attractive and accessible, we have chosen a non-traditional form of an online course in LMS Moodle with interactive exercises. It is primarily intended for students of culture and tourism management, but at least some parts of the course are also applicable in the fields of cultural studies, ethnology, folklore studies, etc. The course is available in English and German and consists of 38 lessons thematically divided into five areas - Slovak traditional culture, basic concepts of traditional culture, Slovak traditional food, Slovak folk architecture and its preservation, Slovak folklore festivals. In each lesson, students will get an overview of the most important concepts and terms related to the topic, but they will also improve their grammar and communication skills. A short glossary of the used terms is also included for better orientation.

We are convinced that in today's globalised world it is necessary not only to obtain in-depth and accurate expert information, but also to be able to disseminate it adequately and professionally in the scientific community in Slovakia and abroad. Therefore, it is necessary to emphasise the teaching of foreign languages specialised in particular scientific disciplines. We assume that the dictionary created by us can serve as a starting material for the creation of a comprehensive dictionary of traditional culture terms, which will make the presentation of Slovak specifics in the multicultural world more effective and easier.

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PREVENCIA NENÁVISTNÝCH PREJAVOV NA FUTBALOVÝCH ŠTADIÓNOCH Z PERSPEKTÍVY SLOVENSKÉHO FUTBALOVÉHO ZVÄZU

PREVENTION OF HATE SPEECH IN FOOTBALL STADIUMS FROM THE PERSPECTIVE OF THE SLOVAK FOOTBALL ASSOCIATION

Pavol Struhár, Marián Bušša

Abstrakt

Nenávistné a extrémistické prejavy neobchádzajú ani športoviská, a už vôbec nie futbalové štadióny. Naopak, rasizmus, šovinizmus či antisemitizmus fanúšikov je globálnym problémom futbalu, vrátane slovenského. Cieľom príspevku bolo zistiť, ako Slovenský futbalový zväz (SFZ) pokrýva problematiku nenávistných prejavov na futbalových štadiónoch a ich prevenciu. Analyzované boli vnútorné predpisy zväzu (napr. Stanovy SFZ, Disciplinárny poriadok, Etický kódex SFZ, Organizačný a návštevný poriadok SFZ), ale tiež výročné správy od roku 2017 do 2021, dostupné komuniké a zápisnice z rokovania Disciplinárnej komisie SFZ, úradné správy SFZ či projekty zväzu. Z analýzy vyplynulo, že hoci predpisy SFZ považujú nenávistné prejavy či politické provokácie za závažné previnenia, zo strany SFZ je vyvinutá minimálna aktivita im predchádzať.

Kľúčová slova: *nenávistný prejav, futbal, Slovenský futbalový zväz, prevencia, extrémizmus, fanúšik.*

Abstract

Hateful and extremist expressions are also the part of sports grounds, especially football stadiums. Racism, chauvinism or anti-Semitism of fans is a global problem of football, including Slovak football. The aim of the paper was to find out how the Slovak Football Association (SFZ) covers the issue of hate speech in football stadiums and its prevention. The internal regulations of the union were analyzed (e.g., SFZ Statute, Disciplinary Rules, SFZ Code of Ethics, Organizational and Visiting Regulations), but also annual reports from 2017 to 2021, available communiqués and reports from the Disciplinary Commission, official SFZ reports or implemented projects. The analysis showed that although SFZ regulations consider hate speech or political provocations as serious offences, minimal activity is developed by SFZ to prevent them.

Key words: *hate speech, football, Slovak Football Association, prevention, extremism, fan.*

1 ÚVOD

Nenávistné a extrémistické prejavy v športe sa spájajú najmä s futbalovým prostredím. Futbal patrí v mnohých krajinách medzi najpopulárnejšie a najprístupnejšie športy, či už pre samotných športovcov alebo divákov. Futbalové štadióny sú atraktívne pre rôzne sociálne vrstvy či vekové skupiny, bez rozdielu dosiahnutého vzdelania, vyznania alebo politického presvedčenia. Prejavy a správanie fanúšikov tak do istej miery kopírujú kultúrne vzorce spoločnosti a tiež jej aktuálne nálady, ktoré sú na štadiónoch často vystupňované aktívnymi fanúšikmi jednotlivých klubov. Nenávistným a extrémistickým prejavom na futbalových štadiónoch sa nevyhýba ani slovenská spoločnosť, avšak zámerom štátu a ďalších aktérov

(napr. Únia ligových klubov, Slovenský futbalový zväz, fanúšikovia) je ich rôznymi nástrojmi eliminovať.
Dôležitú úlohu v prevencii nenávistných a extrémistických prejavov by mal hrať aj Slovenský futbalový zväz (SFZ). SFZ je národným športový zväzom futbalu, a zároveň členom Medzinárodnej federácie futbalových asociácií (FIFA) a Únie európskych futbalových asociácií (UEFA), ktoré v boji proti nenávistným prejavom prijali mnohé preventívne či represívne opatrenia záväzné aj pre jednotlivé členské krajiny. Cieľom príspevku je zistiť, ako Slovenský futbalový zväz pokrýva problematiku nenávistných prejavov na futbalových štadiónoch a ich prevenciu. Analyzované budú vnútorné predpisy zväzu (napr. Stanovy SFZ, Disciplinárny poriadok, Etický kódex SFZ, Organizačný a návštevný poriadok SFZ), ale tiež výročné správy od roku 2017 do 2021[1], dostupné komuniké a zápisnice z rokovania Disciplinárnej komisie SFZ, úradné správy SFZ či realizované projekty zväzu.

2 NENÁVISTNÉ PREJAVY VO FUTBALE

Organizácia Spojených národov pre vzdelávanie, vedu a kultúru (UNESCO) nenávistné prejavy definuje ako „*akýkoľvek druh komunikácie rečou, písmom alebo správaním, ktorý útočí alebo používa pejoratívny alebo diskriminačný jazyk s odkazom na osobu alebo skupinu na základe toho, kto sú, inými slovami, na základe ich náboženstva, etnickej príslušnosti, národnosti, rasy, farby pleti , pôvod, pohlavie alebo iný faktor identity*“ (UNESCO 2023). Max Steuer (2017) však uvádza, že samotný pojem 'nenávistné prejavy' nie je dostatočne konceptualizovaný, chýba presná definícia a typologické znaky. Jasné vymedzenie pojmu je pritom dôležité, keďže v prípade regulácie nenávistných prejavov nevyhnutne dochádza zásahu do základných ľudských práv jednotlivcov. Nesprávne nastavené politiky proti nenávistným prejavom vedú k nežiaducim spoločenským dôsledkom, ako napríklad polarizácia spoločnosti, napätie, nárast radikalizácie, cenzúra či nežiaduca pozitívna diskriminácia. (porovn. Brown 2017). Steuer tiež upozorňuje, že snaha obmedzovať tieto prejavy právnou reguláciou môže viesť k prehliadnutiu slobody prejavu ako nevyhnutnej podmienky demokratického režimu (Steuer 2017).
Nenávistné prejavy (ang. hate speech) sú tak v spoločnosti široko diskutovanou témou. Osvojenie si vyhranených názorov je sprievodným znakom radikalizácie (Vegrichtová 2019), ktorá predstavuje pre demokratickú spoločnosť bezpečnostný problém. Štáty preto hľadajú legitímne prostriedky ako nenávistné a extrémistické prejavy obmedzovať a postihovať, pričom sa väčšinou opierajú o niektorý z konceptov militantnej demokracie (porovn. Mareš&Výborný 2013). S ohľadom na prax je však stále aktuálnou témou proporcionalita zásahov do slobody prejavu v záujme ochrany tých, ktorých sa prejav týka. V jednotlivých krajinách sa totiž regulácia nenávistných či extrémistických prejavov líši, často v závislosti od kultúrnych a sociálnych znakov spoločnosti alebo historických skúsenosti. Dosahovanie konsenzu v tejto otázke je preto náročné a sprevádzajú ho nielen akademické diskusie, ale tiež emotívne vystúpenia politikov.
Novou výzvou v tejto otázke je tiež rýchly rozvoj informačných technológií a komunikácie. Na najvyšších vládnych či medzivládnych úrovniach sa diskutuje o potrebe obmedzovať nenávistný prejav na sociálnych sieťach. Sociálne médiá predstavujú veľmi dôležitý a legitímny nástroj šírenia informácii, ale zároveň tiež slabo regulovaný priestor pre nepravdivé správy a propagandu. Napríklad, Európska únia spolu so spoločnosťami Facebook, Microsoft, Twitter a Youtube v roku 2016 prijala Kódex správania pre boj proti nezákonným nenávistným prejavom na internete a každoročne vyhodnocuje jeho dodržiavanie (The EU Code of Conduct 2016). Podobné aktivity však vedú k vlne nesúhlasu a obvineniam

[1] Správa za rok 2022 ešte nebola zverejnená.

z cenzúry či sprisahania elít, ale tiež k demonštratívnym odchodom niektorých užívateľov ku konkurencii, kde je regulácia miernejšia alebo dokonca žiadna (napr. Telegram či TikTok).
Podobným diskusiách sa nevyhýba ani futbalové prostredie. Na jednej strane registrujeme aktívnu úlohu zastrešujúcich organizácii FIFA či UEFA v eliminácii nenávistných a extrémistických prejavov na štadiónoch (napr. vvtvorenie protirasistickej pracovnej skupiny, iniciatíva #Footb*all,* kampane *Nie rasizmu* či *Dni proti diskriminácii*). Na druhej strane však FIFA počas ostatných Majstrovstiev sveta vo futbale hrozila kapitánom národných tímov žltými kartami, ak by chceli kapitánskymi páskami demonštrovať podporu LGBTI+ komunite. Šampionát v roku 2022 sa totiž konal v Katare, kde podľa kritikov režimu dochádza k porušovaniu práv žien a sexuálnych menšín.
K citlivým spoločenským či politickým témam majú rezervovaný postoj tiež niektoré národné futbalové organizácie, kluby alebo fanúšikovia. Demonštruje to príklad pokľaku (tzv. *kneeling* alebo *taking a knee*) pred začiatkom medzištátnych zápasov. Pokľaknutie pred zápasom sa chápe ako gesto proti rasovej diskriminácii. Prvýkrát, v roku 2016, pokľakol počas americkej hymny hráč amerického futbalu Colin Kaepernick, čím chcel poukázať na rasovú nespravodlivosť, politickú brutalitu a útlak v Spojených štátoch amerických. Neskôr, predovšetkým po usmrtení Afroameričana Georga Floyda počas policajného zásahu a náraste popularity hnutia Black Lives Matter, sa boj proti rasovej nerovnosti rozšíril aj do iných častí sveta (najmä Európy). Z kľačania sa stal globálny fenomén, ktorý sprevádzal mnohé športové podujatia, či už preteky formuly 1 alebo baseball. Časť spoločnosti (aj hráčov či fanúšikov) však vníma kľačanie v úzkom zmysle ako podporu kontroverzného (sic!) hnutia Black Lives Matter a politickú otázku, preto tento spôsob protestu nepodporovali. Iní fanúšikovia ho zasa považujú za prázdne gesto, ktoré časom stratilo pôvodný význam a nepomáha tak riešiť problém rasizmu v spoločnosti či medzi divákmi (Dixon&Cashmore&Cleland 2022).
Odlišné postoje k tejto otázke bolo možné sledovať počas Majstrovstiev Európy 2020. Niektoré národné tímy vopred avizovali, že pred zápasom pokľaknú, pričom UEFA sa vyjadrila, že tomu brániť nebude. Naopak, vyzvala fanúšikov k rešpektu, keďže na niektorých štadiónoch boli kľačiaci futbalisti vypískaní. Iné národné tímy sa rozhodli, že sa k výzve nepripoja, resp. vyjadria svoj negatívny postoj k rasizmu iným spôsobom. Tému však politizovali aj niektorí politici. Maďarský premiér sa vyjadril, že politika do športu nepatrí a Maďar kľačí len pred Bohom, vlasťou a pri žiadosti o ruku. Predseda slovenského parlamentu zasa slovenským futbalistom odkázal, že „*keď majú takú silnú potrebu si pred niekým pokľaknúť, nech idú na Slavín alebo na Duklu* (pamätníky sovietskych vojakov, pozn. autora), *tam sú pochovaní tí, ktorí za to stoja*“ (Pravda 2020).
Slovenský futbalový tím sa napokon rozhodol, že kľačať počas súťažných medzištátnych zápasov nebude. Je otázne, či k tomu prispela ostrá kritika niektorých fanúšikov počas stretnutí s Írskom s Škótskom, kedy tak Slováci urobili. Každopádne, SFZ sa najprv vyjadril, že organizátorom zápasu bola UEFA a že tak museli urobiť, neskôr však informáciu korigovali, že nešlo o príkaz ale iniciatívu súpera, s ktorou UEFA súhlasilo. Celú vec uzavreli s tým, *že „je to citlivá téma aj na Slovensku a v ďalších zápasoch už s takouto podporou neuvažuje*“ (Pravda 2020). V tejto súvislosti sa k problematike vyjadrili kontroverzným spôsobom aj fanúšikovia ŠK Slovan Bratislava, ktorí počas domáceho zápasu s MFK Zemplín Michalovce vyvesili banner s textom *White Lives Matter*. Neskôr sa obhajovali, že nie sú rasistickí, len chceli poukázať na to, že aj na bielom živote záleží. Podľa organizácie Anti-Defamation League, monitorujúcej nenávistné prejavy**,** však heslo *White Lives Matter* vzniklo ako rasistická odpoveď na hnutie Black lives matter a najmä v USA prezentuje bielu nadradenosť (ADL 2023).[2] Akokoľvek, klub dostal za 'vyvesenie provokatívneho transparentu' a iné nedostatky pokutu 3000 €, čo patrí do nižšej sadzby pokút udelených

[2] V podobných situáciách je vhodné prihliadať na kontext použitia hesla, či ide o nenávistný prejav bielej nadradenosti alebo o provokatívny text s cieľom získať pozornosť médií alebo verejnosti.

Disciplinárnou komisiou SFZ. Aký je teda postoj SFZ k nenávistným prejavom na futbalových štadiónoch? Aký priestor vo vnútorných predpisoch dáva SFZ prevencii či postihovaniu nenávistných prejavov? Týmto otázkam sa venuje nasledujúca časť príspevku.

3 NENÁVISTNÉ PREJAVY Z PERSPEKTÍVY SLOVENSKÉHO FUTBALOVÉHO ZVÄZU

Slovenský futbalový zväz vznikol v roku 1938, pričom od roku 1990 je registrovaný ako občianske združenie. SFZ je národným športovým zväzom futbalu a zároveň členom medzinárodnej federácie FIFA a konfederácie UEFA. Najvyšším orgánom je konferencia a najvyššími výkonnými orgánmi prezident a výkonný výbor so 14 členmi. V rámci štruktúry SFZ sú ustanovené tiež kontrolné (napr. Volebná komisia) a administratívne orgány (napr. generálny sekretár) a orgány na riešenie sporov (napr. Disciplinárna komisia). Z výročných správ vyplýva, že SFZ v súčasnosti hospodári s rozpočtom na úrovni 30 miliónov EUR, pričom značnú časť dotácie získava od UEFA a zo štátneho rozpočtu.

Slovenský futbalový zväz sa k svojmu hodnotovému ukotveniu vyjadruje najmä v preambule Stanov SFZ, kde sa vyrovnáva s tým, že vznikol v kontexte vojenskej Slovenskej republiky a následne pôsobil počas totalitného režimu. Uvádza, že napriek týmto okolnostiam, „*slovenský futbal neprestal prinášať radosť a potešenie všetkým aktívne aj pasívne sa na ňom podieľajúcim, bez ohľadu na pohlavie, rasu, farbu pleti, jazyk, vieru a náboženstvo, politické, či iné zmýšľanie, národný alebo sociálny pôvod, príslušnosť k národnosti alebo etnickej skupine, majetok, rod alebo iné postavenie*, ... “ (Stanovy SFZ 2022). SFZ zároveň uvádza, že má ambíciu podporovať rozvoj futbalu na Slovensku „*v súlade s princípmi fair play a spoločenskej zodpovednosti,* ...“, a futbal označuje za „*nástroj pre globálny rozvoj človeka a užitočný prvok pre budovanie spoločnosti“ (*Stanovy SFZ 2022*).*

Preambula prezentuje hodnoty, na ktorých je založený SFZ a predstavuje jeho vízie a perspektívy. Má však skôr deklaratívny charakter, a preto je potrebné sa zamerať aj na vnútorné predpisy, ktoré explicitne upravujú problematiku nenávistných prejavov na futbalových štadiónoch a zaväzujú zainteresovaných aktérov k ich dodržiavaniu. Otázke nenávistných prejavov sa spomedzi vnútorných predpisov venuje predovšetkým Organizačný a návštevný poriadok SFZ, Disciplinárny poriadok SFZ a jednou zmienkou aj Etický kódex SFZ[3].

Organizačný a návštevný poriadok vychádza najmä zo Zákona č. 1/2014 o organizovaní verejných športových podujatí a o zmene a doplnení niektorých zákonov. Jeden z cieľov poriadku je ochrana mravnosti, čomu zodpovedajú aj ustanovenia týkajúce sa nenávistných a extrémistických prejavov. Priamo v predpise sa uvádza, že člen usporiadateľskej služby je oprávnený presvedčiť sa, či účastník nemá pri sebe alebo na sebe „*písomné, grafické, obrazové, zvukové alebo obrazovo-zvukové vyhotovenie*

- *textov a vyhlásení, zástav, odznakov, hesiel alebo symbolov skupín alebo hnutí a ich programov alebo ideológií, ktoré smerujú k potláčaniu základných ľudských práv a slobôd*
- *obhajujúce, podporujúce alebo podnecujúce nenávisť, násilie alebo neodôvodnene odlišné zaobchádzanie voči skupine osôb alebo jednotlivcovi pre ich príslušnosť k*

[3] V Etickom kódexe sa uvádza, že osoby viazané kódexom „*nesmú urážať dôstojnosť alebo integritu krajiny, osoby alebo skupiny osôb prostredníctvom pohŕdavých, diskriminačných alebo ohovárajúcich slov alebo činov z dôvodu pohlavia, náboženského vyznania alebo viery, rasy, príslušnosti k národnosti alebo etnickej skupine, zdravotného postihnutia, veku, sexuálnej orientácie, manželského stavu a rodinného stavu, farby pleti, jazyka, politického alebo iného zmýšľania, národného alebo sociálneho pôvodu, majetku, rodu alebo iného postavenia alebo z dôvodu oznámenia kriminality alebo inej protispoločenskej činnosti.“* (Etický kódex 2019)

niektorej rase, národu, národnosti, farbe pleti, etnickej skupine, pôvodu rodu alebo pre ich náboženské vyznanie“ (Organizačný a disciplinárny poriadok 2019),

alebo či nemá pri sebe alebo na sebe „*štátne symboly cudzích štátov alebo ich predchodcov, ak ide o domáce futbalové stretnutie, pri ktorom môže dôjsť k narušeniu verejného poriadku alebo k ohrozeniu bezpečnosti, zdravia alebo mravnosti účastníkov*“. Zároveň je člen usporiadateľskej služby oprávnený takých účastníkov upozorniť na nevhodné správanie, vyzvať ich na opustenie štadiónu alebo ich vyviesť a zakázať opätovný vstup. Predmety, resp. materiály s nenávistným alebo provokujúcim obsahom je pritom povinný zaistiť a odovzdať príslušníkovi Policajného zboru. Účastníkovi stretnutí tiež Organizačný a návštevný poriadok SFZ (2019) zakazuje „*vyslovovať a skandovať rasistické, vulgárne, hanlivé a dobrým mravom odporujúce slová a heslá*.“ Člen usporiadateľskej služby, príslušník Policajného zboru alebo príslušník obecnej polície môže účastníka, ktorý porušuje tieto ustanovenia vyviesť zo štadióna a v prípade závažného protiprávneho konania obmedziť na osobnej slobode (zadržať) a odovzdať na ďalšie konanie orgánom Policajného zboru.

O sankciách za porušenie Organizačného a návštevného poriadku SFZ alebo iných vnútorných predpisov SFZ rozhoduje Disciplinárna komisia SFZ na základe ustanovení Disciplinárneho poriadku SFZ. Disciplinárny poriadok upravuje, okrem iného, druhy disciplinárnych sankcií a základné zásady ich ukladania, ale tiež disciplinárne konanie vrátane odvolacieho konania. Umožňuje Disciplinárnej komisii SFZ ukladať disciplinárne sankcie a určovať ochranné opatrenia (napr. zákaz, aby si klub objednal na stretnutie u súpera vstupenky na určené stretnutia alebo zákaz či obmedzenie predaja vstupeniek do určených sektorov).

Vo všeobecnosti, Disciplinárny poriadok SFZ posudzuje a trestá nenávistné prejavy fanúšikov[4] prísne. Podľa článku 4 sa za 'závažné disciplinárne previnenie' považuje aj diskriminácia, ktorú poriadok vymedzuje ako hanobenie, diskrimináciu alebo poníženie iného z dôvodu rasy, farby pleti, jazyka, národnosti, sexuálnej orientácie, vierovyznania alebo etnického pôvodu alebo ako iné obdobné konanie proti ľudskej dôstojnosti. V článku 58 sa zasa „*urážlivé alebo provokatívne prejavy hanobiace príslušnosť k rase, farbe pleti, sexuálnej orientácii, jazyku, národnosti, z dôvodu viery alebo etnického pôvodu*,“ označujú ako hrubé nešportové správanie priaznivcov, či už ide o prejavy verbálnej alebo inej povahy. (Disciplinárny poriadok 2023). Hrubým nešportovým správaním je tiež provokatívna propagácia alebo vyhlásenia, ktoré v sebe nesú politický odkaz alebo politický prejav (napríklad oslava Veľkého Maďarska počas maďarsko-slovenských medzištátnych zápasov). A nakoniec, hrubým nešportovým správaním je tiež „*použitie štátnych symbolov cudzích štátov alebo ich predchodcov znevažujúcim spôsobom alebo iným spôsobom, ktorým možno podnecovať k narušeniu verejného poriadku alebo ohrozeniu riadneho priebehu stretnutia*“. Z tohto dôvodu bol napríklad na rizikový zápas DAC Dunajská Streda – ŠK Slovan Bratislava vydaný zákaz vnášať a použiť na domácom štadióne maďarské vlajky. Pri porušení uvedených pravidiel sa trestá hlavne organizátor (zväčša domáci klub), ktorý neprijal opatrenia na zabránenie vyššie uvedeného hrubého nešportového správania (čl. 57), pričom to môže viesť až k zákazu účasti divákov na 4 súťažné stretnutia (Disciplinárny poriadok 2023).

3.1 Nenávistné prejavy v slovenskom futbale z perspektívy Disciplinárnej komisie SFZ

V roku 2022 a 2023 Disciplinárna komisia SFZ (DK SFZ) opätovne dôrazne upozorňovala na prípady nenávistných prejavov na štadióne. Až 5 z 9 komuniké, ktoré zverejnila, sa týkali práve prejavov šovinizmu, rasizmu či antisemitizmu. V máji 2022 sa DK SFZ vyjadrila, že

[4] Disciplinárny poriadok upravuje tiež správanie hráčov, členov realizačných tímov, funkcionárov či delegovaných osôb, ktorým ukladá disciplinárne sankcie za hrubé nešportové prejavy voči ostatným aktérom (napr. aj divákom), medzi ktoré patrí aj použitie hanlivých, pohoršujúcich, urážlivých, provokujúcich, zosmiešňujúcich alebo ponižujúcich posunkov, gest, výrokov, hrubých urážok či vyhrážania.

hrubé nešportové správanie fanúšikov s extrémistickým kontextom riešila na viacerých ostatných zasadnutiach komisie. Uvádza, že boj proti extrémizmu v akejkoľvek forme je jeden zo základných cieľov SFZ a podobné správanie považuje za závažné previnenie. Preto pristúpila voči viacerým klubom k tvrdým sankciám vo forme uzavretia sektorov či zákazu výjazdu fanúšikov. Už o týždeň v ďalšom komuniké informovala o pokute pre kluby ŠK Slovan Bratislava a Spartak Trnava za antisemitské prejavy, ktoré sú, mimochodom, vo vzájomnej konfrontácii klubov bežné, najmä zo strany Spartaku.

O rok neskôr, v máji 2023, sa situácia zopakovala, no výzva DK SFZ bola ešte v naliehavejšom tóne. Kvôli antisemitským prejavom fanúšikov dostal Spartak Trnava pokutu až 10 000 EUR, čo komisia zdôvodňovala závažným, opakovaným skandovaním vo vysokej intenzite a trvaní, pričom upozornila tiež na to, že sa to stalo v sezóne viackrát. Disciplinárna komisia sa vyjadrila, že v prípade protinárodnostných a extrémistických prejavov je „*pripravená tvrdosť sankcií zvyšovať a to až dovtedy, kým tieto prejavy nevymiznú*“ (Komuniké zo zasadnutia DK dňa 3.5.2023). Len o týždeň neskôr sa konal rizikový zápas medzi DAC Dunajská Streda a ŠK Slovan Bratislava, na ktorom sa v minulosti veľakrát prezentovali protinárodnostné prejavy a dochádzalo ku vzájomným potýčkam medzi fanúšikmi alebo fanúšikmi a políciou. Aj v tomto zápase podľa DK SFZ dochádzalo zo strany DAC Dunajská Streda k provokatívneho skandovania politického a národnostného charakteru vyjadreného v maďarčine a priaznivci ŠK Slovan Bratislava zasa opakovane skandovali protimaďarské nenávistné prejavy. Kluby dostali opäť len finančné pokuty, DK sa však vyjadrila, že ak sa situácia nezlepší, v budúcnosti bude „*pravidelne aplikovať aj menej „profutbalové riešenia“, v rámci ktorých pristúpi k uzatváraniu sektorov, či štadiónov*“ (Komuniké zo zasadnutia DK dňa 11.5.2023). V tejto súvislosti je však potrebné kriticky poznamenať, že pokuty v rozsahu pár tisíc EUR sú pre klub omnoho prijateľnejší trest ako uzavretie štadiónu, pritom Disciplinárny poriadok SFZ umožňuje za nenávistné prejavy uzavrieť štadión dokonca na viac stretnutí. Zdá sa, že aj vzhľadom na širší spoločenský kontext Disciplinárnej komisii SFZ chýba odvaha k uplatneniu tvrdších sankcií, hoci v rámci SFZ vystupuje voči nenávistným prejavom najrazantnejšie. Napríklad, UEFA nenávistné a provokujúce prejavy našich slovenských klubov posudzuje a trestá veľmi prísne. Pokuty sa pohybujú v desiatkach tisíc EUR a súčasťou sankcie je takmer vždy aspoň uzatvorenie sektora domácich ultras fanúšikov. Z reakcií klubov je zrejmé, že tieto tresty motivujú funkcionárov, aby k problému pristupovali zodpovedne a vopred komunikovali s fanúšikmi ich správanie počas zápasov. Zároveň prijímajú preventívne opatrenia, aby eliminovali ich nenávistné či extrémistické prejavy a vyhli sa tak vysokým trestom zo strany UEFA (Bušša&Struhár 2022).

4 ZÁVER

V závere príspevku je vhodné uviesť výstižnú poznámku Disciplinárnej komisie SFZ, ktorá v jednom zo zverejnených komuniké upozorňuje, že ich úlohou je riešiť negatívny následok, ktorým nenávistný prejav je. Nedokáže však riešiť ich príčinu a dôvody vzniku. Správne poukazuje na to, že ide o celospoločenský problém, ten je však najviac badateľný na futbalových štadiónoch.

Z výskumu zároveň vyplynulo, že v súčasnosti je DK SFZ v rámci SFZ v podobných apeloch osamotená. V minulosti (predovšetkým od roku 2007 do roku 2013) sme registrovali spoluprácu SFZ či Únie ligových klubov na viacerých iniciatívach, ktoré riešili problém rasizmu a nenávistných prejavov. Tvárami projektov boli lídri jednotlivých klubov, ako napríklad Filip Šebo, Samuel Slovák alebo tréneri Stanislav Griga či Jozef Barmoš (IPMD 2014). Išlo napríklad o Akčné týždne FARE (*Footbal Against Racism in Europe*), ktoré na Slovensku zastrešoval Inštitút pre medzikultúrny dialóg. Odhodlanie bojovať proti nenávistným prejavom vo futbale viackrát demonštroval aj bývalý reprezentant Dušan Tittel, či už z pozície generálneho sekretára SFZ alebo prezidenta Únie ligových klubov.

Akokoľvek, výročné správy SFZ alebo úradne správy zväzu za posledných 6 rokoch o aktivitách SFZ v tejto oblasti neinformujú, neregistrujeme ani projekty či iniciatívy, ktoré by mali viesť k eliminácii nenávistných a extrémistických prejavov na štadiónoch. Jediná zachytená zmienka SFZ o protinárodnostných prejavoch bola vo Výročnej správe SFZ za rok 2019 v súvislosti so zápasom Maďarsko-Slovensko, kedy SFZ poukázal na „*nechutné udalosti, ktoré sa diali pred, počas i po zápase*“, no poukazujúc iba na nešportové správanie maďarských fanúšikov. Jediné relevantné výstupy k nenávistným prejavom na slovenských futbalových štadiónoch tak prezentuje iba DK SFZ, ktorá dlhodobo upozorňuje na vážnosť situácie. Jej právomoci v tejto oblasti sú však obmedzené len na ukladanie sankcií, čo rieši problém len čiastočne.

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A SOCIAL WORKER'S PERSPECTIVE ON COMMUNICATION BETWEEN THE SOCIAL WORKER AND THE CLIENT AND FAMILY IN HOSPICE CARE

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Abstract

Communicating with clients in hospice care is very challenging. Clients vary not only in age but also in intellectual ability. The social worker should be aware of these differences and adapt his/her communication to them. A prerequisite for the proper performance of job duties in hospice care is the social worker's ability to communicate correctly. Communication with the family is primarily about helping the family to realise their own worth, where the social worker helps family members to realise their own importance and to care for themselves. He or she also tries to support them as much as possible in communicating with the sick person so that they are not afraid and have no regrets after the death. Social workers participated in qualitative research and described their perspective on client-family communication.

Keywords*: Client. Communication. Hospice. Social worker.*

1 THEORETICAL BACKGROUND

Communicating with clients in hospice care is very challenging. Clients differ from each other not only in age, but also in intellectual abilities. The social worker should be aware of these differences and adapt their communication to them. In doing so, the ability to listen actively, be empathetic, and recognize hidden meanings verbally and nonverbally is required of the social worker (Mojtová, 2014).

Communication with clients is considered very important so that the client does not have a psychological and social death before the biological one. If a person is alone, lives in the presence of people without close social contact and, moreover, suffers from a terminal illness, he or she may die socially. Psychological death occurs when a person is desperate, full of hopelessness and mentally completely resigned to his situation. In the event that a person dies psychologically, it makes the coming physical death easier for him. In order to ensure that a person does not die psychologically or socially, it is necessary for the social worker to support the person and create a psychological and social space for him or her to live. Communication is an integral aspect of this whole process (Haškovcová, Kaye, Vymětal In Dobríková - Porubčanová, 2005).

A prerequisite for the proper performance of job duties in hospice care is the social worker's ability to communicate properly. In order for communication with the client to be effective, the social worker must be aware of all the client's needs. Therefore, it is imperative that the social worker not only has theoretical knowledge but also practical experience in this area (Laca, 2013).

In general, we distinguish between verbal and non-verbal communication. "In verbal communication we use verbal means of spoken or written systems. In non-verbal communication, non-verbal means are used, such as eye contact, gesture, touch, spatial location, movements, facial expressions and non-verbal aspects of speech" (Andrášiová In Hanobik, 2012, p. 38).

One of the most important parts of verbal communication is active listening. Dobríková - Porubčanová (2005) says that part of active listening is paraphrasing, when we summarize to the client in our own words how we have understood what he/she is telling us. Gabura (In Mojtová, 2014) recommends that the social worker should learn not to intervene when the

client is speaking, but instead to listen uninterrupted. He should show his attention and interest by appropriate eye contact, occasional head nods, and at the same time, by repeating the client's utterances to verify that he has understood them correctly. Even if such a conversation has no given structure, it does not obscure the focus. If the social worker listens to the client only partially and, instead of actively listening, is already preparing the next question in his or her mind, the social worker risks missing important information that would help him or her to better understand the client's problems and is also necessary for further work.

Svatošova (In Hanobik, 2012) says that the conversation that a social worker has with a dying client and his/her family has certain peculiarities. Before the social worker starts a conversation with the client, it is advisable to ensure a quiet place where there is no risk of interruption. Although the conversation should last only a few minutes, the social worker should always be on the same level as the client, this is particularly important in the case of bedridden clients. When a person is in a hospital environment that feels impersonal, addressing them by their first name can have an uplifting effect. It is advisable to agree in advance how the social worker will address the client. It is not advisable to have extended monologues during the interview, but shorter conversations in which the client is given sufficient space to think should be preferred.

Nemčeková et al. (In Štefáková, 2018) summarized the steps that a social worker should follow when communicating with a client. According to them, he/she should follow the principle of active listening, in which they also agree with the authors Gabur (In Mojtová, 2014) and Dobríková - Porubčanová (2005). The social worker should ask clear and understandable questions, support the client by appreciating the first contact and the end of the conversation, as well as remove distracting elements. At the same time, the social worker should be knowledgeable about the conditions under which communication failure occurs.

Kristová (In Štefáková, 2018) points out that information must be given to the client in a way that he/she understands it. Therefore, workers should ensure that it is presented clearly, unambiguously, without any technical terms and, most importantly, truthfully. Svatošová (In Hanobik, 2012) agrees with this statement and emphasises that although it is sometimes necessary to keep silent about the client's condition, the client has a right to know and should therefore always be told the truth and not a merciful lie.

We share Dobríková - Porubčanová's (2005) opinion that non-verbal communication is more important than verbal communication in communication with terminally ill people. Even if the client cannot express his/her feelings in words, he/she sends non-verbal messages to the worker. Touch is very important in communicating with the client, as it strengthens the client and inspires confidence. Of course, it is important to be aware of whether the client is uncomfortable with the touch. Touch is particularly important for those clients who have perceptual difficulties with other senses. Also Kristová (In Štefáková, 2018) states that the client often appreciates touch with the hand more than verbal expressions. The intimate zone also plays an important role in the care of the dying. Even if the client is in a healthcare facility, they still have a right to their privacy and territory, which is their bed and should not be intruded upon by staff. Rather, it is appropriate to use a chair and only sit on the bed if the client expressly wishes to do so. Another equally important aspect is eye contact. If you do not look your partner in the eye during the conversation, he or she may perceive this as disrespect, disinterest or coldness. The client's appearance may also be a problem area. If the social worker is able to understand all the dimensions of a person, he or she is able to give the client a smile and a look, which is one of the most effective remedies for the client (Dobríková - Porubčanová, 2005).

However, there can be various obstacles in communication with the client. Pichaud (In Štefáková, 2018) lists the following barriers:

- very quick reassurance of the client, in which there is a risk of shutting down into solitude,
- moralizing, which prevents the client from expressing his or her own feelings,
- criticizing or judging the client,
- trying to provide advice or solutions to the client's problems,
- being too quick to reassure the client or the situation in which they find themselves,
- creating distance from/avoiding the client,
- excessive questioning.

Štefáková (2018) states that it is essential to perceive the client together with his/her family. According to Nemcova (2013), relatives often want to make decisions for the client in an attempt to protect them from the information that they are terminally ill and will die. In this case, it is essential to explain to them that the client wants to know the truth and since the person usually feels that his/her end is approaching, hiding the truth from family members would only distance the client, not communicate further, and leave the client alone on the path of dying, without saying goodbye to loved ones. In communicating with loved ones, it is essential to explain the normal manifestations of dying in order to avoid upsetting them. Relatives need to be informed that if the client does not recognise them, it does not mean that he or she is rejecting them, but that he or she is slowly losing himself or herself in reality, talking about people or events that the relatives do not know.

Communication with relatives continues even after the death of the sick person. The social worker's role is to support the relatives and help them cope with the grief of losing a loved one. The family should not be prevented from saying goodbye to the deceased. They can cry but also not show any emotions (Nemcova, 2013). Also Marková (In Štefáková, 2018) says that the bereaved should be allowed time in a quiet environment to cope with the initial shock and space for any questions and to talk things out.

Mojtová (2008) points out that communication with survivors can be difficult. In the event that an elderly person dies, the family receives the news of the death more easily. However, if a child or young person dies, acceptance of this fact is much more difficult and the family reacts much more intensely. Therefore, the author outlines the principles that should be used by the worker when communicating with the bereaved:

- relatives should be informed of the gradual deterioration of the client's health,
- choose a quiet environment in which to talk to the family, where they will not be disturbed,
- express themselves clearly so that the survivor understands the information without possible misunderstandings,
- it is appropriate to describe the death, but without going into details that might cause upset,
- be prepared for the family to ask the same questions several times,
- offer counselling and make them aware of the following procedure.

In order for the client to receive the best possible care at the end of their life, it is necessary for the social worker not to work alone, but to be part of a multidisciplinary team. This ensures that the client receives the best possible care. The work of a social worker in a hospice is demanding, as he or she must have knowledge in a variety of fields and is constantly in contact with death. Communicating with the client and their family is very difficult, as dying is a sensitive and still taboo subject for many people. It is therefore important for the social worker to be able to communicate not only verbally but also non-verbally and to be able to recognise when it is appropriate to say something and when it is better to remain silent and just listen.

2 RESEARCH RESULTS

The data necessary for the implementation and subsequent evaluation of the research were collected through semi-structured interviews with social workers from hospices located in Slovakia and the Czech Republic. All the collected data were subsequently processed, graphically represented and evaluated in the Atlas.ti software.

The research was carried out in the following facilities in Slovakia and the Czech Republic: the Citadel Hospice in Valašské Meziříčí, the Hospice in Most, the Hospice of St. John N. Neumann Hospice in Prachatice, Hospice of St. Stephen in Litomeřice, Hospice of St. Lazarus in Pilsen and Hospice of the Sisters of Mercy in Trenčín.

Participants were selected by criterion selection. As the research focused on the work of social workers, we first of all investigated in which hospices in Slovakia and the Czech Republic a social worker is a member of a multidisciplinary team. After verifying the main criterion, we contacted a total of 20 hospices. For the first contact we chose a telephone interview, which from our point of view is more time-efficient than e-mail communication.

Of the 20 facilities contacted, 6 facilities were willing to participate in the research, representing 6 social workers.

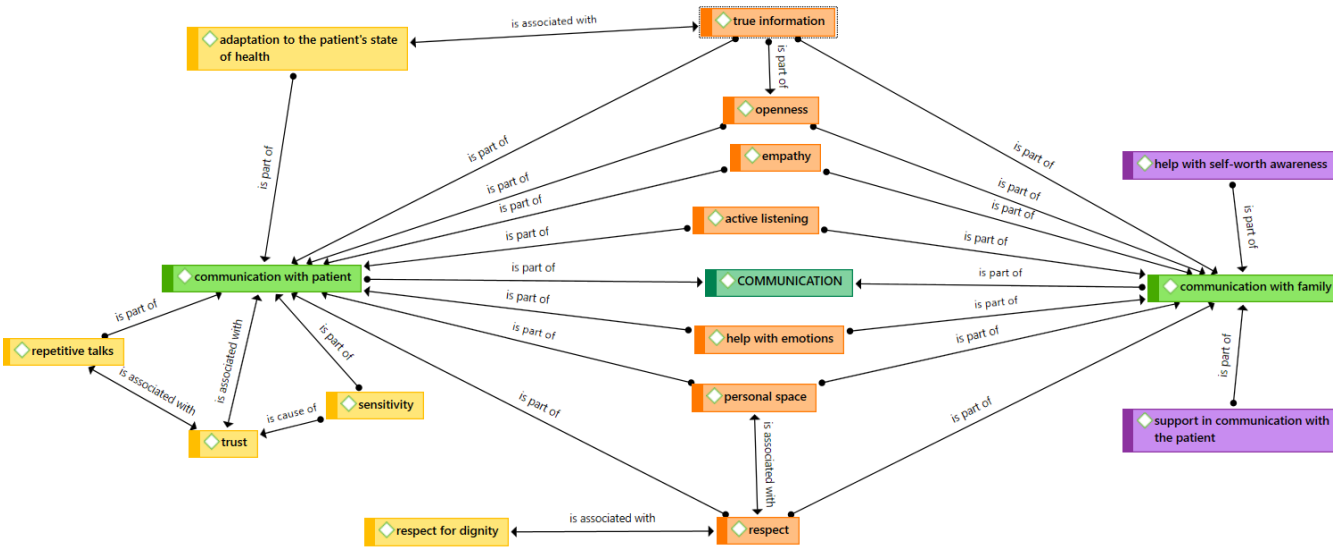
In the diagram we analyze The specifics of communication described by the social workers were divided into two categories based on the answers: a) communication with the client, b) communication with the family.

The common specifics of both categories described by the interviewees when communicating are active listening, openness and empathy, where it is necessary to "listen with a dose of empathy". Giving truthful information is an essential part of this, but it needs to be adapted to the patient's state of health. As one social worker states, "I won't tell him bad news if I see that he is mentally unwell, I prefer to wait until he is better." Another, in turn, stated that it is necessary "not to take away their hope but at the same time to tell them the straight truth." Part of this includes helping to process emotions, especially for those family members "who are mostly not reconciled to their loved one's condition" because "it is important to help the family express their emotions." As they further state, it is important to respect the client, especially their needs, the fulfillment of which contributes "to a peaceful passing." Respect itself is also directly related to respecting the client's dignity.

In addition to the common specifics, each of the categories has its own characteristics. When communicating with the client, it is mainly about repeated conversations, because thanks to them the worker gains the client's trust and then "says other things than at the beginning" and starts to talk about sensitive topics for the client as well.

When communicating with the family, it is mainly about helping them to realise their own value, where the social worker helps the family members "to realise their own importance and to take care of themselves." They also try as much as possible to "support them in communicating with the sick person so that they are not afraid of it and so that they don't have any regrets after the death."

3 DISCUSSION, CONCLUSIONS



Within the research we investigated the specifics of communication with the client and his/her family. The results show that communication with both groups is mainly characterized by active listening, openness and empathy. The participants consider it essential that clients in hospice are provided with truthful information, the distortion of which is adapted to the health condition of the patient. Participants further stated that they help clients to process emotions and respect is an integral part of all communication. Repeated conversations are used with clients, the aim of which is to gain trust. In addition to the common specificities, communication with the family is also characterized by helping them to realize their own value and supporting them in communicating with the sick person, according to the participants.

Comparable research findings were also presented by Krell and Mojtová (2010), who report induced categories in their survey, which among other things, focused on communication between workers and clients. Their findings show that the important elements in the area of communication are mainly empathy, acceptance of the other, support, listening, trustworthiness, honesty and sensitive information giving.

We are aware that our research also has some shortcomings. Although we approached 20 facilities in the Czech Republic and Slovakia, only 6 participants responded positively to participate in the research. Of all the participants, only one was a social worker from a hospice located in Slovakia, and therefore we could not determine whether there is a difference between the status and job description of a social worker in facilities in Slovakia and the Czech Republic.

Living in today's fast-paced age means that the domestic model of dying is gradually disappearing. People are no longer dying in the environment of their own home, and so there is an increasing need for facilities to exist to at least partially replace this model. One such facility is hospice care, where comprehensive care is provided for the client in the terminal stage of illness and where a multidisciplinary team tries to meet the client's needs. This ensures that the family can rest assured that the dying person is well cared for and that nothing is lacking. The social worker is also an integral part of it, the importance of which has been discussed in both the theoretical and empirical parts of the thesis.

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OBSZARY POMOCY SPOŁECZNEJ DLA BEZDOMNYCH W RZYMIE

SOCIAL ASSISTANCE AREAS FOR THE HOMELESS IN ROME

Krzysztof Trębski, Mária Nemčíková

Abstrakt

Jednym z najważniejszych wyzwań stojących przed pracą socjalną w XXI wieku jest problem bezdomności który, pomimo postępu technologicznego i rozwoju gospodarczego, jest obecny we wszystkich kulturach i szerokościach geograficznych. Zjawiska tego nie można utożsamiać wyłącznie z brakiem mieszkania lub stałego miejsca zamieszkania, gdyż ma ono reperkusje na wielu płaszczyznach egzystencji osoby nim dotkniętej. Bezdomność zwraca uwagę na występowanie różnic w zamożności i dysproporcji w podziale dóbr pomiędzy poszczególnymi warstwami społecznymi oraz uwidacznia charakter działań, jakie społeczeństwo podejmuje wobec tego zjawiska. To opracowanie jest jedynie małym przyczynkiem do zainicjowania dyskusji na te tematy i przedstawia sytuacje bezdomnych w Rzymie, gdzie problem ludzi „senza tetto" (bez dachu nad głową) - jak to wyraża język włoski - jest codzinnym wyzwaniem dla wielu organizacji rządowych, pozarządowych i kościelnych oraz dla licznych wolontariuszy tej blisko trzymilionowej aglomeracji miejskiej.

***Słowa kluczowe**: fenomen bezdomności, bezdomni w Rzymie, formy pomocy w wyjściu z bezdomności*

Abstract

One of the most important challenges facing social work in the 21st century is the problem of homelessness, because despite technological progress and economic development, it still occurs among people in all cultures and latitudes. The phenomenon of homelessness can't be identified only with the lack of a flat or a permanent place of residence, because it has repercussions on many levels of existence of the affected person. Homelessness draws attention to the occurrence of disproportions and differences in wealth and the distribution of goods between individual social strata, as well as to the nature of the reactions and actions that society takes in relation to this phenomenon.This study is only a small contribution to initiating a discussion on these topics and presents the situation of the homeless in Rome, where the problem of people "senza tetto" (homeless) - as it is expressed in Italian - is a daily challenge for many governmental, non-governmental and church organizations and for the numerous volunteers of this nearly three-million urban agglomeration.

***Key words:** phenomenon of homelessness, homeless people in Rome, forms of help in getting out of homelessness*

1 PRÓBA ZDEFINIOWANIA ZJAWISKA

Bezdomność jest problemem globalnym, co oznacza, że występuje w każdym kraju na świecie, choć w różnych formach i nasileniu. Wiąże się to z lokalnymi warunkami ekonomicznymi, wzajemnymi powiązaniami ekonomicznymi między bogatymi i biednymi krajami i obszarami, kontekstami kulturowymi różnicującymi sposób życia jednostek oraz funkcjonowaniem społeczności. Pomimo różnych prób wyeliminowania tego zjawiska, nawet w krajach uprzemysłowionych o wysokim poziomie pomocy społecznej problem ten nie ustępuje.

Kiedy próbuje się sformułować definicję bezdomności, można zauważyć, że pomimo jasnej etymologii słowa „bezdomny", która w oczywisty sposób narzuca jego interpretację jako odnoszącą się do „osoby bez domu", skojarzenie to niewiele wyjaśnia ze względu na konieczność uprzedniego zdefiniowania, czym jest „dom" i co może oznaczać jego brak dla człowieka.

Bezdomność to rodzaj trudnej sytuacji dla osób i rodzin, które w danym momencie nie mają lub nie mogą mieć domu, który mogłyby uznać za swój, a który spełniałby minimalne warunki pozwalające uznać go za bezpieczną przestrzeń życiową. To także sytuacja, która narusza fundament człowieczeństwa w postrzeganiu siebie, poczuciu godności i własnej wartości, a nawet łamie sens istnienia. Jest to bardzo złożony problem psychospołeczny i ekonomiczny. Z jednej strony, z antropologicznego punktu widzenia, człowiek, jak każda inna istota żywa, posiada pełny potencjał egzystencjalny, który powinien mu wystarczyć do życia. Z drugiej strony to właśnie tworzony przez niego fenomen kultury determinuje jakość relacji z innymi ludźmi, z przestrzeniami, rzeczami, miejscami, które postrzegane są jako ważne w kontekście wartości materialnych i symbolicznych. Bezdomność w sensie „bycia bez domu" dotyka długoterminowych beneficjentów wsparcia bezdomnych, osób korzystających ze schronisk, placówek dla bezdomnych, jest też istotnym zagrożeniem dla osób, które po dłuższym pobycie, liczonym miesiącami, a nawet latami, opuszczają domy dziecka, szpitale i więzienia. Nie mają stałego miejsca zamieszkania, często nie mają osób, do których mogliby wrócić, ale także ze względu na specyfikę usług i organizację instytucji życiowych często brakuje im umiejętności społecznych, niezbędnych do samodzielnego prowadzenia gospodarstwa domowego. Życie bezdomnych charakteryzuje się izolacją, bezradnością i zerwanymi więziami z rodziną: wszystko to niejako zmusza ich do pozostawania w psychofizycznym stanie patologicznym i zamyka błędne koło wykluczenia społecznego[1]. Bezdomność jest więc ludzkim dramatem, ale współczesne społeczeństwa dość łatwo się do niego przyzwyczaiły, bezsilne wobec narastającej skali tego zjawiska.

Bezdomność stanowi jedno z najpoważniejszych zagrożeń społecznych, które dotyka wszystkich wymiarów życia człowieka, nie tylko odnosi się do braku posiadania bezpiecznej przestrzeni, którą można nazwać domem, ale dotyka podstaw ludzkiej egzystencji: wpływa na postrzeganie siebie, poczucia własnej godności i poczucia własnej wartości, negatywnie wpływa na zdrowie fizyczne i psychiczne oraz wpływa na życie w związkach.

W naturalny sposób powstaje pytanie o przyczyny, dla których człowiek staje się „bezdomny". Wzięte z osobna wyjaśnienia tych przyczyn nie są w stanie oddać złożoności zjawiska, ale są w stanie nakreślić ich wzajemne powiązania. Tłumacząc przyczyny bezdomności z punktu widzenie społecznego można powiedzieć, że jest ona fiaskiem polityki społecznej. Wyjaśnienie psychologiczne wskazuje na słabe zdolności adaptacyjne i poważne problemy w nawiązywaniu lub utrzymywaniu więzi społecznych osób, które stają się bezdomne. Wyjaśnienia natury indywidualnej zwracają uwagę na szczególne indywidualne cechy osób bezdomnych, takie jak pochodzenie etniczne, orientacja seksualna, zdolność przestrzegania pewnych konwencji społecznych itp. Wyjaśnienie natury ideologicznej podkreśla fakt, że niektórzy bezdomni zdecydowali się nie podporządkować i nie podążać za dominującymi wartościami i wybrali życie wolne od jakichkolwiek ograniczeń społecznych.

Bezdomni trafiają na ulice z powodu czynników wewnętrznych, takich jak chroniczne patologie fizyczne lub zaburzenia psychiczne, oraz czynników zewnętrznych i losowych, takich jak utrata pracy, wypadek, rozwód itp. Należy jednak zaznaczyć, że przyczyny te są ze sobą silnie powiązane: utrata pracy może prowadzić do zaburzeń psychicznych lub fizycznych, bądź początek choroby może prowadzić do utraty pracy.

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[1] M. Oliwa-Ciesielska, *Piętno nieprzypisania. Studium o wyizolowaniu społecznym bezdomnych*, Wydawnicwto Naukowe UAM, Poznań 2006, s. 25.

Bezdomność to także, a może przede wszystkim, zerwanie więzi społecznych, brak trwałych i satysfakcjonujących kontaktów z osobami, które mogą stanowić wsparcie w trudnych chwilach, pomagać w podnoszeniu się z upadków oraz motywować do permanentnej zmiany stylu życia[2].

2 PATRZĄC W PRZESZŁOŚĆ, ABY POPRAWIĆ PRZYSZŁOŚĆ

Należy zauważyć, że na poziomie krajowym we Włoszech istnieje ustawa, Legge 328/2000[3], dotycząca systemu interwencji i usług społecznych, która ustanowia ramy legislacyjne dla polityki społecznej na rzecz osób żyjących na marginesie społeczeństwa, choć oczywiście pozostaje nadal dużo do zrobienia w tym zakresie[4].

Już w badaniu z roku 201, ISTAT (Narodowy Instytut Statystyki Włoch) zwrócił uwagę na niewystarczalność istniejących usług dla osób bezdomnych (noclegownie, schroniska dzienne, opieka zdrowotna, poradnictwo) w odniesieniu do wszystkich obszarów interwencji[5]. Analizując sytuację usług w Rzymie, badanie ISTAT wykazało, że pomimo obecności w mieście ponad 20% osób bezdomnych zarejestrowanych na terenie całego kraju, widoczny był spadek ilości miejsc w noclegowniach, które były w stanie obsłużyć zaledwie 2,9% ogólnej liczby rzymskich bezdomnych. Według danych dostępnych w Jednolitym Systemie Informacji o Monitoringu i Interwencjach Społecznych (SIMIS) Rzymu, na dzień 30 stycznia 2022 r. na całym obszarze miasta jest do dyzpozycji 1016 miejsc noclegowych i 220 miejsc w strukturach usług całodziennych. Jesli chodzi o emigrantów, to System przyjmowania i integracji osób posiadających ochronę międzynarodową i małoletnich cudzoziemców (NOK) finansowany ze środków Ministerstwa Spraw Wewnętrznych i Departament Polityki Społecznej Roma Capitale, dysponuje 1512 miejscami noclegowymi[6].

Punkty pomocy dla osób bezdomnych są rozmieszczone na terenie wielu dzielnic miasta a ich liczba jest zmienna w czasie, gdyż zależy od indywidualnych potrzeb terytorium, pory roku i ewentualnego uruchomienia planów doraźnej pomocy. Analizując dane SIMIS, dystrybucja usług dla bezdomnych w poszczególnych dzielnicach jest bardzo nierówna, o obszar Ostii odnotowuje całkowity brak takich usług. Ośrodki dla matek z dziećmi gwarantujące całodzinny pobyt i wyżywienie (CMB), są obecne tylko w 5 dzielnicach Rzymu, i dysponują łącznie 178 miejscami.

Ośrodki dla bezdomnych czynne 4 godziny dziennie z toaletami i podstawowymi artykułami pierwszej potrzeby dysponują obecnie 130 miejscami. Natomiast dzienne ośrodki zapewniające obiady i śniadania (otwarte po 9 godzin dziennie) dysponują łącznie 90 miejscami. Do powyższych liczb należy dodać 200-300 miejsc noclegowych utworzonych przez parafie czy stowarzyszenia świeckie, które nie działają na podstawie umowy z miastem Rzymem i utrzymują się dzięki spontanicznej pomocy wolontariuszy.

Mimo tych wysiłków, obserwuje się ciągle rosnące zapotrzebowanie na miejsca dla bezdomnych, których liczbę w stolicy szacuje się obecnie na okolo 14-16 tysięcy. Zwiększenie liczby miejsc wymaga interwencji strukturalnych, które są planowane w

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[2] D. Podgórska-Jachnik D., *Praca socjalna z osobami bezdomnymi*, Centrum Rozwoju Zasobów Ludzkich, Warszawa 2014, s. 22-23.

[3] Ustawa z 8 listopada 2000 r., nr. 328 „Ramowa ustawa o utworzeniu zintegrowanego systemu interwencji i usług społecznych" opublikowana w Dzienniku Urzędowym nr. 265 z dnia 13 listopada 2000 r. – Dodatek Zwyczajny nr. 186.

[4] E. Cibinel, *La 328 ha vent'anni: ha raggiunto la maturità?" Percorsi di secondo welfare*, 05/11/2020. www.secondowelfare.it.

[5] ISTAT - Istituto Nazionale di Statistica (Narodowy Instytut Statystyki) jest odpowiednikiem polskiego GUS. Por. ISTAT, *I servizi alle persone senza dimora Anno 2011*. 03/11/2011 In: https://www.istat.it/it/archivio/44096

[6] Comune di Roma, *Sistema Informativo unico di Monitoraggio e Intervento Sociale (SIMIS)*, In www.comune.roma.it.

najbliższej przyszłości, również z myślą o Roku Jubileuszowym 2025, w czasie którego spodziewany jest znaczny napływ pielgrzymów z różnych stron świata.

3 SPOJRZENIE NA BEZDOMNYCH W OBSZARZE METROPOLITALNYM RZYMU

Bezdomność jest problemem globalnym, co oznacza, że występuje we wszystkich krajach świata, choć w różnym stopniu i w różnych formach. Spora część opinii publicznej myśli, że gdzieś daleko na świecie istnieją ogromne osiedla bezdomnych mieszkających w prowizorycznych schroniskach. To mniemanie stwarzało złudne wrażenie, że problem ten nie dotyczy Włoch i ich obszaru kulturowego. Obecnie jednak nie sposób nie zauważyć tego zjawiska w każdym większym włoskim mieście. Coraz częściej bezdomność jest powodem do niepokoju jako narastający problem społeczny, stanowiący ponurą przeciwwagę dla dobrobytu znacznej części ludności.

W grudniu 2022 r. ISTAT opublikował dane Spisu Ludności Włoch za rok 2021. Po raz pierwszy w ramach badania udostępniono dane dotyczące niektórych określonych grup ludności, w tym osób żyjących w „osadach dla „nomadów" oraz osiedli tolerowanych i spontanicznych dla bezdomnych. Według tych danych bezdomnych zarejestrowanych w rejestrach gminnych we Włoszech było 96 197 jednostek, z czego 38% stanowili cudzoziemcy. Ponad połowa bezdomnych cudzoziemców pochodzi z kontynentu afrykańskiego, 22% to obywatele Europy, a 17% to Azjaci. Ludność, która formalnie przebywa w wyposażonych obozach lub w osiedlach tolerowanych i spontanicznych, liczy około 16 000 osób.

W metropolii Rzym, która liczy 2 747 127 mieszkańców (stan na 31.1.2023), mieszka 23,1% (ponad 22 000) zarejestrowanych we Włoszech bezdomnych[7]. Dane pokazał że na 212,4 bezdomnych mężczyzn przypada 100 kobiet (188,7 dla Włochów i 261,5 dla obcokrajowców). 59,4% bezdomnych to cudzoziemcy[8]. Według tych danych najczęstszymi narodowościami są Rumuni (11,5%), Marokańczycy (9,1%) i Tunezyjczycy (5,7%). Ogólna średnia wieku bezdomnych cudzoziemców wynosi 41,6 lat: dla Włochów wzrasta ona do 45,5 lat, podczas gdy dla obcokrajowców spada do 35,2 lat. Około połowa obcokrajowców (49,7%) jest bezdomna krócej niż 6 miesięcy, w porównaniu z około jedną trzecią (32%) Włochów. Tylko 9,3% obcokrajowców było bezdomnych przez co najmniej 4 ostatnie lata w porównaniu z jedną czwartą Włochów (24%). Lepiej wykształceni są też młodsi obcokrajowcy: 43,1% ma dyplom szkoły średniej (9,3% ma maturę dyplom) wobec 23,1% Włochów. Natomiast tylko 6,1% cudzoziemców deklaruje, że nie potrafi czytać ani pisać. 99,1% obcokrajowców urodziło się za granicą, a tylko 20% z nich było bezdomnych przed przybyciem do Włoch. 41,4% zadeklarowało, że ostatnie miejsce ich zamieszkania znajdowało się za granicą, a pozostałe 38,6% we Włoszech.

We wspomnianym raporcie ISTAT podkreślono, że wśród przyczyn wywołujących stan bezdomności Włochów wymienia się utratę lub brak możliwości znalezienia pracy. W ponad połowie przypadków utrata pracy wynikała z sytuacji ekonomicznej/niestałości stosunku pracy (zwolnienie, nieprzedłużenie umowy, upadłość firmy czy niewypłacanie wynagrodzenia). 49% ankietowanych deklaruje, że ostatnio pracowało „na czarno". Dla cudzoziemców drugim czynnikiem wpływającym na bezdomność (19%) jest status imigranta lub problemy związane z brakiem dokumentów.

[7] Zobacz https://www.agenzianova.com/news/a-febbraio-il-censimento-dei-senza-dimora-a-roma-nel-2022-accolti-in-22-mila/

[8] Zobacz https://www.parlarecivile.it/argomenti/povert%C3%A0-ed-emarginazione/homeless.aspx

4 PROBLEMY ZWIĄZANE Z BEZDOMNOŚCIĄ

Proces wychodzenia z bezdomności nie zawsze jest zakończony sukcesem, bowiem wymaga aktywnego zaangażowania osoby zainteresowanej i wsparcia otoczenia. Kluczowe są działania instytucji pomocy społecznej oraz ścisla współpraca organizacji zajmujących się tą problematyką w szerszym wymiarze. Z fenomenem bezdomności związane są bowiem inne zagadnienia jak ubóstwo, bezrobocie, niepełnosprawność, a często także nadużywanie lub uzależnienie od narkotyków czy alkoholu, choroba czy zaburzenia zdrowia psychicznego.

5 WPŁYW PANDEMII COVID-19

Pandemia Covid-19 utrudniła życie tym, którzy już znajdowali się w niepewnej sytuacji[9]. Przede wszystkim dla ludzi bezdomnych był to trudny czas, i to nie tylko ze względu na niebezpieczeństwo zarażenia na jakie byli narażeni z powodu ich sytuacji życiowej, ale także ze względu na trudności ze znalezieniem adekwatnej pomocy w okresie lockdownu. Wszystko to odcisnęło piętno na ich równowadze psychofizycznej[10].

Dla osób bez dachu nad głową, a także dla wszystkich tych, którzy już żyli wspierani przez struktury charytatywne, nadejście pandemii przyczyniło się do znacznego pogorszenia warunków ich życia w związku z nagłym zamknięciem punktów dystrybucji żywności na podstawie dekretu o lockdownie[11]. Bezdomni ponieśli również konsekwencje izolacji społecznej, ponieważ osoby nieszczepione były często uważane za źródło niebezpieczeństwa lub potencjalnego zakażenia[12].

Kryzys zdrowotny wywołany pandemią Covid-19 spowodował również pogorszenie warunków życia osób mieszkających w nieformalnych koczowiskach [13]. Panujące tam warunki higieniczno-bytowe stanowiły trwały czynnik ryzyka rozwoju mniej lub bardziej rozległych ognisk Covid-19. Poważne trudności wiązały się z dostępem do usług. W okresie pandemii, a w szczególności w miesiącach lockdownu który objął całe Włochy w 2020 r., wiele urzędów i punktów pomocy było zamkniętych dla interesantów lub skrócono ich godziny otwarcia, co miało nieuchronnie negatywne konsekwencje dla najsłabszej części społeczeństwa.

Pogorszenie warunków życia i pracy spowodowane kryzysem COVID-19 wystąpiło również w ogromnej grupie migrantów, co wyrażało się skrajną marginalizacją populacji uchodźców, dla której pilna okazała się potrzeba pomocy materialnej, mediacji językowej i kulturowej, pomoc w dostępie do określonych informacji i usług, a co za tym idzie możliwość skorzystania z pełnej integracji w czasie zagrożenia związanego z pandemią.

Na przykład, oddziały urzędu imigracyjnego Rzymu zajmujące się podaniami o zezwolenie na pobyt pozostawały zamknięte przez półtora roku i pracowały wyłącznie na zasadzie umówionych wizyt, skutecznie wykluczając dużą część ludności z możliwości ubiegania się o legalną zgodę na pobyt. Sama Komenda Główna Policji w Rzymie w niektórych okresach pandemii była czynna w niepełnym wymiarze godzin, przesuwając o kilka miesięcy terminy procedur odnowienia zezwoleń pobytowych. Choć wydano przekształcone wówczas w ustawę rozporządzenie ministerialne (L. 87/2021 art.11) przedłużające ważność dokumentów,

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[9] AA. VV, "#mapparoma29, *La mappa degli invisibili: migranti e senza dimora al tempo del COVID-19*, 18/05/2020, In: www. numeripari.org

[10] C.R., Wanberg et al., *Socioeconomic status and well–being during Covid–19: A resource–based examination*, "Journal of Applied Psychology", 105(12), 2020, s. 1382–1396.

[11] Caritas Roma, *Salute e fragilità sociale in tempo di pandemia. Un punto di vista. Anno 2021*. In: http://www.caritasroma.it/wp-content/uploads/2021/07/RAPPORTO_Salute_fragilita_sociale.pdf

[12] N. Ferrigni N. (ed.), *Le nuove povertà nel territorio di Roma Capitale. Rapporto di ricerca*, Aracne, Roma 2021, s. 227-228.

[13] D. Godinic, B. Obrenovic, A. Khudaykulov, *Effects of economic uncertainty on mental health in the Covid–19 pandemic context: social identity disturbance, job uncertainty and psychological well– being model*. "International Journal of Innovation and Economic Development", 6, 2020, s. 61-74.

reperkusje w zakresie dostępu do niektórych praw, zwłaszcza dla bezdomnych i emigrantów, były ewidentne. Odnowienie rejestracji w NFZ dla osób posiadających przeterminowane dokumenty było możliwe dopiero po wydaniu, z kilkumiesięcznym opóźnieniem, okólników nakazujących przedłużenie ważności książeczek zdrowia.

6 PROBLEMY ZDROWOTNE[14]

Jeśli chodzi o kwestię zdrowotną, aż 17% bezdomnych deklaruje, że ma przewlekłe patologie i/lub jakąś formę niepełnosprawności/upośledzenia (fizycznego/psychicznego). 73% podaje, że w miesiącu poprzedzającym wywiad chorowało. Spośród nich 32% nie zgłosiło się nikdy do placówki służby zdrowia. 7% z nich podało jako powód brak dokumentów, a 12% stwierdziło że nie wiedziało dokąd się udać. Na trudność w dostępie do służby zdrowia wpływa także fakt, że 54% ankietowanych nie ma żadnego adresu zamieszkania.

W odniesieniu do zdrowia psychicznego, Kompleksowa Struktura Medycyny Prewencyjnej ds. Migracji w Szpitalu San Gallicano w Rzymie udokumentowała, spośród około 5000 leczonych bezdomnych Włochów i cudzoziemców, u 1048 zdiagnozowano zaburzenia psychiczne[15].

W odniesieniu do nieletnich raport MEDU za 2022[16] rok poinformował, że spośród ponad 1500 osób leczonych w okresie od stycznia 2021 do listopada 2021, które przebywały na stacji Termini, w rejonie Tiburtina/Verano oraz w dwóch zajmowanych nielegalnie budynkach, zlokalizowanych odpowiednio na via Collatina i via di Santa Croce in Gerusalemme, aż 11% stanowili nieletni w wieku od 15 do 17 lat.

Ten sam raport MEDU wskazuje, że około 3% osób, które otrzymały pomoc medyczną w nieformalnych koczowiskach na terenie Rzymu, miało zaburzenia psychiczne. Około 39% osób cierpiało na zaburzenia psychosomatyczne związane z zespołem stresu pourazowego lub stylem życia.

7 NIELEGALNE ZAJMOWANIE PUSTOSTANÓW MIESZKANIOWYCH

Według raportu „Out of Field" Lekarzy bez Granic 2018[17] w Rzymie było rejestrowanych ponad 100 nielegalnie okupowanych budynków. Pandemia Covid-19 tylko pogłębiła to zjawisko, ponieważ dla wielu osób ubiegających się o azyl lub posiadających ochronę międzynarodową znalazło się bez dachu nad glową.

Do najważniejszych zajmowanych budynków należy budynek dawnej siedziby Inpdap przy via Santa Croce w Gerusalemme, w którym od 2012 r. mieszka około 400 osób, w tym około sto osób ubiegających się o azyl lub posiadających ochronę międzynarodową. Blisko 500 emigrantów mieszka w dawnej siedzibie INPS przu Viale delle Province, z czego prawie 100 to osoby ubiegające się o azyl lub osoby posiadające ochronę międzynarodową. Budynek dawnej siedziby Inpdap przy via Collatina jest domem dla około 450 osób narodowości erytrejskiej i etiopskiej ubiegających się o azyl i posiadających międzynarodową ochronę

[14] G. Rizzo, *Nella città dei senzatetto,* in "Internazionale", 09/09/2019. www.internazionale.it.

[15] Ibidem.

[16] Medici per i Diritti Umani – MEDU (Doctors for Human Rights – Italy) czyli Lekarze na rzecz Praw Człowieka to międzynarodowa organizacja humanitarna i solidarnościowa non-profit, która ma na celu niesienie pomocy zdrowotnej najsłabszym grupom ludności w sytuacjach kryzysowych we Włoszech i za granicą oraz rozwijanie demokratycznych i partycypacyjnych przestrzeni w społeczeństwie obywatelskim w celu promowania prawa do zdrowia i innych praw człowieka. Działanie Medu opiera się na zawodowym i dobrowolnym zaangażowaniu lekarzy i innych pracowników służby zdrowia, a także obywateli i profesjonalistów innych dyscyplin. Zobacz: MEDU, *Margini. Rapporto sulle condizioni socio-sanitarie di migranti e rifugiati negli insediamenti informali della città di Roma*, 2022. In: https://www.unhcr.org/it/wp-content/uploads/sites/97/2022/01/MEDU_UNHCR_margini_raporto_web_low_01.pdf

[17] Medici senza Frontiere, *Fuori Campo. Insediamenti informali, marginalità sociale, ostacoli all'accesso alle cure e ai beni essenziali per migranti e rifugiati. Secondo Rapporto*. 02/2018. In: https://www.medicisenzafrontiere.it/wp-content/uploads/2019/04/Fuoricampo2018.pdf

prawną. Oprócz tych miejsc, wiele nielegalnych osiedli znajduje się w rejonie Tor Cervara na obrzeżach Rzymu[18]. Jak podkreśla Raport Lekarzy MEDU[19] są to zabudowania otoczone nielegalnymi wysypiskami śmieci, rojące się od szczurów, w których ludzie żyją bez najbardziej podstawowych dóbr (woda, prąd, gaz, toalety). Z tego samego raportu wynika, że te osiedla bezdomnych są w większości zamieszkane przez młodych mężczyzn i młode kobiety spoza UE, którzy są ofiarami handlu ludźmi. Osiedliły się tam również rodziny z ubogich państw z małoletnimi dziećmi, które mimo obowiązku szkolnego nie uczęszczają do żadnej szkoły. Nie mało jest też osób starszych z poważnymi patologiami[20].

8 INICJATYWY ADMINISTRACJI MIEJSKIEJ RZYMU NA RZECZ BEZDOMNYCH

Proces wykluczenia społecznego, którego doświadczają bezdomni, skłania ich do wypracowania strategii przystosowania się do życia na ulicy. Dlatego czasami trudno jest zapewnić im odpowiednią pomoc. Z jednej strony osoby bezdomne często szukają oderwania od rzeczywistości i odmawiają pomocy ze względów ideologicznych, psychologicznych lub niechęci do przestrzegania zasad higieniczno-organizacyjnych w noclegowniach. Z drugiej strony duże stołówki, duże noclegownie dla bezdomnych - często skutkujące poczuciem depersonalizacji i marginalizacji - nie sprzyjają ponownej integracji ze społeczeństwem.

Kluczem do udzielenia skutecznej i adekwatnej pomocy jest uważna ocena potrzeb bezdomnych. To kwestia znalezienia miejsc noclegowych nie tylko na jedną noc czy miesiąc, ale zbudowania systemu, który poradzi sobie z problemem stałego zakwaterowania bezdomnych. Obecnie w Rzymie można zagwarantować około 4 000 noclegów, co, w porównaniu do około 22 000 osób potrzebujących pomocy, pokazuje jak dużo trzeba jeszcze zrobić. Decyzje rzymskiej administracji mówią o dwóch nowych „Centrach Pomocy" dla bezdomnych, oprócz już istniejącego na dworcu Termini: jednym na stacji Tiburtina i jednym na stacji Ostiense. Mówi się o poprawie opieki poszpitalnej i nowych ośrodkach recepcyjnych finansowanych z PNRR[21] i projektów „Housing First Rome" [22]. W związku z obchodzonym w 2025 roku Jubileuszem, który przyniesie napływ tysięcy osób chętnych do odwiedzania miejsc kultu, spodziewany jest wzrost liczby miejsc dla bezdomnych. Planowana jest renowacja budynków przy via Vittorio Emanuele, wraz z przebudową przestrzeni miejskich przy via Giolitti i via Quattro Novembre. Jak podkreślają władze Rzymu, największą trudnością jest jednak znalezienie fizycznej przestrzeni w centrum miasta, preferowanej przez bezdomnych, gdzie zagwarantowane byłoby stałe funkcjonowanie punktów pomocy również w nadchodzących latach.

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[18] Medici senza Frontiere, *Fuori Campo. Insediamenti informali, marginalità sociale, ostacoli all'accesso alle cure e ai beni essenziali per migranti e rifugiati. Secondo Rapporto*. 02/2018, s. 25. In: https://www.medicisenzafrontiere.it/wp-content/uploads/2019/04/Fuoricampo2018.pdf

[19] MEDU, *Margini. Rapporto sulle condizioni socio-sanitarie di migranti e rifugiati negli insediamenti informali della città di Roma*, 2022. In: https://www.unhcr.org/it/wp-content/uploads/sites/97/2022/01/MEDU_UNHCR_margini_raporto_web_low_01.pdf

[20] Università Bocconi, Fondazione DeBenedetti, *RacCONTAMI 2014. 1° indagine point in time dei senza fissa dimora a Roma. Primi risultati*, Roma. 23/06/2014.

[21] PNRR (Piano Nazionale di Ripresa e Resilienza) - krajowy plan odbudowy ze środkami finansowymi z funduszy UE Next Generation.

[22] „Housing First Rome" to projekt finansowany przez Cisco i realizowany w partnerstwie ze Wspólnotą Sant'Egidio, który przewiduje zastosowanie modelu „Housing First" w Rzymie i umieszczenie 40 bezdomnych w im oddanych lokalach na okres 4 lat. Zobacz https://housingfirstroma.it/

9 OPCJE POMOCY SPOŁECZNEJ NA RZECZ OSÓB BEZDOMNYCH W RZYMIE

9.1 SALA OPERACYJNA (SALA OPERATIVA SOCIALE - S.O.S.)

Pomoc organizowana przez miasto Rzym na rzecz osób bezdomnych znajdujących się w sytuacjach kryzysowych jest świadczona za pośrednictwem Ośrodków Doraźnej Pomocy, w których jest stołówka i gdzie udzielana jest pierwsza pomoc medyczna oraz oferowane są noclegi, środki higieny osobistej czy ubrania. Następnie dla każdego bezdomnego przygotowywany jest indywidualny plan pomocy, który jest realizowany za pośrednictwiem Sali Operacyjnej (S.O.S) działającej przez cały rok 24 godziny na dobę, gdzie działa Front Office (sala w której jest czternastu operatorów telefonicznych), Back Office (sala w której jest koordynator usług społecznych i trzech asystentów socjalnych) oraz 6 Oddziałów interwencji w terenie, w tym jeden aktywny w porze nocnej. Działalność jest poszerzona o jednostkę o nazwie „Mura Aureliane" która zajmuje się dystrybucją ciepłych posiłków, koców i środkow pierwszej pomocy. Ponadto aktywne jest nowoczesne oprogramowanie do zarządzania bazą danych, co umożliwia aktualizację informacji o użytkownikach i udostępnianie ich zainteresowanym instytucjom. Każda zgłoszona sytuacja jest rejestrowana z poszanowaniem zasad prywatności i stanowi cenne narzędzie do planowania pomocy i uruchamiania nowych metod interwencji.

Za pośrednictwem jednostek pracujących w terenie, Sala Operacyjna odpowiada na zgłoszenia i w razie potrzeby oddaje osobę bezdomną pod opiekę pracownikowi ośrodka pobytu tymczasowego. Te ośrodki zapewniają również artykuły pierwszej potrzeby niezbędne w sytuacjach długiego przebywania na ulicy.

Kontakt z Salą SOS jest możliwy poprzez bezpłatny numer oraz aplikację Pedius. Metoda ta pozwala na szybką ocenę zgłoszonego przypadku, udzielanie niezbędnych informacji, koordynację działań związanych z sytuacjami kryzysowymi, aktywację służb terytorialnych, ukierunkowanie interwencji w zależności od konkretnych potrzeb jak hospitalizacja czy przyjęcie do domu spokojnej starości.

Na terenie Rzymu utworzono również Wirtualny Punkt Pomocy (Sportello Unico Virtuale[23]), zajmujący się przede wszystkim emigrantami i bezdomnymi cudzoziemcami. Udziela im pomocy w biurokratycznych procedurach uzyskiwania zezwoleń na pobyt, pomaga w poszukiwania pracy, znalezieniu mieszkania i kwestiach prawnych. Pomoc obejmuje również usługę poradnictwa online z udziałem mediatora kulturowego.

9.2 BINARIO 95[24]

Wśród inicjatyw na rzecz bezdomnych w Rzymie wyróżnia się projekt „Binario 95". Jest to ośrodek pomocy dla osób bezdomnych, zlokalizowany na stacji Roma Termini, jednym z największych węzłów kolejowych w Europie, w lokalu oddanym do użytku przez Włoskie Koleje Państwowe i prowadzony przez organizację Europe Consulting Onlus. Ośrodek powstał w 2002 r. na pierwszym peronie dworca Roma Termini jako punkt poradnictwa i koordynacji pomocy dla bezdomnych, koczujących na dworcu i w jego okolicach. W 2006 roku miejsce to powiększono, tworząc Centrum Pomocy przy Via Marsala 95, a następnie przekształcono je w Wielofunkcyjne Centrum dla bezdomnych BINARIO 95. Sukcesywnie okazało się konieczne zintegrowanie działalności Centrum z systemem usług dziennych i nocnych na terenie Rzymu, wdrożenie działań niezbędnych w celu przeciwdziałania chroniczności wykluczenia społecznego, uruchomienie ścieżek odzyskiwania umiejętności relacyjnych i reintegracji społecznej.

[23] Zobacz https://www.comune.roma.it/web/it/informazione-di-servizio.page?contentId=IDS608528
[24] Zobacz https://www.binario95.it/

W tym samym roku powstało także Help Centre Mobile: jednostka pracy w terenie, która interweniuje w szczególności na rzymskich dworcach kolejowych, wychodząc na przeciw potrzebom ludzi koczyjących na dworcu.
W 2016 roku otwarto Magazyn Socjalny (Magazzino Sociale Cittadino), gdzie są przyjmowane, przechowywane i dystrybuowane dary ofiarowane przez instytucje i osoby prywatne dla bezdomnych jak ubrania, koce czy artykuły pierwszej potrzeby.
Binario 95 chce być rozumiane jako kreatywne, będące w ciągłej ewolucji, laboratorium społeczne, gdzie można eksperymentować z pomysłami i rozwiązaniami, aby przywrócić godność tym, którzy uważają, że ją utracili, prawa tym, którym ich odmówiono i promować sposoby zmiany mentalności społecznej, które mogą uczynić Rzym miastem bardziej ludzkim i wrażliwym na potrzeby biednych.

9.3 FIKCYJNE MIEJSCE ZAMIESZKANIA

Osoby bezdomne silnie odczuwają skutki wykluczenia społecznego, ponieważ nie posiadając dokumentów tożsamości i stałego miejsca pobytu, nie mają możliwości zameldowania się w urzędzie gminy/miasta pod określonym adresem. Brak wpisu do wykazów ewidencyjnych gminy lub miasta pociąga za sobą szereg poważnych konsekwencji, takich jak utrata niektórych praw ściśle związanych ze statusem mieszkańca, takich jak np.: prawo do opieki zdrowotnej (np. dostęp do lekarza pierwszego kontaktu), możliwość zatrudnienia i pobierania zasiłków dla bezrobotnych (np. zapisanie się do urzędu pracy), do korzystania z praw obywatelskich i politycznych (np. prawo do głosowania), ochrona prawna (np. dostęp do bezpłatnej pomocy prawnej na koszt państwa), dostęp do świadczeń socjalnych (np. emerytura), wydanie lub odnowienie dokumentów tożsamości (dowód osobisty, zezwolenie na pobyt) itp.
Orzecznictwo włoskie (L. 1228/1954 art.1) potwierdziło, że wpis do rejestru osób jest prawem podmiotowym wszystkich obywateli Włoch, UE i cudzoziemców przebywających legalnie we Włoch. To prawo przysługuje wszystkim osobom, które nie przebywają okazjonalnie na terytorium kraju, a więc także bezdomnym, którzy mają prawo do ubiegania się o wpis do ksiąg metrykalnych gminy na której terytorium przebywają. Zgodnie z tym prawem, możliwe jest uzyskanie zameldowania związanego z miejscem w którym się mieszka na stałe, a które niekoniecznie musi być domem: może to być na przykład stacja kolejowa, garaż, piwnica... Dzieje się tak dlatego, że specyfika miejsca zamieszkania nie może być przeszkodą w zarejestrowaniu się w urzędzie gminy. Ten urząd musi bowiem ograniczać się jedynie do rejestracji stałego pobytu osoby na terenie gminy, nawet jeśli nie ma ona stałego miejsca zamieszkania.
Osoba bezpośrednio zainteresowana może również zameldować się w fikcyjnym lub wirtualnym miejscu zamieszkania, lub oświadczyć, że mieszka przy ulicy, która w rzeczywistości nie istnieje, ale którą gmina zidentyfikowała w celu umieszczenia bezdomnych, którzy poproszą o rejestrację. Procedura ta umożliwia zarejestrowanie osoby bezdomnej w księgach metrykalnych gminy, pod fikcyjnym adresem meldunkowym. W Rzymie adres ten to „Via Modesta Valenti" z oznaczonym numerem domu od 1 do 15, w zależności od dzielnicy pobytu.

9.4 STACJE KOLEJOWE TERMINI I TIBURTINA

Większość bezdomnych w Rzymie koncentruje się w pobliżu dworców kolejowych Termini i Tiburtina. Każdego dnia na dworcu Termini i w jego okolicach przebywa od 150 do 200 bezdomnych i migrantów bez trwałego miejsca pobytu. W godzinach wieczornych osoby, które znalazły schronienie na dworcu, układają swoje kartonowe palety i koce wzdłuż chodników ulic graniczących z dworcem. Sporadycznie powstają też koczowiska osób jednej nacji czy obszaru językowego.

Z danych zespołu MEDU[25] wynika, że grupa bezdomnych mieszkająca w pobliżu stacji Termini charakteryzuje się skrajną heterogenicznością pod względem pochodzenia i statusu prawnego. Prawie jedna trzecia z nich pochodzi z krajów Afryki Subsaharyjskiej (zachodniej i wschodniej), 28% z Afryki Północnej, 13% z Bliskiego Wschodu i Azji, 27% z krajów europejskich, a pozostałe 4% z różnych innych krajów. Jeśli chodzi o status prawny, to 39% bezdomnych cudzoziemców, którym udzielono pomocy posiadało zezwolenia na pobyt, 31% to osoby posiadające inny rodzaj pozwoleń na pobyt, 11% to migranci, 8% to uchodźcy, 3% to posiadacze zezwoleń na pobyt w szczególnych przypadkach, 2% osoby ubiegające się o azyl polityczny.
W pobliżu stacji kolejowej Tiburtina, z dala od zabudowań, znajduje się prowizoryczne koczowisko wielu migrantów z pozwoleniem na pobyt lub bez niego, posiadaczy ochrony międzynarodowej, osób ubiegających się o azyl i osób z innych krajów europejskich. Do połowy 2021 r., kiedy inne ośrodki, wcześniej zamknięte z powodu pandemii wznowiły swoją działalność, obóz był prowadzony przez wolontariuszy ze stowarzyszenia Baobab Experience, którzy przy wsparciu innych stowarzyszeń i zwykłych obywateli rozprowadzali żywność, odzież i artykuły pierwszej potrzeby. Prawie połowa osób, którym udzielono pomocy, była w wieku od 18 do 30 lat (48%), 32% w wieku od 30 do 50 lat, 16% było nieletnich, a pozostałe 4% było w wieku powyżej 50 lat. Jeśli chodzi o obszary pochodzenia, to 51 % pochodziło z krajów wschodniej Afryki Subsaharyjskiej (Erytrea, Etiopia, Somalia i Sudan), 23 % z zachodniej Afryki Subsaharyjskiej (Burkina Faso, Wybrzeże Kości Słoniowej, Czad, Gambia, Mali, Niger, Nigeria, Kamerun, Gwinea, Senegal), 12% z krajów Azji i Bliskiego Wschodu (Afganistan, Indie, Pakistan, Iran i Palestyna), 10% z Afryki Północnej (Egipt, Libia i Tunezja) oraz 4% z krajów europejskich. W odniesieniu do stanu prawnego 60% spraw dotyczyło osób o nieuregulowanym statusie prawnym, z czego 43% to obywatele innych krajów europejskich. 7% osób którym udzielono pomocy miało status uchodźcy, 12% ochronę uzupełniającą, 2% ochronę specjalną, 10% to osoby ubiegające się o azyl, 8% osób posiadało inne rodzaje zezwoleń.
Około 28% osób, którym udzielono pomocy, twierdziły że były ofiarami tortur oraz nieludzkiego i poniżającego traktowania, sygnalizowały fizyczne i psychiczne oznaki doznanej przemocy (63%). Około 18% ogółu osób to małoletni bez opieki zaś 13% to osoby z poważnymi problemami zdrowotnymi i kobiety w ciąży (1%)[26].

10 POMOC ŚWIADCZONA PRZEZ ORGANIZACJE KATOLICKIE

10.1 CARITAS DIECEZJI RZYMSKIEJ

Caritas diecezji rzymskiej[27] jest katolicką instytucją charytatywną która, poprzez swoją działalność, ma być świadectwem miłości Chrystusa do ubogich i wyrazem troski wspólnoty Kościoła o najbardziej potrzebujących[28].
Caritas zarządza szeregiem placówek, które wychodzą na przeciw potrzebom bezdomnych, w tym noclegowni, stołówek, struktur opiekuńczo-pomocowych oraz schronisk dla kobiet i bezdomnych. Ważną inicjatywą Caritasu na rzecz bezdomnych, z której rocznie korzysta ok. 28 tys. osób, jest organizacja tzw. mieszkań chronionych, w których mają oni możliwość

[25] MEDU, *Margini. Rapporto sulle condizioni socio-sanitarie di migranti e rifugiati negli insediamenti informali della città di Roma*, 2022. In: https://www.unhcr.org/it/wp-content/uploads/sites/97/2022/01/MEDU_UNHCR_margini_raporto_web_low_01.pdf
[26] Zobacz https://www.retesai.it/i-numeri-dello-sprar/
[27] Zobacz http://www.caritasroma.it/
[28] Caritas Roma, *La povertà a Roma: un punto di vista. Nessuno si salva da solo. Anno 2020*. 11/12/2020. In: http://www.caritasroma.it/wp-content/uploads/2020/12/Rapporto2020.pdf

przygotowania się do samodzielnego życia oraz mieszkań szkoleniowych, które są formą przejścia między pobytem w schronisku a całkowitą samodzielnością[29].
Rzymski Caritas prowadzi dwie stołówki dzienne (jedną na Colle Oppio w Rzymie i jedną w Ostii pod Rzymem) oraz stołówkę wieczorną przy ul. Marsala w pobliżu dworca Termini. Do dyspozycji bezdomnych jest także ośrodek „Gabriele Castiglion" w Ostii, hostel „Don Luigi Di Liegro" i Miasteczko solidarności „Cittadella della Carità - Santa Giacinta". Tam osoby bezdomne mogą przenocować, wziąć prysznic, zmienić garderobę oraz skorzystać z usług fryzjera.
Dla bezdomnych, którzy nie chcą zmienić stylu życia, jest „wędrowny serwis nocny", który oferuje doraźną pomoc i opiekę medyczną. Drugi rodzaj działalności Caritasu to szkoła języka włoskiego dla obcokrajowców, warsztaty artystyczne dla bezdomnych (teatr, śpiew, kreatywne pisanie, dziennikarstwo) oraz pracownie komputerowe dla bezdomnych, którzy chcą znaleźć pracę.

10.2 WSPÓLNOTA SANT'EGIDIO

Wspólnota Sant'Egidio[30] jest świecką wspólnotą katolicką, która powstała w 1968 roku jako owoc Soboru Watykańskiego II i z inicjatywy Andrei Riccardiego. W ciągu ponad 50 lat istnienia stała się siecią wspólnot w ponad 70 krajach świata, ze szczególnym wyczuleniem na peryferie egzystencjalne i osoby w nich żyjące. W Rzymie pod koniec lat 70-tych na ulicach miasta szybko rosła liczba bezdomnych a niektóre epizody nietolerancji i przemocy dały początek refleksji i konkretnym inicjatywom przeciwdziałania marginalizacji tych osób. Szczególnie poruszająca jest historia Modesty Valenti, starszej bezdomnej kobiety, którą żyła na dworcu Termini i zmarła bez otrzymania stosownej pomocy, bowiem karetka pogotowia odmówiła zabrania jej do szpitala gdyż miała wszy i była brudna.
Działalność wspólnoty Sant'Egidio na rzecz bezdomnych, która rozpoczęła się w Rzymie, rozprzestrzeniła się na świecie, dając życie sieci projektów solidarności takich jak stołówki, ośrodki pomocy, domy starców i noclegownie.
Od 1988 r. Wspólnota Sant'Egidio prowadzi jadłodajnię przy ul. Dandolo w dzielnicy Trastevere, mieszczącą się w budynku, w którym była fabryka wyrobów pończoszniczych żydowskiej rodziny Caviglia, a która musiała ją opuścić na mocy rasistowskich ustaw z 1938 r. Po wojnie rodzina wznowiła działalność w innym miejscu i odzyskawszy własność budynku przy via Dandolo, przekazała go wspólnocie aby zorganizować tam jadłodajnię. W ten sposób to miejsce naznaczone wykluczeniem i rasizmem stało się miejscem integracji i gościnności dla wszystkich potrzebujących. Wraz z członkami wspólnoty Sant'Egidio w działalności stołówki, gdzie ciepły i obfity posiłek serwowany jest bezpłatnie w rodzinnej i serdecznej atmosferze, uczestniczą liczni wolontariusze, klerycy, księża, zakonnicy i zakonnice oraz grupy pielgrzymkowe odwiedzające Wieczne Miasto. Ta rodzinna atmosfera pozwala nie tylko zaspokoić bezdomnym materialną potrzebę jedzenia, ale także odzyskać na nowo godność, daje szansę zacząć nowe życie i odnaleźć cenne miejsce w sercach innych. Szczególną uwagę zwraca się na jedzenie, bowiem nawyki żywieniowe gości są brane pod uwagę w odniesieniu do ich tradycji religijnej. Na przykład, ze względu na obecność muzułmanów nigdy nie podaje się wieprzowiny ani wina.
Ponadto Wspólnota prowadzi ośrodki pierwszego kontaktu, gdzie osoby bezdomne otrzymują wsparcie i pomoc w odnalezieniu się w sieci usług publicznych i prywatnych. W ośrodkach dystrybuowana jest żywność i artykuły pierwszej potrzeby, także dla rodzin z dziećmi, osób

[29] Caritas Roma, *Gli Anticorpi della solidarietà. Rapporto 2020 su povertà ed esclusione sociale in Italia*, 17/10/2020, s. 18. In: http://s2ew.caritasitaliana.it/materiali/Rapporto_Caritas_2020/Report_Caritas ITA_2020.pdf
[30] Zobacz https://www.santegidio.org/pageID/30136/langID/it/LE-MENSE-E-I-CENTRI-DI-ACCOGLIE NZA.html

starszych czy chorych. W ośrodkach dostępny jest prysznic i automatyczna pralnia. Ci, którzy przychodzą się umyć, otrzymują również kompletną zmianę bielizny, odzieży i obuwia. Do dyspozycji jest także fryzjer. Działa przychodnia lekarska, w której oprócz wizyty lekarskiej istnieje możliwość bezpłatnego otrzymania niezbędnych leków.
Wspólnota Sant'Egidio wraz z administracją miejską pomaga osobom, które straciły domy, w zdobyciu dokumentów tożsamości i dostępie do usług socjalnych i zdrowotnych. Stworzono także bezdomnym możliwość odbierania ich korespondencji prywatnej pod adresem Wspólnoty.
Rozumiejąc trudność wielu osób w znalezieniu mieszkania, Wspólnota utworzyła sieć recepcyjną dla osób mieszkających na ulicy, składającą się z różnego rodzaju rozwiązań mieszkaniowych (domy jednorodzinne, mieszkania chronione, ośrodki noclegowe). Miejsca te powstały nie tylko po to, by dać bezdomnym możliwość noclegu, ale mają być prawdziwymi domami, w których można na nowo żyć w centrum miasta, a nie na peryferiach, jak to często bywa w obiektach poświęconych ubogim. Stają się modelami nowego sposobu wspólnego życia w przyjaznym środowisku.

11 ZAKOŃCZENIE

Zawsze pozostaje pytanie: „Co jeszcze można zrobić dla bezdomnych?”.
Na poziomie instytucjonalnym trzeba:

- prowadzić i rozpowszechniać badania i gromadzenie danych w celu promowania lepszego zrozumienia natury, zakresu, przyczyn i rozwiązań problemu bezdomności;
- promować i ułatwiać wymianę informacji, doświadczeń i dobrych praktyk między instytucjami i organizacjami pozarządowymi w celu poprawy polityki i praktyk w zakresie przeciwdziałania bezdomności;
- podniosić świadomość społeczną na temat złożoności zjawiska bezdomności i wielowymiarowości problemów, z jakimi borykają się osoby bezdomne.

Należy założyć, że przed podjęciem jakichkolwiek działań na rzecz bezdomnych, ważne byłoby zaangażowanie się w zmianę ich postrzegania przez społeczeństwo, bowiem postrzegani wyłącznie jako „osoby, które trzeba nakarmić i otoczyć opieką”, zawsze będą uważani za ciężar dla społeczeństwa, odpowiedzialnych za własne nieszczęście, winnych sytuacji w jakiej się znajdują, a co za tym idzie, marginalizowani i spychani na margines życia społecznego.
Zredukowanie uprzedzeń wobec bezdomnych ma fundamentalne znaczenie, jeśli weźmie się pod uwagę, że budują one silne piętno społeczne, niewidzialne więzienie sprzyjające procesowi wykluczenia ze społeczeństwa. Bezdomny z czasem przekonuje się, że jest nieudacznikiem i zaczyna sądzić, że cokolwiek by nie zrobił zakończy się fiaskiem, bo przecież o tym przypomina mu nieustannie społeczeństwo.
Dalszym warunkiem udzielenia właściwej pomocy osobom bezdomnym jest uznanie, że każdy człowiek – nawet w trudnej sytuacji – zachowuje zdolność decyzyjną i odpowiedzialność za konsekwencje swoich działań. Zwrócenie uwagi na podmiotowość osób bezdomnych jest istotne dla każdego rodzaju pomocy opartej na strategii aktywizacji, której celem jest przywrócenie im samodzielności.
Aby naprawdę pomóc bezdomnym, konieczne byłoby przybliżenie społeczeństwu rzeczywistości ludzi bezdomnych, poznanie świadectw wolontariuszy którzy im pomagają, działania społeczne zmierzające do zmniejszenia dystansu między „światem dostatku” a „światem ubóstwa”. Tylko w ten sposób możliwe będzie budowanie mostów solidarności, która nie pozbawia bezdomnych godności i nie czyni tych, którzy im pomagają, ich wiecznymi dobroczyńcami.

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THE EFFECT OF RESTRICTIONS RELATED TO COVID-19 ON THE MENTAL STATUS OF EXECUTIVE SCHOOL-AGE SWIMMERS

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Abstract

The research investigated how the coronavirus pandemic affected the mental state of a selected age group of swimmers who could not participate in regular training. At the same time, it was investigated in which ways the individuals coped with the given situation and how they otherwise compensated for the absence of swimming training. The work also examined whether there was a difference in the perception and handling of the given situation between girls and boys. As part of the research investigation, the non-standardised questionnaire method was used, which enabled the acquisition and processing of the necessary data. Questionnaires were distributed to swimmers in the selected swimming section. The data that was collected during the research was then evaluated according to individual categories and then conclusions were drawn. The obtained results brought us some interesting findings that indicate that boys coped better than girls with the absence of swimming sports training and also that the way they spent their free time during the mentioned covid restrictions was quite specific. A positive relationship and positive feelings, or then the majority of the interviewed respondents had an appetite for renewed training.

Key words: *swimming, Covid19, older school age, emotions*

1 INTRODUCTION

In the years 2020 to 2022, the world faced the global threat of an epidemic of the viral respiratory diseases COVID-19. This pandemic became a challenge for society on how to face such worldwide health challenges. The restrictions generally affected the majority of human activities and resulted (among other things) in a worsened psychological state of the population. The government measures also unfortunately led to fundamental changes in the routine of athletes, which had a negative impact (inter alia) on their mental state (Vighová, 2021).

The sudden absence of the possibility of satisfying one's needs and interests is frustrating for a person and a significant generator of stress (Bartůňková, 2010). In sports, changes in the routine behaviour of athletes took place as a result of the pandemic, which can have a negative influence on their mental state. The pandemic can thus be considered a stressor to which each athlete reacts differently. Changes in these stereotypes can be considered a highly significant result of the pandemic, where the impact of reduced training units, increased uncertainty in setting goals and impaired training comfort lead to a change in the athlete's motivation and psychological well-being (Tingaz, 2020).

A number of texts have been published on the issue in question, mostly published after the first wave of the coronavirus pandemic ended, for example Ruffalt, Bernier, Fournier, & Hauw et al. (2020), García-Fernandez (2020), Di Cagno (2020), Chaves De Lima (2020), Hagiwara et al. (2020). The studies focused for instance on motivation, emotional changes, social distancing, changes in training routine, training condition associated with quarantine, etc.

The goal of this article was to present selected results that expanded on the already published information found in the diploma thesis of Hrabíková (2022). The qualification work focused on analysing the impact of the measures to prevent the spread of COVID-19 on the mental

state (stress, motivation, leisure activities) of swimmers of advanced school age on a single team.
At the time the research study was performed, the Czech Republic was at emergency level five (https://onemocneni-aktualne.mzcr.cz/pes) – i.e. approximately the same level of measures as in many other countries of Europe. It was set down for both outdoor and indoor training of professional athletes that only one team or one group that has been training together long-term can meet on a single sports ground. Amateur competitions were unfortunately prohibited across the board. According to the directive of the Czech Ministry of Health, amateur athletes could only practise outside with a maximum of two persons on a single sports ground (Dostál, Slabý, Tuka et al., 2020). Swimmers were thus not the only ones to encounter various unpleasant feelings, suddenly not knowing what to do with their time, how to fill their free time and compensate for training, etc. Various problems suddenly arose, for example disagreements in the family because these people were not used to spending as much time at home with their parents or siblings (Hrabíková, 2022).

Objectives of the research question

The objective of the research study was to determine how swimmers of advanced school age reacted to the changes associated with the restrictions to reduce the risk of spread of COVID-19 in the Czech Republic. We also focused on the issues of how the subjects dealt with the situation.
Q1: Are there gender differences in the perception of the absence of swimming practice among competitive swimmers of advanced school age?
Q2: Motivation of returning to the training process after the end of restrictions.
Q3: How did athletes spend their free time in the absence of swimming practice?

2 METHODOLOGY

The study was carried out during the restrictions related to COVID-19 via a non-standardised questionnaire that was distributed physically to the subjects. In total, 22 questions were posed (open, closed, semi-open and ranked). First a pilot survey was done on a smaller sample of respondents, then certain questions were modified. Selected questions:

- How did you compensate for practice when swimming pools were closed?
- How did you overcome negative feelings from the inability to train?
- Did you notice any changes in behaviour or mood changes in yourself while pools were closed?
- Were you looking forward to going back to practising in the pool?
- What was it like going back to training after pools re-opened?
- Do you think you are more mentally resilient as a result of the pandemic?

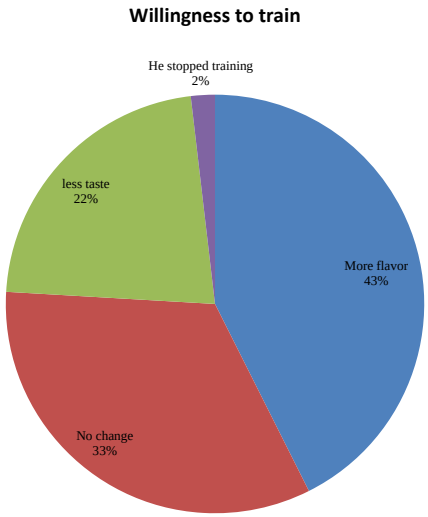
3 RESULTS

The study was carried out in accordance with the established methodology. In total, 54 respondents answered the questions (boys: 29, girls: 25, age: 11 to 15). For clarity and brevity, the responses are summarised into clusters in accordance with the research questions.
Q1: *How did boys and girls deal with the absence of swimming practice?*
The research results showed that the boys tolerated the *absence of practice* better. In total 54 respondents answered, with 12 answering that they don't know, 18 responding "no" or "rather no" and 24 choosing the answer "yes" or "rather yes". Of these 24 individuals there were 20 girls and only 4 boys.

Table 1. Perception of the absence of swimming practice

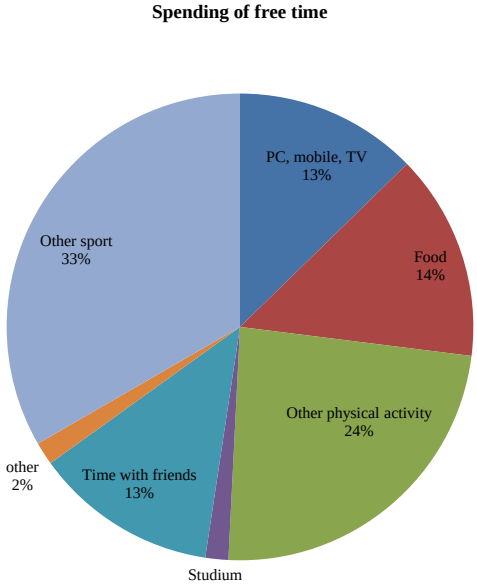
Perception of inability to train Sex	It was difficult to stop practising from one day to the next.	I dealt well or very well with the inability to practise.	I experienced more positive feelings.	I was more mentally irritable during the pandemic.
Boys	4	4	19	4
Girls	20	0	5	21

Question: *I dealt well or very well with the inability to practise*: none of the girls answered well or very well, just four boys chose this answer. 22 respondents answered that they don't know and 28 individuals dealt very poorly or poorly with the situation. Compared to the girls, the boys experienced more positive feelings during the inability to train: 19 of the 29 boys, i.e. a majority, experienced feelings of relief, calm, joy and carefreeness. Only 5 girls experienced the same, because the remaining 20 girls felt fear, sadness or for example anger.
The response to the question whether *I was more mentally irritable during the pandemic* once again showed that only 4 boys experienced a psychological change in behaviour and almost all the girls, exactly 21, did feel mentally irritated. The boys thus dealt better overall with the inability to train compared to the girls. For most of the girls it was difficult to stop swimming from one day to the next, they dealt poorly or very poorly with this fact, experienced predominantly negative feelings and felt more mentally irritated. The boys tended to experience a kind of relief, a greater extent of positive feelings and did not feel irritated.
Q2: *What impact will the absence of swimming practices have on the motivation of swimmers after restrictions end?* Once swimming pools re-opened, the majority of respondents looked forward to going back to practice: 34 respondents were looking forward, 6 responded that they don't know and 14 were not looking forward to it. It was also determined that 23 respondents had a greater desire to train after pools re-opened and 12 had a lesser desire. There was even a single individual who stopped going to practice completely for a time.
The results showed that 43% of the swimmers surveyed had more enthusiasm for the training process than before the COVID-19 restrictions.
Graph 1 shows how the approach to training changed after practising only outside the pool. The results show that 43% of the swimmers surveyed had more enthusiasm for practices.



Graph 1. Eagerness to train

Research question 3: *How will the swimmers use their free time in the absence of swimming practices?* Graph 2 shows that only 13% of respondents started spending more time on the computer, mobile phone or watching more television after the closing of swimming pools. 33% responded that during the time they could not go to the pool, they started doing other sports, 24% other physical activities, 13% spent it with their friends and 14% chased away the boredom with food. Only 1% focused more on school and the remaining 2% responded they focused on something else; in our case they spent more time with family.



Graph 2. Spending of free time

4 DISCUSSION

The results are consistent with previously published articles analysing similar topics in various age groups (Ruffalt et al. 2020; García-Fernandez, 2020).

In our opinion, the results were significantly affected by the fact that these were young swimmers (age: 11 to 15) who regularly completed several training units per microcycle. They attended ten to twenty races in the annual training cycle before the COVID-19 restrictions were enacted. Thanks to plentiful regular participation in swimming practices and competitions, they were taught stereotypical regularity, responsibility and sense of purpose. If the study were conducted on athletes engaged in a less time-consuming sport, or on children who had more free time used to play computer games and spend outside, we expect the data would have come out differently.

Evidently for the above reasons, the assumption that the swimmers would view the restrictions negatively was confirmed. On the other hand, several respondents stated that the prohibition of visiting swimming pools helped them relax and change their everyday training routine in the pool. This primarily concerned the boys, with the girls in contrast having a difficult time of the period during the COVID-19 restrictions.

Once the swimming pools were open, the majority of the swimmers surveyed looked forward to practices, which we consider a very positive and good precondition for results in the subsequent swimming competitions. We also infer and believe from this cluster of responses that once pools were re-opened, they had greater motivation to perform better and were more appreciative of the fact that they could once again train fully and work with the coaches in fulfilling their established objectives.

Nowadays, children of advanced school age (and not just them) spend a considerable amount of time on mobile phones or computers. In this context we consider it an interesting finding that when the monitored swimmers could not attend regular practices and competitions, they did not just resort to television or computers, but appreciated the opportunity to spend their free time with family members. The results showed that the monitored swimmers missed the physical activity, so while the pools were closed they attempted to keep up their physical condition through other sports. We consider it highly positive that the monitored swimmers began carrying out activities other than sitting at the computer or eating junk food very soon after the pools were closed. Based on our knowledge of the environment of the monitored swimmers, we believe that this positive trend is mainly due to the coaches of the swimming team who replaced swimming with other physical activities in a very short time. The coaches recommended games or other sports activities to their charges, such as running and strength training, which kept the swimmers in good physical condition, as well as in a state of mental well-being, as they could maintain social contact to a limited extent.
The question focused on "*experiencing more positive feelings*" while the swimming pools were closed contained a total of 11 responses, but the respondents could only choose a maximum of three of them. If any of the respondents chose multiple responses, for the purposes of evaluation we combined them into a single response. In evaluating, for a response to be assessed as positive, the positive feelings had to predominate in the responses (i.e. if a respondent chose only two feelings and one was negative the other positive, for me the response meant that they did not experience positive feelings). The majority of the respondents chose either one or more positive feelings or only negative feelings.

5 CONCLUSIONS

After the swimming pools were closed, the monitored young swimmers had to cope with the fact they could not practise in a pool. Compared to the girls, the boys coped with this fact noticeably better. They did not encounter as many negative feelings, having a feeling of freedom and rest and, at least at first, did not miss swimming. In contrast, the girls mostly experienced negative feelings, had a bad mood and felt mentally irritated.
The reactions to the closing of pools were mixed. Some were glad a change had occurred, some spent the time instead of swimming doing more running, strength training or playing games, while others found it difficult to cope with the situation. Once swimming pools were re-opened, 63% responded they were looking forward to practices in the pool, and 43% were more eager to train. It follows that if swimmers are eager to train and do their best during training, this effort will certainly be reflected in swimming competitions as well.
The free time that the swimmers were used to filling with swimming practice before the COVID-19 pandemic seemed "long" to the respondents, so they sought out other activities. Most frequently, the respondents engaged in another sport (57%). Some resorted to junk food (14%), 13% spent more time with friends and 13% started spending more time on their mobile phones, computers or watching more television. The remaining 3% either devoted the time to school or family.

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ASSOCIATION BETWEEN SELF-PERCEIVED FACIAL ATTRACTIVENESS, PERSONALITY TRAITS, SELF-ESTEEM, AND ANXIETY IN YOUNG WOMEN

Lenka Selecká, Dominika Doktorová, Peter Šebáň

Abstract

The study aims to examine the associations between self-perceived facial attractiveness, personality traits, self-esteem, body image, anxiety, and perceived self-objectification. The research sample consists of 181 female undergraduate students. The following questionnaire methods were used to assess personality traits: NEO-FFI, self-esteem: Rosenberg Self Esteem Scale, body image: The Body Image States Scale, appearance anxiety: Appearance Anxiety Questionnaire, and body objectification: Objectified Body Consciousness Scale. We observed statistically significant associations in the positive direction between self-perceived facial attractiveness and conscientiousness, extraversion, self-esteem, and body image. We found negative associations between self-perceived facial attractiveness, neuroticism, and anxiety. The results support the assumption of a connection between the evaluation of one's own attractiveness and the selected factors.

Key words: *self-perceived facial attractiveness, personality traits, self-esteem, body image, appearance anxiety, body objectification, the female population*

1 INTRODUCTION

Human beauty has been, is and will be the subject of many conversations, research and art, which in itself shows its importance. The word "attractiveness" comes from the Latin word "atrahere" and means attractive, alluring, interesting (Kábrt, Kábrt, 2001; Hewstone, Stroebe, 2006). Fitness, Fletcher and Overall (2007) situate the term at the intersection of individual human preferences and culturally socially shared norms. The idea of what is attractive about a person varies not only depending on geographical and cultural conditions, but also in relation to time, age, fashion trends and many individual characteristics and preferences of a person. Facial attractiveness is one of the key determinants of overall attractiveness ratings (Pansu, Dubois, 2002, Rodhes, 2006, Luxen et al, 2006).

Is the assessment of one's own attractiveness influenced by certain personality traits? If this is the case, why should persons who rate themselves as attractive be different from persons who have a modest opinion of their appearance?

Many research (Borráz-León, Cerda-Molina 2015; Holtzman et al, 2011, Munoz, Reyes et al, 2012; Švegar, 2016) have verified the associations between facial attractiveness and personality traits of individuals. A study by Meier et al. (2010) confirmed the positive correlation of facial attractiveness with agreeableness and extraversion. Positive social traits are related to attractiveness, which has already been found by Langlois et al. (2000). Differential inference on personality traits depending on facial attractiveness has also been provided by the study of Cross et al. (2017). Statistically significant differences in attributions of positive personality traits in favour of attractive individuals were also found for diligence, honesty, friendliness, likeability, intelligence and success, among others.

The basis for connecting the assessment of one's own attractiveness and personality traits can be found in the concept of the kernel of truth hypothesis, which postulates that the face provides some reasonable information about a person's personality traits (Berry & Finch Wero, 1993; Masip & Garrido, 2001). It has been found that personality traits such as

extraversion, conscientiousness (Borkenau & Liebler, 1993a, Penton-Voak, Pound, Little, & Perrett, 2006), emotional stability, dominance, and agreeableness can be relatively reliably identified in a person's face (Berry, 1990; Borkenau & Liebler, 1993b; Kenny, Albright, Malloy, & Kashy, 1994; Zebrowitz, 1997). The ecological theory postulates that facial perception guides the behaviour of other people, and the assumed personality characteristics of the other person allow them to predict their behaviour (Zebrowitz & Montepare, 2008). It follows that it is reasonable to assume that the repeated reactions of other people to one's own appearance can influence a person's expressions. And thus, based on the assumption of his own behaviour from other people, he adapts his behaviour.

We tend to be influenced by several stereotypes that may not be based on the truth, it is to some extent an unreasonable generalization, e.g. through the self-fulfilling prophecy effect. The physical appearance of the face can influence personality traits. This issue is connected to two main phenomena, which are self-fulfilling prophecies and self-defeating prophecies. Society's expectation, which is based on the characteristics of a person's face, can create such environmental conditions that a person either fulfils his behaviour (self-fulfilling prophecy) or leads to exactly the opposite behaviour (self-refuting prophecy, Snyder, 1992). For example, if an attractive person is considered sociable, or extraverted, the behaviour of others towards this person can influence him to such an extent that he becomes sociable by gradually internalizing sociability into his self-concept and behaviour that is consistent with his self-image (Feingold, 1992).

On the other hand, it appears that personality traits can influence the physical appearance of the face. Through personality traits, people tend to experience certain emotional states more often than others. It is a well-known fact that the frequent repetition of certain emotions accompanied by facial expressions will manifest in specific facial features during life. As was found out (Malatesta, Fiore & Messina, 1987) neutral expressions of older women tend to be positively associated with having an emotional expression. For example, women whose neutral faces looked angry actually scored higher on the hostile personality dimension.

Among the personality traits, openness, extraversion and self-confidence are mainly mentioned (Benesch, 2001; Fink, Penton-Voak, 2002). Feldman (1985, in Šmahel, Veselá, 2006) states that we are influenced by multiple information from different sources, from which a person creates combinations and on the basis of which he or she makes judgments. Nevertheless, it is possible to trace some factors that condition or influence attractiveness. Within this domain, personal attractiveness must be emphasized: above all, the cheerfulness of the recognition of others is valued (Benesch, 2001). On the one hand, appearance is a clue to a lot of information about a person, such as their age, gender, status and role, or other individual personality traits, but on the other hand, a person can purposely use appearance for self-presentation; they can modify their appearance as well as their facial expression itself. Many features of attractiveness that are desirable in a given case can be controlled by will (Fialová, 2006).

On the other hand, if self-evaluation of facial attractiveness is not based on the prophecy coming from the assumption "what is beautiful is good", on what basis should it be rooted? The idea of one's own attractiveness (or, on the contrary, unattractiveness) is thus part of the formation of self-concept, and self-esteem and as such modifies personality and self-esteem from childhood (Stephan, Langlois, 1984, Seitl, 2012). The self-perceived physical attractiveness is sometimes also called the self-concept of physical attractiveness (Feingold, 1992) or subjective physical attractiveness' and it represents the second view of the evaluation of one's own attractiveness, in which there is an assumption that this evaluation is based on the overall degree of self-esteem. Rosenberg (1965) defines self-esteem as a positive or negative attitude towards oneself that gives a person a sense of self-worth. Self-esteem is a mental representation of an emotional relationship with oneself and cognitive, emotional and

volitional psychological processes are involved in its formation. Self-esteem changes during adolescence and may fluctuate (Schauder, 1991; Krch et al., 2005). The influence of culture is also important (Farková, 2009) and there is a common notion of what is attractive, regardless of the ethnic or cultural background in which one lives (Rubenstein, Langlois, & Roggman, 2002).

The self-esteem model posits that self-perceptions of physical attractiveness are largely determined by global self-esteem, that people who have high self-regard in general also feel physically attractive, and that the correlations of self-rated attractiveness with other variables are best explained by the shared variance between self-judgments of physical attractiveness and other variables (e.g., mental health) with general self-esteem (Feingold, 1992).

Some personality traits are associated with self-perceived facial attractiveness, at the same time, the evaluation of one's own attractiveness can represent a self-concept, in the sense of a person's self-evaluation. On the other hand, what characteristics could be negatively related to the evaluation of the attractiveness of one's own face? Preoccupation about one's own attractiveness often leaves women feeling negative about themselves as societal beauty ideals and standards of attractiveness are typically unattainable or unsustainable (Vendemia, DeAndrea, 2021). For this reason, we also focus on the role that the appearance anxiety and body objectification play as an internalization of beauty ideals, that negatively influence individuals' body image and self-esteem as such they can influence the self-perceived attractiveness evaluation.

In this spirit, the aim of the research is to find out if there are interconnections between self-perceived facial attractiveness, personality traits, self-esteem, body image, appearance anxiety, and body objectification.

Research questions

1. Is there a statistically significant association between self-perceived facial attractiveness and personality traits?
2. Is there a statistically significant relationship between self-perceived facial attractiveness and self-esteem?
3. Is there a statistically significant relationship between self-perceived facial attractiveness, body image, appearance anxiety, and body objectification?

2 METHODS

Self-Perceived Facial Attractiveness Evaluation: The participants were asked to judge their perceived facial attractiveness by the question: "Rate how attractive your face is compared to the average face". The respondent expresses herself on a scale from -4 (much less), through 0 (average), to +4 (much more).

Personality traits: NEO-FFI (Costa, McCreah; Slovak version: Ruisel, Halama, 2007) is a personality inventory evaluating five personality traits, specifically: neuroticism, extraversion, openness to experience, conscientiousness, and agreeableness. Each factor consists of 12 items. The respondent comments on a 5-point scale from 0 (does not apply to me at all) to 4 (applies to me completely).

Self-esteem: Rosenberg Self Esteem Scale (Rosenberg, 1965; Slovak version: Halama, Bieščad, 2006) is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

Body image: The Body Image States Scale (Cash, et al, 2002) is a six-item measure of individuals' evaluation and affect on their physical appearance (e.g. dissatisfaction–satisfaction with one's overall physical appearance). Responses to each item were based on 9-point, bipolar, Likert-type scales, semantically anchored at each point.

Appearance anxiety: Appearance Anxiety questionnaire (Dion et al., 1990) is a 14-item brief version of the Appearance Anxiety Scale. The questionnaire was used to assess the degree to which participants report incidents of anxiety about their bodies. Items (e.g., “I wish I were better looking”) are rated along a 5-point scale ranging from 1 (never) to 5 (almost always).
Body objectification: Objectified Body Consciousness Scale - surveillance subscale (McKinley, Hyde, 1996) is used to measure participants’ level of body surveillance, a specific form of self-objectification. It consists of 8 items (e.g., “During the day, I think about how I look many times”) which are rated on a 7-point scale from 1 (strongly disagree) to 7 (strongly agree).
Research sample: The research is specified to self-evaluate facial attractiveness, personality traits, self-esteem, body image, appearance anxiety, and body objectification. We have set the age group to 18-25 years, the advantage is a more valid representation of the selected age group. The research sample is female students of humanities, studying at the University of St. Cyril and Methodius in Trnava. The female students were comparable in terms of socio-economic status, level of study, age, and academic achievement. A total of 181 female students participated in the research (M=20,96y; SD=1,24).
Respondents were informed about the conditions of participation before the questionnaire was launched, and they agreed to the conditions by completing and submitting the questionnaire. They were also instructed about the possibility of terminating their participation in the research at any time without giving any reason by stopping the questionnaire or not sending it.

3 RESULTS

With the aim to explore the relationship between personality traits, self-esteem, appearance anxiety, body image, body objectification and self-assessed facial attractiveness, we chose bivariate correlations to observe the tightness of the relationship.

1. Is there a statistically significant association between self-perceived facial attractiveness and personality traits?
2.

Tab. 1: Correlations between Self-Perceived Facial Attractiveness and personality traits

		Openness to experience	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Self-Perceived Facial Attractiveness	Pearson Correlation	-,086	,158*	,220**	-,017	-,233**
	Sig. (2-tailed)	,252	,033	,003	,819	,002

Given the linear relationship between the examined variables, to answer research question no. 1, Pearson's correlation coefficient was used to examine their relationship. Based on the detected statistical significance of Sig. < 0.05, it can be concluded that the correlation coefficient between self-perceived facial attractiveness and conscientiousness and extraversion is significant in a positive direction. There is a statistically significant negative relationship between the perception of the attractiveness of one's own face and neuroticism. All reported associations have a small effect size. We did not observe a statistically significant connection between friendliness, openness to experience and perception of one's own facial attractiveness. The results are shown in Table no 1.
2. Is there a statistically significant relationship between self-perceived facial attractiveness and self-esteem?

Tab. 2: Correlations between Self-Perceived Facial Attractiveness and Self-Esteem.

		Self Esteem
Self-Perceived Facial Attractiveness	Pearson Correlation	,321**
	Sig. (2-tailed)	,000

Given the linear relationship between the variables, to answer the research question no. 2, Pearson's correlation coefficient was used. Based on the detected statistical significance of Sig. < 0.001, it can be concluded that the correlation between the perception of the attractiveness of one's own face and self-esteem is a statistically significant relationship in a positive direction. The given value represents the moderate effect size. The results are shown in Table no 2.

3. Is there a statistically significant relationship between self-perceived facial attractiveness, body image, appearance anxiety, and surveillance as objectification of one's own body?

Tab. 3: Correlations between Self-Perceived Facial Attractiveness and Body image, Appearance anxiety and Surveillance as objectification of one's own body.

		Body image	Appearance Anxiety	The Objectified Body Consciousness - Surveillance
Self-Perceived Facial Attractiveness	Pearson Correlation	,414**	-,454**	-,073
	Sig. (2-tailed)	,000	,000	,328

Given the linear relationship between the variables, to answer research question no. 3, Pearson's correlation coefficient was used. Based on the detected statistical significance of Sig. < 0.001 and the values of the correlation coefficient, it can be concluded that the association between the perception of the attractiveness of one's own face and body image represents a statistically moderately strong relationship in a positive direction. The value of the Pearson correlation coefficient is r = 0.414. On the contrary, the relationship between the perception of the attractiveness of one's own face and appearance anxiety is a statistically moderately strong relationship in the negative direction. The value of the Pearson correlation coefficient is r = 0.454. We did not observe a statistically significant relationship between the perception of self-observed facial attractiveness and surveillance of one's own body. The results are shown in Table no 3.

4 DISCUSSION

The research focused on the association between self-perceptions of facial attractiveness, personality characteristics, self-esteem, body image, appearance anxiety, and objectification in perceiving one's own body. Facial appearance can reveal information about intrinsic personality characteristics (Hassin, Trope, 2000; Engell, Haxby, & Todorov, 2007).

In our research, the first research question focused on verifying the association between personality characteristics and perceptions of one's own facial attractiveness. Our findings are in line with those of experts (Borráz-León, Cerda-Molina 2015; Holtzman et al. 2011; Munoz, Reyes et al. 2012; Švegar, 2016; Meier et al. 2010), who confirmed the positive correlation of facial attractiveness with extraversion. Positive social traits are related to attractiveness, which has already been found by Langlois et al. (2000). Differential inference on personality traits depending on facial attractiveness has also been reported by other studies (Cross et al., 2017; Curkovic, Franc, & Franc, 2010). Neuroticism represents a factor where high scores are

indicative of multiple negative traits. Those with high scores in this category are generally considered to be self-critical, anxious, pessimistic, and low in self-esteem, which is negatively reflected in their perception of their own face (Soto, 2018, Cross et al. (2017). Conscientiousness is about impulse control. These individuals strive to act in a socially recognized and acceptable behaviour. Lebowitz (2016) also states that conscientiousness depicts a person's reliability, which determines their goal orientation. They tend to control impulses and are usually very organized, which is reflected in their more positive perception of their own facial attractiveness (Holtzman et al., 2011). Extraversion represents eloquence, sociability, and assertiveness. A tendency to derive energy from social situations can be observed in these individuals. They feel more satisfied when they are surrounded by people. Individuals who score high in the extraversion tend to be confident, friendly, and sociable, they like other people, and they literally seek out contact with others and are satisfied with their faces (Soto, 2018). Openness to experience is another category within the Big Five model, sometimes referred to as imagination or intellect. Individuals who score high on openness seek out new experiences have the ability to use untried and untested methods to achieve their goals "think out-of-the-box, which may be related to a disconfirmed attraction to the attractiveness of one's own face (Ruisel, Halama, 2007). Agreeableness represents the factor responsible for how an individual gets along with other people. In comparison with extraversion, we can say that extraverted people get energy from the company of people who they seek interaction with. Agreeableness, however, is more about the way agreeable people interact with others. Often, individuals who score high on agreeableness tend to be more liked and respected by society and are more sensitive to the needs of others, which also affects their perception of themselves (Soto, 2018). Results support the hypothesized association between some personality traits and self-ratings of attractiveness. They may represent a confirmation of ecological theory (Zebrowitz & Montepare, 2008), as women who feel physically attractive may also attempt to conform to the behaviours expected of attractive people (as manifested in the physical attractiveness stereotype) and ultimately become the kind of people the stereotype predicts. The stereotype perceives attractive women as extraverted (or social), emotionally stable, and aware. And, as Feingold (1992) has argued, if self-generated expectations cause covariation between one's own physical attractiveness and other personality traits, one's own attractiveness should be correlated with the traits that make up the stereotype of physical attractiveness, and the greatest correlations should be for the traits that are central to the stereotype.

The self-concept of physical facial attractiveness represents a second perspective on the evaluation of one's own attractiveness, in which there is an assumption that this evaluation is based on an overall measure of self-evaluation. Self-esteem involves much more than a sense of self-worth, which seems to be given to a person from birth, as opposed to self-worth that is acquired (Branden, 1992). Self-esteem changes and can fluctuate during adolescence, with appearance being one of the core components of body image (Fialová, 2006). Gilbert and Thompson (2014) point out that it is shame during childhood and adolescence that can negatively affect the perception of one's attractiveness. Several studies have pointed to a negative relationship between body shame, which determines anxiety, and self-esteem in the female gender (Mustapic et al., 2015; Sanftner, Barlow, Marschall, & Tangney, 1995). Tangney (1996) reported that shame per se can have a negative impact on a person's self-esteem. Research results from Jankauskiene and Pajaujiene (2012) showed that female students who reported higher levels of body shame had lower self-esteem. The negative correlation between body shame and self-esteem has been confirmed by several studies (Choma et al., 2010; Markham, Thompson, & Bowling, 2005; Mercurio & Landry, 2008). Like body shame, body image is also related to self-esteem. According to Fialová (2006), overall self-esteem is related to body self-concept and attractiveness. Harter (1999) stated that

body image perception and self-evaluation are inextricably linked such that appearance. Several research has been conducted on self-evaluation in relation to body image. Van L. Penzesová, L. Martincek, (2018) found that negative body image and self-esteem are closely linked to perceptions of one's own attractiveness. Several research show a relationship between negative body image and low self-esteem and perceptions of self-perceived attractiveness (Grossbard, Lee, Neighbors, & Larimer, 2009; Masheb, Grilo, Burke-Martindale, & Rothschild, 2006; Mellor, Fuller-Tyszkiewicz, McCabe, Ricciardelli, & 2010). It is possible that it is the higher experience of body shame that negatively affects body image, which in turn negatively affects an individual's self-esteem and perceptions of attractiveness. Previous research has consistently shown that the amount of self-esteem in adolescence is also dependent on gender, with males showing higher self-esteem than females (Frost & McKelvie, 2004; Kožuchová & Bašková, 2014). One reason for this may be that women rate appearance as a significantly more important personal value compared to men (Pliner, Chaiken, & Flett, 1987), which may just be related to lower self-esteem.

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PRVNÍ VÝSLEDKY PROGRAMU PSYCHOSOCIÁLNÍ PODPORY «STRONG» V BRATISLAVSKÝCH ŠKOLÁCH

THE FIRST RESULTS OF THE «STRONG» PSYCHOSOCIAL SUPPORT PROGRAM IN BRATISLAVA SCHOOLS

Galyna Lapshun, Myroslava Sadova

Abstrakt

Článek zdůvodňuje první výsledky programu psychosociální podpory STRONG (Supporting Transition Resilience of Newcomer Groups) na školách v Bratislavě. Výzkumný vzorek tvořily děti uprchlíků z Ukrajiny dočasně žijící v Bratislavě a studující na slovenských školách. V teoretické rovině byly analyzovány výsledky výzkumů zahraničních vědců v této oblasti a identifikovaly se stresové situace, které přispívají ke školní maladaptaci. Popisujeme postupný program STRONG a jeho obsah, který vedli psychologové a sociální pedagogové ve slovenských školách mezi žáky uprchlíky z Ukrajiny. Zdůvodňujeme účinnost programu v Kanadě, Sýrii a na Slovensku. Zdůrazňují se silné stránky a perspektivy dalšího výzkumu v této oblasti.

Klíčové slova: *psychosociální podpora, posttraumatická stresová porucha, stres, program STRONG, utečenci.*

Abstract

The article substantiates the primary results of the STRONG psychosocial support program in Bratislava schools. The study sample consisted of refugee children from Ukraine who temporarily live in Bratislava and study in Slovak schools. At the theoretical level, the results of research in this area by foreign scientists are analyzed. Highlighted at the theoretical level stressful situations that contribute to school maladaptation. The phased STRONG program and its content, which was launched by psychologists and social educators in Slovak schools among refugee students from Ukraine, are described. The effectiveness of the program was substantiated in Canada, Syria and Slovakia. The strengths and prospects for further research in this area are highlighted.

Key words: *psychosocial support, post-traumatic stress disorder, stress, STRONG program, refugees.*

1 PSYCHOSOCIÁLNA POMOC PRE UKRAJINSKÉ DETI UTEČENCOV

Aktuálnosť výskumu problematiky psychosociálnej podpory vnútorne vysídlených osôb a utečencov v dôsledku vojensko-politického konfliktu na Ukrajine v súčasnosti narastá. Vojna, jeden z globálnych objektívnych faktorov, traumatizuje fyzické aj psycho-emocionálne zdravie ľudstva. Predmetom našej štúdie sú stredoškoláci, ktorí sú nútení pokračovať v štúdiu v iných krajinách sveta, kde nie sú ohrození na živote.

1.1 Hlavný cieľ výskumu

Hlavný cieľ nášho výskumu: poskytnúť psycho-emocionálnu podporu deťom z Ukrajiny v slovenských školách, komplexne adaptovať presídlené deti na Slovensku na nové podmienky stredoškolského vzdelávania a života celkovo.

Stanovenie problému spočíva v tom, že deti, ktoré na vlastné oči videli vojenské a politické akcie (ničenie domov, smrť príbuzných - členov rodiny, výbuchy, paniku, boli vystavené alebo videli násilie príbuzných a priateľov a i.), si vyžadujú dlhodobú komplexnú psychoterapeutickú liečbu. Preto STRONG program psychosociálnej podpory, ktorý vypracovali a prispôsobili psychológovia na školách v Bratislave, zahŕňa komplexné a individuálne prístupy na ceste k úspešnej adaptácii a prekonávaniu životných ťažkostí.
Metodologický základ štúdie tvorili práce zahraničných vedcov v oblasti školskej adaptácie detí utečencov: Alexander Ostertagov, Alena Faragulova, Michal Rehusz, Korkmen Arslan, Claire W. Crooks, Alexander Smith Kelly-Ann Allen, Dura-Vila, Klasen, Makatini, Rahini, Hodes, Lustig, Miller, Rasmussen, Fazel Rein, Tulini, Baron, Lupien, Robinson-Link, Jeff Bostick, Sharon Hoover, Ed Sean Orenstein, Khawaja, Allan Schweitzer, Bronfrenbrenner atď.Podľa medzinárodných výskumov má mnoho detí a mládeže utečencov významné potreby v oblasti duševného zdravia (Durà-Vilà, Klasen, Makatini, Rahini, & Hodes, 2012; Lustig et al., 2003; Miller & Rasmussen, 2017).
Je dôležité pochopiť, že deti utečencov podliehajú veľkému množstvu stresových situácií. Môžeme ich zhruba rozdeliť do dvoch veľkých skupín.
1. Stresory pred migráciou, ktoré zvyčajne zahŕňajú:
   - odlúčenie od členov rodiny (starí rodičia, otcovia a súrodenci)
   - priame násilie, mučenie
   - traumatizácia zo svedectva vojny, smrti, ničenia (Durà-Vilàet et al., 2012)
   - drsné životné podmienky v bombových krytoch, táboroch (Murray, 2016).
2. Postmigračné stresory, medzi ktoré patria:
   - jazykové bariéry
   - neistota ohľadom štatúte
   - neznáme spôsoby života v novej krajine
   - problémy s bývaním
   - nevôľa časti komunity
   - vplyv zlého duševného zdravia rodičov.

To všetko má závažný vplyv na emocionálny stav detí a ich schopnosť učiť sa a primerane fungovať. Správy o posttraumatickej stresovej poruche (PTSD), depresii a úzkosti sú medzi utečencami výrazne častejšie ako v bežnej populácii (Fazel Rein, 2012) a v bežnej populácii (Close et al., 2016; Turrini et al., 2017).
Na Ukrajine sa posttraumatickou stresovou poruchou zaoberá mnoho vedcov: rehabilitačné programy a tréningy zamerané na posttraumatickú stresovú poruchu, ktoré od roku 2014 vypracovali doneckí a odeskí vedci, boli a stále sú veľmi populárne. V mestách Odesa a Doneck boli pri vojenských jednotkách otvorené rehabilitačné centrá pre vojenský personál a ich rodiny. Výskumné a vývojové aktivity rehabilitačných jednotiek zahŕňali terapeutickú prácu s psycho-emocionálnymi poruchami, pričom hlavnými metódami liečby boli hipoterapia a delfinoterapia (Odeské štátne akvárium).
Silný alebo dlhotrvajúci stres spúšťa reťazec fyziologických reakcií, ktoré sú iniciované autonómnym nervovým systémom. (Vagop 2001). V čase stresu sa aktivuje hypotalamus a hypofýza, uvoľňuje sa adrenokortikotropný hormón, stimulujú sa nadobličky, uvoľňujú sa stresové hormóny adrenalín, noradrenalín a kortizol – stresové hormóny sa krvou dostávajú do mozgu a cirkulujú v tele, viažu sa na receptory v rôznych častiach mozgu a ovplyvňujú pamäť a učenie (Lupien a kol. 2007). Kortizol poškodzuje neuróny hipokampu, čo ovplyvňuje dlhodobú pamäť, a teda celý proces normálneho učenia. (Woolley 1990/ Bunsey 1995). Vysoké koncentrácie kortikosteroidov ovplyvňujú hipokampus a prefrontálnu kôru, čo má vplyv na správanie, náladu, pozornosť a poznávanie (Roozendaal 2002/2003). Účinky na prefrontálnu kôru ovplyvňujú kognitívne schopnosti, verbálnu pamäť (Arnsten 2009/ Baddeley 1992).

V dôsledku toho sa deti utečencov nemôžu správne učiť a prispôsobiť sa novému svetu bez pomoci.
Projekt bol vypracovaný v spolupráci s Inklucentrom - Centrom inkluzívneho vzdelávania a Centrom poradenstva a prevencie Bratislava III pre hlavné mesto SR Bratislavu s finančnou podporou UNICEF v rámci projektu Podpora predškolskej starostlivosti a inkluzívneho vzdelávania detí cudzincov.
Alexandra Ostertagova, Alena Faragulova, Michal Rehusz skúmali začlenenie študentov z Ukrajiny podľa rodových rozdielov. Autori zdôvodnili kvalitatívny prieskum na deviatich bratislavských školách. Výsledky štúdie poukázali na možné vážne nedostatky pri začleňovaní ukrajinských žiakov do vzdelávania. Tieto nedostatky sú dôsledkom toho, že Slovensko nemá dobre prepracované systémové opatrenia pre vzdelávanie cudzincov. Vzdelávanie v multi-kultúrnom a viacjazyčnom prostredí nebolo súčasťou programov prípravy budúcich učiteľov ani programov profesijného rozvoja (Alexandra Ostertágová, Alena Faragulová, Michal Rehúš, 2023)
Na základe tejto problematikypríchod detí z Ukrajiny bol pre slovenský školský systém skutočnou výzvou. Deťom, ktoré utiekli pred vojnou, bolo potrebné poskytnúť nielen dostupné a kvalitné vzdelávanie, ale aj výraznú psychosociálnu podporu. Preto mnohé školy v Bratislave spustili program psychosociálnej podpory pre novoprijaté deti s názvom STRONG.
Výskum Claire W. Crooksovej, Sharon Hooverovej a Alexandra Smitha vypracoval štúdiu uskutočniteľnosti školskej intervencie STRONG zameranú na zlepšenie odolnosti novoprijatých mladých ľudí. Toto pilotné hodnotenie poskytlo dôkazy, že skupinová školská intervencia pre deti a mladých ľudí z radov utečencov je uskutočniteľný prístup s potenciálne významnými pozitívnymi účinkami a oblasť, ktorú treba ďalej skúmať (Claire V. Crooks, Sharon Hoover, Alexandra C. G., 2020)

1.2 Čo predstavuje program STRONG?

Program STRONG je program psychosociálnej podpory pre novopríchodzie deti. Autorský tím Sharon A. Hoover, PhD Jeff Bostic, MD, EdD Shawn Orenstein, MPH Natasha Robinson-Link, MA napísala tento program pre deti utečencov zo Sýrie. A potom ho prispôsobil pre ukrajinských utečencov. Pozostáva z 10 skupinových stretnutí detí, ako aj z ďalších stretnutí.
Stretnutie 1: Moje vnútorné silné stránky a zdroje vonkajšej podpory
Stretnutie 2: Ako porozumieť stresu
Stretnutie 3: Súčasné reakcie na stres, ako porozumieť pocitom a rozpoznať ich
Stretnutie 4: Meranie intenzity pocitov a jej optimalizácia
Stretnutie 5: Používanie pozitívnych myšlienok
Stretnutie 6: Kroky k dosiahnutiu cieľa
Stretnutie 7: Dobré riešenia ťažkých situácií
Stretnutie 8: Moja cesta k sile, časť 1
Stretnutie 9: Moja cesta k sile, časť 2
Stretnutie 10: Oslava ukončenia programu
Stretnutie s rodičmi/opatrovateľmi
Stretnutie s učiteľmi a prekladateľmi
Plus individuálne stretnutia s deťmi.
Program STRONG bol vyvinutý na podporu individuálnych silných stránok a zručností pri zvládaní adaptačných ťažkostí. Niekoľko sedení čerpá z prístupov kognitívno-behaviorálnej terapie, ktoré sa ukázali ako účinné pri školskej intervencii v prípade traumy vo všeobecnosti (Allison & Ferreira, 2017; Hoover et al., 2018; Ngo et al., 2008) a so študentmi utečencami a prisťahovalcami (Sullivan & Simonson, 2016; Tyrer & Fazel, 2014). Študenti si počas sedení a medzi nimi precvičujú zručnosti zvládania stresu vrátane relaxácie, meranie a zvládanie distresu a kognitívne zvládanie.

Stretnutia sa konajú na vybraných školách. Školy poskytujú príležitosť na odborné intervencie v prospech detí, ktoré nedávno prišli. Školy sú kľúčovým prostredím, kde deti trávia veľa času a kde čelia ťažkostiam pri adaptácii na nové prostredie.
Vo všeobecnosti možno povedať, že cieľom programu STRONG je:

- Rozvíjať psychickú odolnosť novopríchodzích detí utečencov a podporovať ich zdravú adaptáciu na nové školské prostredie a krajinu.
- Rozvíjať sociálnu podporu a väzby medzi novo prichádzajúcimi deťmi.
- Vypracovať a šíriť stratégie na pomoc utečencom pri zvládaní stresu.
- Rozvíjať individuálne zručnosti pri riešení problémov a voľbe cieľa.
- Rozvíjať pozitívnu identitu novo prichádzajúcich detí a chrániť ich pred rasizmom a xenofóbiou.

Program je postavený na niekoľkých "pilieroch", ako napr:

- multisystémový ekosociálny rámec,
- rámec "budovanie stratégií zvládania (coping) ",
- rámec odolnosti: využívanie silných stránok a ochranných faktorov na obmedzenie vplyvu negatívnych udalostí.

Odborné intervencie v školách môžu pomôcť obmedziť stigmatizáciu a ovplyvniť fungovanie školy a jej prostredia. Napríklad zmena školských noriem, pravidiel a prístupov tak, aby zohľadňovali novo prichádzajúce deti. To môže podporiť individualizované intervencie pre nedávno príchodzích, ktorí boli nútení opustiť svoju domovskú krajinu." (Review of Child and Adolescent Refugee Mental Health: White Paper from the National Child Traumatic Stress Network Refugee Trauma Task Force (2003)).
Z koncepčného hľadiska je projekt STRONG založený na chápaní skúseností utečencov a problémov duševného zdravia súvisiacich s presťahovaním v rámci ekosociálneho rámca, ktorý zahŕňa viacero systémov (Bronfenbrenner, 1992). Obsah a štruktúru projektu STRONG dopĺňali aj skúsenosti z iných krízových intervencií na školách. Preto je tento program holistickým, praktickým a účinným mechanizmom pomoci utečencom.
Program je založený na empirickom výskume týkajúcom sa:

- traumy/stresu,
- psychickej stability,
- pozitívny vývoj mládeže,
- skúsenosti utečencov/novo prichádzajúcich osôb.

Bolo však pre nás dôležité, aby projekt STRONG preskúmalo niekoľko kanadských odborníkov na vzdelávanie a duševné zdravie. Dôležité bolo aj to, že bol úspešne implementovaný pre utečencov zo Sýrie a ukázal sa ako účinný. Aby sa zabezpečila kultúrna relevantnosť programu STRONG počas vývoja a adaptácie ukrajinskej verzie intervencie, tvorcovia programu požiadali o pomoc komunitu novopríchodzích a niekoľkých odborníkov na vzdelávanie a duševné zdravie v Kanade. Okrem toho vývojový tím zahŕňal niekoľko ľudí so skúsenosťami s prácou s prisťahovalcami a utečencami z celého sveta.
Samotný program v našom prípade vedú licencovaní odborníci, ktorí prešli špeciálnym školením. Náš tím tvoria ukrajinskí učitelia, sociálni pracovníci a psychológovia.

2 HODNOTENIE REALIZACIE PROGRAMU V KANADE

Výsledky, ktoré zverejnili kanadskí kolegovia, ktorí realizovali program STRONG, opisujú radikálne pozitívnu zmenu. (Bowen et al., 2009).
Za hlavné oblasti sa považovali: zlepšenie vzájomných vzťahov medzi študentmi, zlepšenie zvládania stresu a zručností pri jeho zvládaní a pozitívnejší pohľad na svet.
Odborníci, ktorí viedli program STRONG, považovali za hlavný výsledok intervencie pozitívne väzby, ktoré študenti nadviazali. Všetci facilitátori programu, ako aj priami učitelia detí, s ktorými skupiny pracovali, sa zhodli na tom, že študenti a žiaci sa navzájom podporujú.

Takto sa 90 % praktikov domnievalo, že žiaci získali skupinovú skúsenosť s budovaním tímu. Ako poznamenal jeden z hlavných vedúcich fokusovej skupiny:
"Aj keď niektorí z nich bývali v tých istých budovách, pred prácou v skupinách sa navzájom nepoznali. Takže je pekné vidieť v škole, že niektorí z nich sa teraz navzájom priatelia a hrajú sa spolu." (Fazel a kol., 2012; Khawaja, Allan a Schweitzer, 2018).
Ďalšou výhodou programu STRONG boli väzby, ktoré sa vytvorili medzi študentmi a hostiteľmi stretnutí. Bolo to zjavné, že študenti a žiaci mali pocit, že moderátori programu STRONG sú "bezpečnými" dospelými, s ktorými môžu diskutovať o svojich problémoch a získať podporu.
V niektorých prípadoch moderátori programu výslovne uviedli, že nadviazali kontakt s mladými ľuďmi, ktorí by sa inak ich práce nezúčastnili:
„Bolo pre mňa potešením sledovať ich rast ako skupiny a štyri z piatich detí by som nepoznal, keby sme skupinu neviedli. Opäť niektoré z nich prichádzali s nejakými vecami alebo sa zastavili, aby sa pozdravili, a to bolo zaujímavá dynamika pre deti, ktoré by za normálnych okolností nemuseli byť tými, ktoré sú nasmerované na sociálnu prácu.“
Vedúci skupín si tiež všimli, že niektorí študenti sa začali v škole cítiť lepšie a získali pocit spolupatričnosti so školskou komunitou, čo je dôležitý ochranný faktor (Kia-Keating a Ellis, 2007). Konkrétne študenti častejšie vyhľadávali rady učiteľov a prihlasovali sa do školských klubov alebo tímov.
Okrem komunikácie si študenti osvojili aj špecifické zručnosti týkajúce sa zvládania stresu a vyrovnávania sa s ním. Vedúci skupín sa zhodli na tom, že študenti sa naučili o vplyve stresu aj o triáde myšlienky - pocity - správanie. Okrem toho sa 90 % vedúcich zhodlo na tom, že študenti sa naučili relaxačné techniky, naučili sa pozitívny samohovor a zažili vlastné príbehy svojej cesty.
Vedúce skupiny napokon uviedli, že program STRONG zrejme zmenil pohľad študentov a žiakov na seba samých a svoju budúcnosť. Najmä 90 % vedúcich skupín sa zhodlo na tom, že deti a mladí ľudia sa stali optimistickými, pokiaľ ide o budúcnosť. V cieľových skupinách vedúci uviedli, že žiaci a študenti dokázali uvažovať o svojej ceste s využitím prístupu založeného na silných stránkach a zmenili svoj pohľad na seba samých na viac pozitívnejší.

2.1 Aké dôležité veci sme sa naučili zo skúseností našich kolegov pri organizovaní práce?
Prví odborníci, ktorí pracovali s deťmi s adaptačnými problémami v školách na Slovensku, boli psychologičky z Centra psychologického poradenstva a prevencie v Bratislave 3. Počet týchto psychológov však nebol dostatočný na poskytovanie komplexnej psychosociálnej pomoci v školách.
Z tohto dôvodu vznikla potreba ďalších odborníkov so skúsenosťami s prácou s deťmi a študentmi. A bratislavské mestské Inklucentrum bolo v tomto smere veľkou pomocou. Keďže počet ukrajinských odborníkov bol obmedzený, na vedenie skupín boli vybraní iní odborníci - učitelia, sociálni pracovníci, vychovávatelia. Nazvali sme ich "terénni pracovníci". Každý z nich bol pridelený do základných škôl: ZŠ Mudroňová, ZŠ Medzilaborecká, ZŠ Vazovova, ZŠ Hlboká cesta, ZŠ Drieňova, ZŠ Kalinčiakova, ZŠ Za kasárňou, ZŠ Riazanská. Spolu sme do programu dostali 153 žiakov. K dnešnému dňu ukončila program jedna skupina v počte 12 žiakov.
Ukrajinské deti vedeli, že v určitý deň (alebo dni, v závislosti od počtu ukrajinských detí v danej škole) bude tento zamestnanec určite v škole. Okrem skupinovej práce sa teda deti mohli obrátiť na svojho terénneho pracovníka, aby riešil množstvo dôležitých otázok.
Podľa pravidiel skupiny museli byť dvaja prezentujúci. Preto bol s pridieleným pracovníkom spárovaný psychológ s výcvikom STRONG. Jeho úlohou bolo dohliadať na lepší priebeh skupinových stretnutí a čo najskôr identifikovať deti, ktoré potrebujú individuálnu psychologickú pomoc.

Podľa odporúčaní programu boli deti pozývané na individuálne stretnutia už po 4. skupinovom stretnutí. Psychológ si tak mohol odviesť deti, ktorých zážitok sa zdal byť najviac traumatizujúci. Zatiaľ čo pracovníci mohli na individuálnu prácu pozvať deti s menej traumatizujúcimi zážitkami z presídlenia.
Terénny pracovník tak dodatočne poskytoval riešenia sociálnych a organizačných problémov v škole, organizoval stretnutia s rodičmi a vysvetľoval špecifiká a pravidlá slovenského školského systému. Zatiaľ čo psychológ sa mohol zamerať na tých žiakov, ktorí mali najviac traumatizujúcu skúsenosť s presťahovaním na Slovensko.
Slovenská verzia prezentérov STRONG sa tak ukázala ako multifunkčná, dobre sa dopĺňala vo dvojiciach a poskytovala pomoc v mnohých situáciách, ktoré v školách nastali.
Za zmienku stojí aj to, že terénni pracovníci, ktorí boli v školách oveľa častejšie ako psychológovia s praxou v centre, dokázali oveľa lepšie a kvalitnejšie organizovať interakciu so slovenskými učiteľmi v školách. To umožnilo, aby medzi učiteľmi a rodičmi utečencov prebiehal lepší dialóg.
V tomto článku by sme chceli hovoriť o práci takýchto odborníkov v rámci programu STRONG v jednej škole. Keďže práca v ostatných školách ešte nie je ukončená. No analýza skupinových stretnutí, ktoré sa už uskutočnili, však naznačuje, že výsledky v iných školách budú podobné ako v spomínanej škole.

2.2 Príručka, ktorú poskytuje facilitátor skupiny

Každá nová kniha stretnutí sa začína úvodnou stranou, na ktorej je predstavený návrh aktivít, účel stretnutia a vypracované materiály.
Text venovaný každému stretnutiu je rozdelený na samostatné časti s vlastným nadpisom, kde sú uvedené vysvetlenia k činnostiam a pokyny pre deti.
Pokyny sú napísané kurzívou a príslušné pokyny pre facilitátorov STRONG v hranatých zátvorkách. V knihách sa nachádzajú aj rôzne rady pre sprievodcov na lepšie vykonanie tej-ktorej úlohy, ilustračné obrázky, ktoré možno použiť ako pomôcky. Sú tu aj podrobnosti o relaxačných technikách a možnosti formulárov na posúdenie vlastného stavu.

3 DÔLEŽITÉ KROKY PROGRAMU STRONG V SLOVENSKÝCH ŠKOLÁCH

Pri organizovaní práce v rámci projektu STRONG sme si uvedomili, že stretnutia skupiny sa budú konať počas vyučovacích hodín. A jednou z dôležitých vecí, ktoré sme museli oznámiť slovenským učiteľom, bola potreba vylúčiť ukrajinských študentov z niektorých vyučovacích hodín.
Ako sme už uviedli, žiak, ktorý sa úplne nevyrovnal so svojimi negatívnymi skúsenosťami z minulosti, nebude schopný správne pochopiť vedomosti, ktoré mu budú odovzdané v triede. Nie všetci učitelia spočiatku s týmito informáciami súhlasili. Následné rozhovory s nimi ich však o tom presvedčili. Čím viac sa deti uvoľnili a prispôsobili, tým ľahšie sa im učilo.
Opäť je preto potrebné poznamenať, že organizovanie stretnutí počas vyučovacích hodín pre novopríchodzie deti utečencov je správne, aby sa včas znížil stres z pobytu v novom a neznámom školskom systéme.
Ak sa však žiaci 9. ročníka, ich učitelia a rodičia stále obávajú, že stretnutia môžu byť škodlivé pre plnohodnotné učenie, existuje možnosť prispôsobiť skupinové stretnutia v rámci vyučovania. Napríklad uskutočniť stretnutie najprv na prvej vyučovacej hodine, potom, na druhej vyučovacej hodine, a ďalšie na tretej. Skúsenosti však ukázali, že pevne stanovené časy stretnutí sú prijateľnejšie, pretože deti nie sú zmätené a už presne vedia, kedy majú prísť na program STRONG. Pokiaľ ide o deti v 1.-3. ročníku, treba im každý týždeň pripomínať stretnutia STRONG.
Skupinové stretnutia v tejto škole sa organizovali každý štvrtok v určenom čase. Trvali 50 minút (jedna vyučovacia hodina a časť prestávky). V závislosti od počtu detí v každej škole

bolo rozdelenie do skupín založené na ročníkoch 1-4, 5-6 a 7-9. V školách s veľkým počtom detí však mohlo byť rozdelenie aj na základe tried 1-3, 4-5, 6-7, 8-9 ročníku. Podľa terénnych pracovníkov, ktorí začali program STRONG v rôznych bratislavských školách, deti v 1. - 2. ročníku menej často prežívajú sťahovanie ako traumatizujúci zážitok a ľahšie si nájdu kamarátov medzi slovenskými žiakmi. Zatiaľ čo adolescenti v 7. - 9. ročníku často vyvolávajú v triede ďalšie sociálne problémy.
Podľa záverečného prieskumu medzi deťmi 7. až 9. ročníka, ktoré sa zúčastnili na programe, boli pre ne najpozitívnejšie tieto veci:

- zoznámenie sa s inými deťmi z Ukrajiny, možnosť nadviazať priateľstvá s tými, ktorí hovoria ich rodným jazykom,
- možnosť diskutovať o témach, ktoré sú pre nich dôležité, s "bezpečnými" ľuďmi, ktorí im rozumejú a zažili podobné udalosti,
- pochopenie, ako sa stres môže prejavovať v tele,
- osvojenie si jednoduchých relaxačných techník,
- prežívanie negatívnych skúseností so sťahovaním.

Samozrejme, že skupiny so 7 deťmi (nie viac ako 10 starších detí) sa dajú označiť za najúčinnejšie. Žiaľ, v súčasnosti sa stretávame s tým, že nie všetky školy majú kapacitu na organizovanie takýchto skupín. Chýbajú odborníci na program STRONG, aj voľné miesta na stretnutia. To je v súčasnosti skutočnou výzvou pre kvalitu implementácie programu. A to si vyžaduje ďalšie úsilie zo strany koordinátorov programu a riaditeľov škôl.

3.1 Zvážená účasť v programe STRONG

Prvými odborníkmi boli psychológ a terénny pracovník, ktorí boli vyškolení na konferencii v Prahe v dňoch 28.02 - 01.03.2023 a v tom istom týždni prišli na prvé stretnutie skupiny v škole. Dve skupiny detí už úplne ukončili program STRONG. Ide o tínedžerov v 5. - 6. a 7. - 9. ročníku. Niekoľko ďalších skupín absolvovalo viac ako polovicu skupinových stretnutí. Rovnako ako niektoré individuálne.
Hlavným problémom teraz zostávajú individuálne stretnutia s účastníkmi programu STRONG, keďže psychológ aj terénny pracovník sú v práci veľmi pracovne vyťažení. Je pravdepodobné, že individuálne stretnutia v ďalších skupinách STRONG budú trvať dlhšie.
O potrebe takéhoto individuálneho poradenstva sa diskutuje aj vtedy, ak daná škola realizovala iné programy pre deti utečencov a ak deti už absolvovali individuálne poradenské stretnutia so psychológom.
Možno povedať, že prvá práca v rámci programu STRONG sa uskutočnila presne v súlade s metodickými odporúčaniami tvorcov programu. V budúcnosti sa na základe našich pozorovaní môžu navrhnúť úpravy alebo doplnenia existujúcich prác.
Hlavnou otázkou pre nás zostávajú možnosti:

- Realizácia programu STRONG pre nových žiakov v škole, keď deti utečencov už nejaký čas žijú na území Slovenska, ale nenavštevovali slovenskú školu.
- Vedenie programu STRONG pre deti utečencov, ktoré sa už zúčastnili iných adaptačných programov a absolvovali individuálne stretnutia so psychológmi pred začiatkom programu STRONG.

3.2 Ako sa uskutočnili stretnutia s deťmi v programe STRONG

V súčasnosti sú plne obsadené dve skupiny detí v škole na Riazanskej v Bratislave. Ide o skupinu detí v 5. - 6. ročníku a tínedžerov v 7. - 9. ročníku. Skupiny v siedmich bratislavských školách sú v štádiu rozpracovania. Zapojené sú deti z 1. stupňa ZŠ. Najčastejšie sú deti v skupinách rozdelené do ročníkov: 1-4, 5-6, 7-9. V závislosti od počtu detí však môže byť rozdelenie aj na ročníky 1-2, 3-4, 5-7, 8-9. V budúcnosti plánujeme do programu zapojiť aj študentov stredných škôl a gymnázií. Dôležité je, aby skupina

nepresiahla 7 žiakov. Táto požiadavka je tým dôležitejšia, čím mladšie sú deti v skupine. Dlhé diskusie v kruhu môžu byť pre ne rušivé.
Deti sme do skupín nevyberali zámerne. Do programu STRONG sa mohli zapojiť všetky deti utečencov z Ukrajiny, ktoré v súčasnosti študujú na škole, kde pracujú naši terénni pracovníci. Nechali sme však na rodičoch a deťoch, či sa rozhodnú z programu vystúpiť. Preto bol v každej skupine rôzny počet chlapcov a dievčat a rôzny počet detí s viac a menej traumatickými skúsenosťami s vysídlením.
Samotné stretnutia sa konali raz týždenne v samostatnej miestnosti (trieda, školský klub), pričom účastníci mali možnosť sedieť v kruhu a komunikovať v súkromí. Každé stretnutie trvalo 50 minút (vyučovacia hodina a prestávka). Každé stretnutie sa riadilo vypracovaným plánom "STRONG". Jeho súčasťou bola nielen hlavná úloha, ale aj neustála analýza nálad detí a relaxačné techniky. Po treťom alebo štvrtom stretnutí deti začali hovoriť, že tieto relaxačné cvičenia používajú aj mimo stretnutí "STRONG", počas stresových situácií, s ktorými sa stretávajú každý deň.
Ako sme už uviedli, výskumníci už potvrdili účinnosť programu. Pre nás však bola dôležitá nasledujúca štúdia, v ktorej sa použil kalifornský dotazník o klíme školy pre zdravé deti (CHKS; Austin & Duerr, 2004). Tento dotazník poskytuje 15-položkovú škálu školskej klímy. Obsahuje skóre za výroky týkajúce sa školskej klímy (napr. "Cítim sa byť súčasťou tejto školy"), vzťahov založených na starostlivosti (napr. "V mojej škole je učiteľ alebo iný dospelý, ktorý sa o mňa naozaj zaujíma"), bezpečnosti v škole (napr. "V mojej škole sa cítim bezpečne") a zmysluplnej účasti (napr. "V škole robím zaujímavé veci").
Vo výskume mala škála pre našu vzorku stredne vysokú vnútornú spoľahlivosť ($\alpha = 0,86$), preto sa priemer všetkých položiek použil ako jedna škála, a nie rozčlenený na subškály.
Účastníci vyplnili dotazníky pred a po programe STRONG. Dotazníky sa podávali na tom istom mieste ako skupinové sedenia. V prípade účastníkov mladších ako 16 rokov bol získaný súhlas opatrovníka a súhlas dospievajúcich.
Rozhovory vo fokusových skupinách boli prepísané, kódované a analyzované na účely kvalitatívnych tém. Štruktúrované kódovanie sa použilo na usporiadanie údajov okolo dvoch tém, ktoré zodpovedali výskumným otázkam (napr. prijateľnosť a vnímaný prínos). V rámci týchto dvoch hlavných tém sa na usporiadanie a pochopenie údajov použila tematická analýza. Po prečítaní prepisov druhý výskumník priradil kódy všetkým slovám alebo rečiam, ktoré účastníci vyslovili: tento proces sa nazýva "kódovanie in vivo" (Saldaña, 2016).
Použitie kvantitatívnych aj kvalitatívnych zdrojov údajov ukazuje, že program STRONG bol účinný pri zvyšovaní odolnosti a zručností zvládania u novoprijatých študentov. A tiež pozitívne ovplyvnil pocit vlastnej hodnoty a spolupatričnosti v tejto štúdii.
Kvalitatívne údaje odhalili vnímanie a vnímaný vplyv programu študentmi, ktoré neboli zachytené v prieskumoch v kontexte dvoch všeobecných tém: prijateľnosť a vnímaný prínos. V rámci týchto všeobecných tém bolo prezentovaných niekoľko podtém (napr. "páčil sa program a jeho cvičenia", "páčil sa interaktívny charakter programu", "mať viac a rôznorodých hier a aktivít", "zapojiť viac rovesníkov", "určiť najlepší čas na realizáciu programu", "realizácia programu v materinskom jazyku detí" atď. Preto sa v rámci témy prijateľnosti objavili dve podtémy: vysoká miera prijateľnosti a návrhy na zlepšenie programu.

4 BODY NA DISKUSIU

Cieľom tohto článku je zdokumentovať prijateľnosť, implementačné prvky a vnímanú užitočnosť novej školskej intervencie zameranej na odolnosť žiakov - utečencov. Celkovo prvé zistenia naznačujú, že program je realizovateľný, hoci niektoré otázky implementácie si vyžadujú väčšiu pozornosť.

Zainteresované strany už skôr upozornili na dôležitosť a potrebu štruktúrovaného univerzálneho programu na pomoc utečencom a vysídleným osobám. (Crooks, Smith, Robinson, Link, Orenstein a Hoover, 2020).
Terénni pracovníci na školách v súčasnosti uvádzajú dobrú návštevnosť študentov a to, že študenti javia záujem. Celkovo teraz terénni pracovníci zaznamenali zvýšenie vzájomnej prepojenosti ukrajinských žiakov a nárast priateľstiev a komunikácie medzi nimi. Okrem priateľstiev medzi ukrajinskou komunitou však deti teraz lepšie komunikujú aj so slovenskými žiakmi. Nemôžeme povedať, že sa tak stalo len vďaka tejto intervencii. Ale určite je zníženie negatívneho vplyvu stresu jednou zo zložiek lepšej adaptácie žiakov utečencov. Existujú určité metodologické obmedzenia, ktoré musíme zohľadniť pri vypracovaní celkových záverov tejto štúdie. V tomto čase bola vzorka detí, ktoré už absolvovali program STRONG na Slovensku, malá. Navyše bola obmedzená na mesto Bratislava. Skupiny boli rôznorodé a pri niektorých typoch úloh sa nezohľadňoval vek a pohlavie skupín. Preto je ťažké určiť, či boli niektoré aktivity účinnejšie pre chlapcov alebo dievčatá, pre základné alebo stredné školy. Pri organizovaní programu na Slovensku sme sa museli opierať o názory odborníkov a zistenia z Kanady a Českej republiky. Okrem toho sme v tomto čase nepredpokladali komplexné kontroly terénnych pracovníkov. A kvalitu skupinovej práce nemôžeme v plnej miere posúdiť na základe jednotlivých prípadov.

4.1 Aké silné stránky programu STRONG sme identifikovali?

Program STRONG má určite dôležité silné stránky, ktoré by som chcela zdôrazniť.
Hlavným bodom programu pre prezentujúcich je dobre napísaný, štruktúrovaný materiál pre každé stretnutie. Dôležitým bodom moderátorov programu je, že každé stretnutie má veľa doplnkov, ktoré môžu byť užitočné pre staršie alebo mladšie deti. Moderátorom programu STRONG tak môže byť nielen psychológ alebo klinický lekár, ale aj iný vyškolený odborník, ktorý predtým pracoval s deťmi (učitelia, vychovávatelia, sociálni pracovníci). Tým sa, samozrejme, zvyšuje možnosť získať potrebný počet odborníkov pre čo najväčší počet škôl, v ktorých študujú ukrajinské deti.
Informácie o strese a jeho prejavoch sú podané deťom zrozumiteľným spôsobom. Program je krásne predpísaný s jednoduchými relaxačnými technikami. Program individuálneho stretnutia je zostavený tak, aby ho mohol vykonávať terénny pracovník (formulár A) aj psychológ (formulár B). Okrem toho sa ukázal veľký záujem o takúto skupinovú prácu medzi deťmi utečencov z Ukrajiny. Školáci od 4. ročníka si už sami pamätajú skupinové stretnutia a sami na ne v dohodnutom čase prichádzajú.
Na záver možno povedať, že údaje, ktoré sme už získali v rámci programu STRONG, potvrdzujú predchádzajúcu prácu našich kolegov v Kanade. Je zrejmé, že keď sa program dokončí vo viacerých školách, bude možné zhromaždiť viac údajov o výsledkoch programu. V súlade s inými výskumami sa škola považuje za priaznivé miesto na realizáciu adaptačných intervencií pre deti utečencov (Fazel et al., 2016). Naše pilotné hodnotenie a skúsenosti s programom STRONG v Kanade pre deti utečencov zo Sýrie a Ukrajiny poskytli dôkazy o tom, že školská skupinová intervencia pre utečenecké deti a mládež je uskutočniteľný prístup s potenciálne významným pozitívnym vplyvom. Hoci je to stále oblasť, ktorá si vyžaduje ďalšie dôkladné štúdium.

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PROCESUÁLNÍ EXPERIMENTOVÁNÍ V BODY ART V AKČNÍM UMĚNÍ

EXPERIMENTING WITH PROCESSES IN BODY ART IN ACTION ART

Patricia Biarincová

Abstrakt

V texte sa zaoberáme akčným umením a vybranými formami výtvarných médií v súvislosti s akčným umením a experimentovaním s telom. V úvodnej časti textu sme sa zamerali na popis konkrétnych vytypovaných stratégií a na ich skúmame z hľadiska výtvarného experimentovania v kontexte body artu a procesuálneho umenia či eventu. V rámci experimentovania s telom, v ktorom je telo hlavným médiom, s využitím art action sme sa orientovali na skupinu dospelých/študentov z Katedry výtvarnej výchovy KU Ružomberok. Pri aktivitách sme sa zamerali na uplatnenie akčného prístupu spojeného s akčnou udalosťou, cez ktorú prebieha komunikácia medzi tvorcom a prijímateľmi informácie na základe vyrovnávania a naplnenia emočných, komunikačných a umeleckých potrieb jednotlivca.

Kľúčová slova: *body art, event, akčné umenie, procesuálne umenie, experimentovanie*

Abstract

In the text, we deal with action art and selected forms of visual media in connection with action art and experimentation with the body. In the introductory part of the text, we focused on the description of specific selected strategies and we examine them from the point of view of creative experimentation in the context of body art and processual art or events. As part of experimenting with the body, in which the body is the main medium, with the use of art action, we focused on a group of adults/students from the Department of Art Education, KU Ružomberok. During the activities, we focused on the application of an action approach connected with an action event, through which communication takes place between the creator and the receivers of information based on balancing and fulfilling the emotional, communication and artistic needs of the individual.

Key words: *body art, event, action art, process art, experimentation*

Úvod

Akčné umenie chápeme aj ako prepojenie umenia a života, kedy v procese akcie/tvorby dochádza k stieraniu hraníc medzi umením a životom. Umenie akcie je forma vyjadrenia a sociálnej interakcie (Kováčová, 2021) pri ktorej sa kladie dôraz na živé prevedenie, ktoré sa odohráva v konkrétnom prostredí a v konkrétnom čase, pričom participácia diváka je viac než vítaná.

Korene akčného umenia nachádzame už v kultových obradoch našich a predkov. Tanec, hudba, divadlo a výtvarné umenie spoločne pôsobili na poli rituálov. Umenie patrilo k neoddeliteľnej súčasti života spolu s náboženstvom. Prvky akčného umenia sa objavujú v rituáloch rôznych kmeňov, pri náboženských slávnostiach, karnevaloch, nachádzame ich na stredovekých tržniciach, renesančných a barokových predstaveniach. Koncom 19. storočia v kabaretných divadlách a začiatkom 20. storočia u avantgardných smerov prostredníctvom experimentov, ktoré začali popierať umelecké a spoločenské konvencie (Štofko, 2007).

V súčasnej dobe akčné umenie ponímame ako intermediálne umenie, kde primárnym prvkom je akčná udalosť − čiže živý proces, ktorý sa deje v aktuálnom okamihu a je úzko prepojený s fyzickým gestom aktéra akcie. Podstatou akčnej udalosti je reálny proces, ktorý môže prebiehať v súkromí bez divákov, umelec ju vykonáva sám pre seba alebo s prítomnosťou publika. Počas akcie môže dôjsť k aktivizovaniu a stimulovaniu vnímania, emócií, imaginácií a myšlienkových procesov u umelca/aktéra ako aj u prítomných divákov. Aktéri rovnako ako diváci môžu počas aktivity zažiť dramatické, šokujúce, iniciačné, katarzné, humorné, psychicky či fyzický citlivé momenty.
V akčnom umení nachádzame širokú škálu výtvarných prístupov, stratégií a techník, v rámci ktorých sa uplatňuje konkrétna forma akcie, čo z nášho pohľadu umožňuje experimentovanie a laborovanie s prostriedkami, médiami, technikami a témami (Biarincová, 2021). Akčné umenie chápané ako intermediálne umenie zahŕňa a integruje širokú škálu médií, pričom z hľadiska pedagogiky a výtvarného aspektu, v kontexte nášho projektu *KEGA č. 001KU-4/2023 Stelesnená skúsenosť s využitím art action II. - proti stagnácii v dospelosti a seniorskom veku* berieme do úvahy najmä na to, akým spôsobom môže mať aktivita pozitívny vplyv na vnútornú rovnováhu tvorcu/aktéra pri výtvarnej činnosti/akcii.

1 AKČNÉ UMENIE

Pod tento pojem sú zahrnuté umelecké tendencie pre ktoré je charakteristický dôraz na čistú kreativitu, časový rozmer umeleckého diela a tiež nová úloha umelca a diváka (Morganová, 2009). Akčné umenie/umenie akcie je prezentované rôznymi formami intermediálneho umenia, ktorý kladie akcent na živé predvádzanie deja/akcie, priamy kontakt s divákom v rátane jeho bezprostrednej participácie či bezprostrednej spoluúčasti (Geržová, Hrubaničová, 1998, 1999) zasadené do konkrétneho prostredia, odohrávajúce sa v konkrétnom čase. Súvisí s tendenciami stierania hraníc medzi umením a životom (Geržová, 1999). Výsledkom nie je tvorba hmotného artefaktu, ale proces, hra, udalosť, dianie v čase a priestore, ktorý má efemérnu povahu a býva komunikovaný druhotným/dokumentačným zápisom – textom, fotografiou, videom, filmom a iné (Štofko, 2007).
Interdisciplinárnosť a medziodborovosť umožňuje akčnému umeniu neobmedzené hranice na poli obrazotvornosti. Akční umelci pracujú s novými formami vyjadrovania a aj novými výrazovými prostriedkami. Pri aplikovaní novovytváraných foriem ich zdrojom inšpirácie a tvorby sú prevažne najobyčajnejšie situácie každodenného života, rôzne druhy umeleckých činností, zvyky a hry (Morganová, 2009). V minulosti a aj v súčasnosti vo svojich prejavoch akční umelci reflektovali a aj dnes reflektujú sociálnu a politickú realitu, testujú svoje psychické limity (Geržová, 1999). Slovami Morganovej: *„Usilovali se o nové prožití lidského společenství a vlastní úlohy v něm"* (Morganová, 2009, s.8).
Akční umelci sa vo svojej tvorbe odpútali od konvencii, ktoré sa po storočia vo výtvarnom umení rešpektovali a síce potrebu vystaviť finálny umelecký artefakt, potrebu uložiť artefakt do zbierky prípadne artefakt predať. Nový prístup k tvorbe sa odrazil aj v produktoch výtvarných činností. Akcia nahradila proces tvorby umeleckého diela, povýšila ho na jedinú najpodstatnejšiu súčasť. Pre účastníkov akcie a samotného autora sa stal najdôležitejším neopakovateľný zážitok z prežívania akcie. Celá pozornosť sa obrátila na záujem o človeka jeho prirodzenú spontánnosť a iracionálnosť, ktoré boli a sú potláčané materiálnou spoločnosťou.
Akčné umenie môže byť rôzne formy, Štofko (2007) ich uvádza takto:

- rituál maľby − akčná maľba
- rituál tela − body art
- spektakulárna forma − akcia, performancia
- minimalistická akcia − event
- skupinové konanie a prežívanie, performerista a zúčastnené publikum − happening.

1.1 Akčná udalosť, experimentovanie − body art& event & procesuálne umenie

V rámci skúmania vizuálnych, materiálnych a technických možností pri art acion aktivitách sme sa zamerali na uplatnenie akčného prístupu spojeného s akčnou udalosťou, živým procesom, ktorý sme uskutočnili v rámci akcie na základe aplikovania troch stratégií – body art, event a procesuálne umenie. Tieto tri stratégie pracujú s akciou/udalosťou a živým procesom. Body art pracuje s rituálom tela, ten sme uchopili formou minimalistickej akcie prostredníctvom eventu a následne sme ho posunuli prostredníctvom procesuálneho umenia do ďalšej výslednej polohy. Jednotlivé časti akcie/procesu sme zaznamenali prostredníctvo mediálneho záznamu/fotodokumentácia/video.

1.2 Body art

V druhej polovici 60-tých rokov sa pre množstvo výtvarníkov stalo telo základným vyjadrovacím prostriedkom. S termínom body art sa po prvý raz stretávame v roku 1970. Umelci, ktorí pracovali s telom od jednoduchých otlačkov až po extrémne a náročné testovanie fyzických a psychických limitov, začali prezentovať ľudské telo ako determinant situácie vo svete (Morganová, 2009) ako hlavného nositeľa sociopolitických, kozmologických, existenciálnych, fenomenologických a behaviorálnych obsahov (Geržová, 1999). Toto hnutie dominovalo 70-tým rokom 20. storočia. Body art otvoril novú cestu akčnému umeniu. Objavuje sa ako prostriedok sebapoznania umelca ale aj ako spôsob poznávania a overovania ľudského, duchovného, fyzického vplyvu na sociálne a prírodne prostredie/okolie. Zárodky tohto hnutia opäť nachádzame v divadelných a baletných aktivitách dadaistov. Samotné diela body artistov, ktorí pracovali s vlastným telom, vznikali a boli predvádzané pred publikom ale aj v intímnom prostredí ateliérov umelcov, ktoré boli nasledovne sprostredkované cez fotografie, film, videá alebo texty (Geržová, 1999).
V body arte sa telo umelca stáva primárnym médiom akčnej udalosti, ktoré prináša performeristovi meditatívnu, kontemplatívnu alebo extatickú skúsenosť, kde zohráva dôležitú úlohu intenzívny vzťah medzi telom a dušou umelca/aktéra (Štofko, 2007).

1.3 Telo

V istom okamihu si časť umelcov uvedomila, že telo je nástrojom, je miestom nášho bytia, predmetom alebo prekážkou nášho konania. Umelecká stratégia body art znovu objavila telo, ako základnú podmienku ľudskej existencie, ukazuje a skúma všetky možnosti, ale aj obmedzenia s ktorými je človek nútený žiť. Pracuje s ľudským telom, so situáciami v súvislosti s vlastným telom a s jeho funkciami, so strachom, ohrozením, náhodou ale aj s každodennými rituálmi. Umelci/performeri často predvádzajú rôzne stavy, extrémne a vypäté polohy, ktoré niekedy hraničia s ohrozením života. Body artové polohy a performancie sa vyznačujú neobyčajnou rozmanitosťou a hlavne nemožnosťou uchopiť jednotlivé performancie v rámci slova (Morganová, 2009). V kontexte performancii hovoríme o neverbálnej forme komunikácie, kde môžeme zaradiť aj event ako jednu z foriem akčného umenia

1.4 Event

Event je krátka, jednoduchá forma akčného umenia – udalosť, ktorá vychádza z textových pokynov, inštrukcie alebo verbálnej výzvy, pri ktorej nemusia byť prítomní diváci na rozdiel od performancie. Event je krátkym umeleckým vystúpením − gestom, pózou, situáciou. Eventový návod je určený na slobodné použitie a na slobodnú improvizáciu. Event pracuje s minimálnym konkrétnym vizuálnym jazykom, môže obsahovať prvky hry, humoru, absurdity, šoku, banálnosti a zámernej umeleckej neprofesionálnosti (Štofko, 2007). Podobne ako ostatné druhy akčného umenia je dokumentovaný fotografiou.

1.5 Procesuálne umenie

Procesuálne umenie je umelecká stratégia, ktorá pracuje s materiálovými zmenami, ktoré vznikajú pôsobením rôznych fyzikálnych, biologických alebo chemických procesov. Pracuje tiež s latentnými sociálnymi procesmi, ktoré tak ako aj fyzikálne, biologické alebo chemické procesy nepodliehajú vôli človeka (Štofko,2007). Procesuálne umenie vo svojej podstate nie je zamerané na vytváranie definitívneho artefaktu, orientuje sa na prezentovanie procesu vzniku/zániku diela, na vlastný priebeh mechanickej, biologickej či fyzikálnej premeny výtvarného materiálu. Hlavným znakom je proces transformácie, ktorá prebieha v reálnom čase (Geržová, 1999). Procesuálne umenie je aj reakciou na klasické formy umenia a chápania artefaktu ako niečoho nemenného a statického (Štofko,2007). Cieľom umelcov procesuálne umenia nie je tvorba definitívneho artefaktu, ale zverejnenie procesu, ktorý môže dokumentovať vznik diela ale aj proces jeho deštrukcie. V tejto súvislosti sa proces teda môže stať jediným cieľom a hlavným zámerom prezentácie (Geržová, Hrubaničová, 1998).

2 EXPERIMENTOVANIE S TELOM − PROCES AKCIE − EVENT&BODY ART&PROCESUÁLNE UMENIE

Experimentovanie s telom v rámci event&body art&procesuálne umenie je zamerané na proces transformácie, ktorá prebehla v reálnom čase a priestore. V kontexte procesu, akcie, eventu vstupuje do akcie/udalosti/aktivity veličina času a priestoru. Podľa Rusnákovej (2006) vo vizuálnom umení rozlišujeme dve kategórie uchopenia času: technologický a subjektívny čas. Prvá možnosť zastupuje skutočný čas, ktorý súvisí so samotnou technológiou, zabezpečujúcou vizuálnu prezentáciu diela, čiže zviditeľnením diela. Druhá možnosť uchopenia času pracuje s umeleckými postupmi ako napríklad počítačová manipulácia − strih, animácia či montáž, pomocou ktorých sa môže manipulovať s časom. A však pri akčnom umení sa kladie dôraz na živé predvedenie a transformáciu, ktorá sa odohráva v konkrétnom prostredí a v konkrétnom čase z ktorého za tvorí dokument, záznam, fotografia alebo video.
V súvislosti s priestorom v akčnom umení hovoríme o troch formách priestoru: o fyzickom, časovom a intelektuálnom priestore (Kováčová, Zentko, Kaščáková, 2021). Pre nás je prioritný intelektuálny priestor, ktorý je charakteristický otvorenosťou pre tvorivosť, nachádzanie nových foriem výtvarného vyjadrenia, experimentovania a posúvania hraníc výtvarnej tvorby.

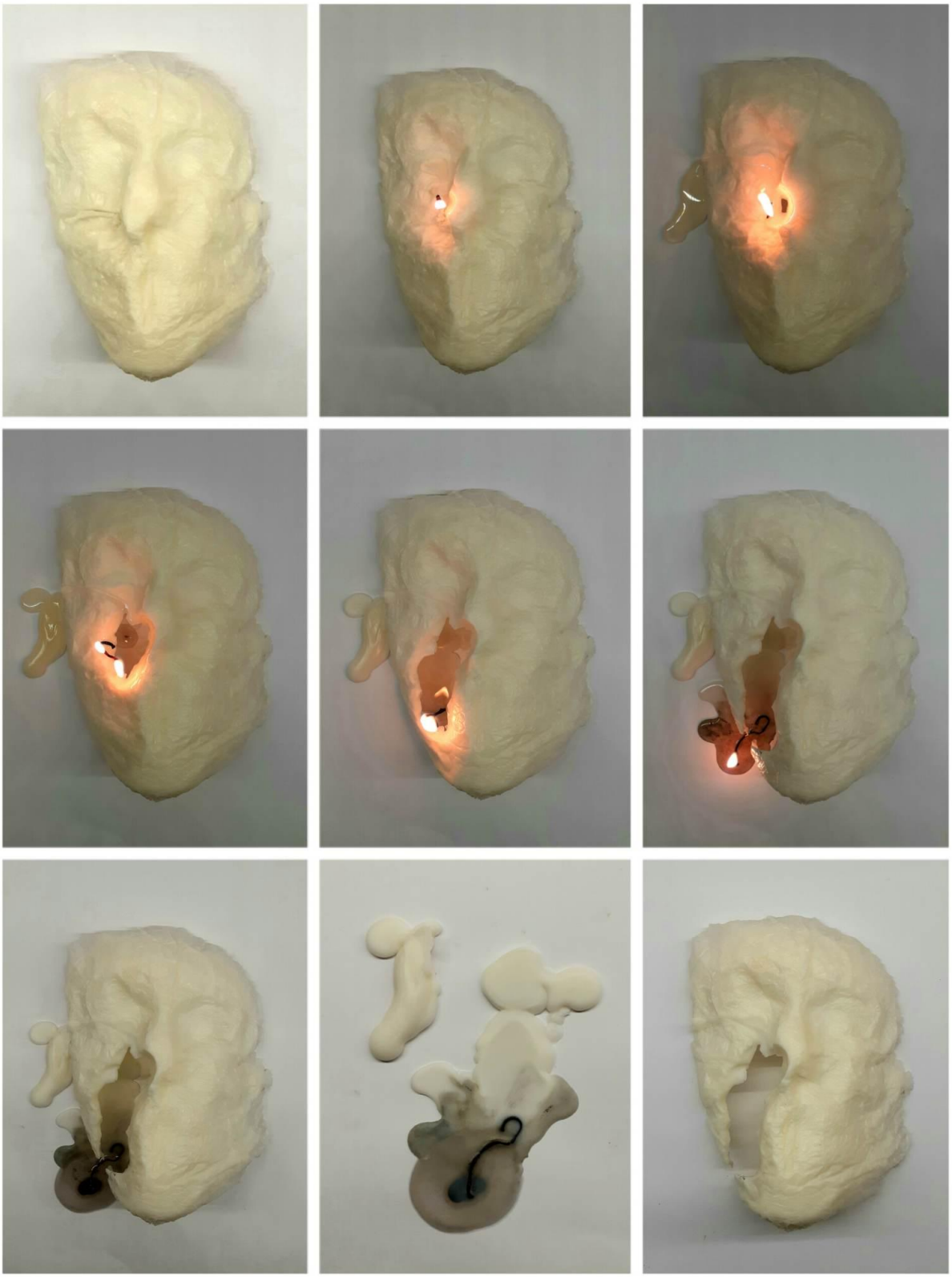
2.1 Popis aktivity v kontexte body artu − event

Počas experimentovania s telom prebieha proces akcie/aktivity v čase a priestore, ktorý z nášho pohľadu vnímame ako priestor a čas pre komunikáciu, vzájomnú interakciu, tvorivú atmosféru, kde výtvarný artefakt prechádza procesom, rôznymi variantami modifikácie a tvarovými permutáciami v súvislosti s procesom a pôsobiacim časom.
V rámci experimentovania s telom prostredníctvom umeleckej stratégie body art študenti vytvorili produkty, ktoré sú postavené na dvoch rozdielnych prístupoch k problematike body artu. Podstatou akčnej udalosti bol živý proces, ktorý inicioval u študentov do pohybu: tvorivosť, experimentovanie, hľadanie riešení, laborovanie s materiálom, vnímanie, emócie, imagináciu a analytické myslenie ale aj meditatívnu a kontemplatívnu skúsenosť.
Aktivita − event kombinovaný so stratégiou eat art a procesuálnym umením. Event bol zameraný na autorské vyjadrenie, uchopenie tela z pozície umelca/aktéra ktorý pracuje so svojim telom v rôznych konceptoch, v priestore a čase pri použití vlastného tela a vybraného média/materiálu − čokolády a vosku. Tvorba odliatku fragmentu tela z čokolády a vosku a následný proces konzumácie odliatku či deštrukcie ohňom vytvoril základ pre tvorbu istej procesuálnej situácie s ktorou boli študenti konfrontovaní.
Obidva prístupy body artu boli koncipované v spojení s homeostázou, snahou udržať si vnútornú rovnováhu. Nachádzať balans medzi laborovaním s telom a pocitom sebavyjadrenia,

sebaponímania a vizualizovania tela v rôznych pózach, situáciách a to v koexistencií vnútornej a vonkajšej rovnováhy a stability po počas a po ukončení výtvarnej akcie.
Proces vzniku, tvorby a výsledného artefaktu bol zaznamenaný zdokumentovaný prostredníctvom fotografického záznamu. Následne komentovaný dopovedaný počas komunikácie/verbálneho dialógu autora a percipientov diela/študentov.

Obr.č. 1. – 2. Tvorba formy na odliatky tváre.

Obr.č. 3. – 5. Odliatky tváre z čokolády a vosku.



Obr.č. 6. – 14. Odliatky tváre z vosku, deštrukcia prostredníctvo stratégie procesuálne umenie.

Obr.č. 15. – 18. Odliatky tváre z čokolády. Event – deštrukcia prostredníctvo stratégie eat art.

2.3 Analýza z experimentovania s účastníkmi z eventu

Významnú úlohu pri evente zohrávala intenzita vzťahu medzi telom a psychikou umelca/aktéra. Event bol orientovaný v kontexte experimentovanie s telom, ktoré aplikovali študenti v rámci témy body art&eat art a procesuálneho umenia naznačilo možnosti, ako pracovať s týmto okruhom problematiky. Študenti pracovali s vlastným telom. Skúmali a experimentovali so svojim telom a to prostredníctvom netradičných materiálov – vosk a čokoláda. Aplikovali netradičné/atypické vizuálne formy a výrazové postupy, ktoré signalizovali ich subjektívne reflektovanie problematiky a následne ich autorské prístupy a spôsoby práce, výber materiálu či vizuálne zobrazenie. Počas experimentovania, bádania a laborovania boli vytvorené dva koncepty/prístupy spôsobu akcie/tvorby vizuálneho produktu/artefaktu. Prvý koncept bol spojený s procesom tvorby odliatku tváre z čokolády a následný aktom konzumácie artefaktu.

Druhý koncept bol orientovaný na proces odliatku tváre z vosku a následnej deštrukcie aplikáciou média ohňa.

Konzumácia artefaktu – bola orientovaná na proces/procesuálny dej – eat art, kedy dochádzalo k stieraniu hraníc medzi umením a životom − eat art − konzumácia artefaktu. Eat art konzumácia produktu/artefaktu stav/pocit príjemného zážitku, pozitívneho prežívania akcie. Študenti postupne formou fotografického záznamu zaznamenávali proces vzniku a zániku − konzumácie odliatku tváre. Zmenu tvaru odliatku, ale aj vlastné gestá či mimiku tváre. Počas aktivity sa u aktérov zaktivizovali mentálne procesy a stavy, zapojili sa zmyslové receptory ako čuch, hmat, chuť, sluch, zrak a zároveň sa vynárali chuťové synestetické a asociačné predstavy. Pozitívne pocity z konzumovania vlastného odliatku tváre sa zmiešali s aktom surrealistického uchopenia akcie.
Deštrukcia artefaktu – druhý spôsob/prístup k odliatku tváre z vosku bol koncipovaný v kontexte deštrukcie, katarzie či nastolenia homeostázy. Počas priebehu horenia, topenia a deštrukčného procesu odliatku vlastnej tváre sa zaktivizovali u aktérov/pozorovateľov a zároveň dokumentaristov procesu mentálne procesy a stavy, ktoré podnietili zmyslové receptory - zrak, sluch, čuch na základe ich aktivizácie začal prebiehať proces synestetických, asociačných a imaginatívnych predstáv spojených s médiom ohňa, zmenou tvaru či skupenstva objektu. Od pradávna je ohňu pripisovaná magicko-očistná funkcia, ktorá priťahuje našu pozornosť a vie naše zmyslové vnímanie uviesť do surrealistický-magických sfér. V našom podvedomí je oheň živlom s magickou silou, ktorá nás dokáže stále fascinovať, azda aj preto sa objavuje aj v dielach akčných umelcov (Biarincová, 2021).
Vzniknuté produkty z výtvarných činností/eventu/akcie body art, eat art a procesuálnej činnosti sú svojim charakterom a použitým materiálom orientované na expresívne formy výtvarného vyjadrenia v kontexte umeleckej stratégie action art. Svojim profilom ich zaraďujeme medzi akčné formy výtvarného vyjadrenia, ktoré reflektujú na umelecké potreby autorov a zároveň intenzívne podnecujú prežívanie, pociťovanie, percepciu, tiež fantáziu, kreativitu, intuíciu, ilúziu, imagináciu, ale aj krásu (Bergerová, 2022), kultivujú schopnosti individuálneho vizuálneho vyjadrenia sa. Zintenzívňujú rozvoj tvorivosti, ktorá je chápaná v kontexte nie len expresie/expresívneho výtvarného prejavu a možného spôsobu sebavyjadrenia, ale aj prijímania zmien a vyrovnávania sa s nimi a to v súvislosti s nachádzaním riešení v problémových situáciách, kedy je potrebné vytvárať nové alternatívy/riešenia spôsobom prekonávania stereotypov v myslení (Štěpánková, 2018).

2.4 Aktivity action art – event body art umožňujú aktérom:

- narábať s elementárnymi ideami, činnosťami a materiálmi,
- použiť prvky spontánnej akcie – hry, banálnosti, absurdity, humoru či šoku,
- uskutočniť minimalistickým spôsobom akciu,
- skúmanie svojich limitov na základe experimentovania so sebou samým a aj pomocou netradičných materiálov,
- vytvárajú a tvoria priestor pre prežívanie a poznávanie špecifických druhov výtvarnej tvorby a akcie,
- experimentovanie/laborovanie s telom, ktoré je považované za primárne médium akčnej udalosti,
- predstavujú spôsoby ako pracovať v kontextoch súčasných foriem vizuálneho vyjadrovania,
- vytvárajú priestor pre interaktívnu komunikáciu,
- reflektujú na umelecké potreby aktérov a zároveň intenzívne podnecujú prežívanie, vnímanie, pociťovanie,
- kultivujú schopnosti individuálneho vizuálneho vyjadrenia sa,
- podporujú prirodzenú spontánnosť a kreativitu/tvorivosť,
- umocňujú prepojenie umenia a života, kedy v procese akcie/tvorby dochádza k stieraniu hraníc medzi umením a životom − eat art − konzumácia artefaktu.

3 ZÁVER

Umenie považujeme za špecifický model ľudského dorozumievania sa, ktorý nesie v sebe aj formatívnu funkciu a teda aj stimulačnú. Pôsobí na mnohé ľudské emócie. Môže vzbudzovať estetické alebo morálne pocity a možno ho chápať ako spôsob komunikácie týchto pocitov. Stupeň vizuálnych schopností a zručnosti, ktoré použije umelec/tvorca pri tvorbe artefaktu, ovplyvní jeho schopnosť vyvolať následnú emocionálnu reakciu v rámci komunikácie či percepcie. Vizuálna komunikácia sa stáva čoraz dôležitejšou v závislosti od toho ako narastá množstvo vizuálnych a obrazových symbolov. Dnes v dôsledku prudkého technologického rozvoja, najmä nových technológií digitálneho záznamu a zobrazovania reality sme v čase nárastu informácií vo forme obrazov. Body art môžeme začleniť k expresívnym formám výtvarného prejavu, ktoré často prinášajú nejaký nový nečakaný pohľad/obraz týkajúci sa ľudského postavenia, rozpoloženia či momentálneho psychického a emocionálneho naladenia buď jednotlivo, alebo kolektívne, ktorý nemusí byť vždy pozitívny, alebo nevyhnutne rozširujúci hranice ľudských schopností a možností, alternatív či riešení. Častokrát skúma reakcie tela na rôzne stimuly či impulzy, ktoré sa pohybujú v rozmedzí od jemných náznakov až po extrémne fyziologické zásahy. Body art prináša performeristovi meditatívnu, kontemplatívnu alebo extatickú skúsenosť. Tento druh akčného umenia charakterizuje experimentovanie/laborovanie s telom, ktoré je považované za primárne médium akčnej udalosti.

Samotná výtvarná tvorba/akčná tvorba je spôsobom sebarealizácie a sebavyjadrenia autora/tvorcu, kedy autor prostredníctvom vizuálnych prostriedkov a vybraných médií komunikuje, vyjadruje svoje emócie, rozpoloženie, idey, myšlienky, postoje, názory, pocity či vnemy. Niekedy prináša nové nečakané a originálne riešenia, vytvára komunikačné kanály, cez ktoré plynú informácie smerom od tvorcu k percipientovi.

Každá realizovaná akcia/aktivita je prepojená s vekom, vedomosťami a osobnými skúsenosťami aktéra, jeho aktuálnym prežívaním a pod. (Chanasová, 2021). Rozmanitosť súčasných výtvarných akcii a tendencií graduje, čo môžeme prisudzovať stále dynamickejšiemu rozvoju možností komunikácie, teda bezhraničnému toku a prenosu informácií (Bergerová, 2022). Komunikácia so svetom cez vizuálne záznamy, kódy či prostriedky má pre tvorcu často katarzné, relaxačné, psychohygienické alebo terapeutické kontexty, kedy sa autor/tvorca snaží, môžeme tvrdiť, o istý spôsob nastolenia homeostázy na základe vyrovnania a naplnenia jeho potrieb, ktoré nachádza pri výtvarnej činnosti. Aktér počas činnosti spojenej s akčným umením pracuje systémom svojej vlastnej autentickej komunikácie (Kováčová, 2021). V procese tvorby uvoľňuje svoje napätie, tenziu ktorú pociťuje a ktorá ho núti vykonávať aktivity spojené s tvorbou výtvarných produktov/artefaktov. Uvoľnenie napätia vedie k znovu nastoleniu istej harmónie.

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CHÁPANIE KONCEPTU INOVATÍVNEHO UČITEĽA VO SVETE - MAPUJÚCI PREHĽAD

UNDERSTANDING THE CONCEPT OF THE INNOVATIVE TEACHER IN THE WORLD - A MAPPING REVIEW

Nikola Barčíková, Štefan Porubský

Abstrakt

Článok je venovaný problematike chápania konceptu inovatívneho učiteľa vo vedeckých a odborných štúdiách vo svete. Hlavným cieľom mapujúceho prehľadu bolo analyzovať a zhromaždiť existujúce výskumy, štúdie týkajúce sa tohto konceptu a identifikovať hlavné trendy a prístupy, ktoré sa vyskytujú v rôznych krajinách. Článok je koncipovaný ako teoretická štúdia, konkrétne sa jedná o mapujúci prehľad. Výskum ukázal, že existuje viacero definícií a konceptov inovatívneho učiteľa v rôznych krajinách a kultúrach. Identifikoval niekoľko spoločných charakteristík inovatívneho učiteľa, ktoré sa vyskytujú vo väčšine kontextov. Výsledky výskumu poskytnú komplexný prehľad o chápaní konceptu inovatívneho učiteľa vo svete a pomôžu lepšie porozumieť jeho rôznorodosti, výzvam a prínosom pre vzdelávanie.

Kľúčová slová: *inovatívny učiteľ, moderný učiteľ, koncept inovatívneho učiteľa, inovatívnosť výučby*

Abstract

The article is devoted to the problem of understanding the concept of innovative teacher in scientific and professional studies in the world. The main aim of the mapping review was to analyze and collect existing research, studies related to this concept and to identify the main trends and approaches that occur in different countries. The article is designed as a theoretical study, specifically it is a mapping review. The research has shown that there are multiple definitions and concepts of the innovative teacher in different countries and cultures. It identified several common characteristics of an innovative teacher that are found in most contexts. The results of the research will provide a comprehensive overview of the understanding of the concept of the innovative teacher around the world and will help to better understand its diversity, challenges and benefits for education.

Key words: *innovative teacher, modern teacher, concept of innovative teacher, innovation in teaching*

1 ÚVOD DO PROBLEMATIKY

Vzdelávanie je kľúčovým pilierom spoločnosti a kvalita vzdelávania závisí od mnohých faktorov, vrátane úlohy a schopností učiteľov. Svet sa neustále mení a s ním sa menia aj očakávania voči vzdelávaniu a učiteľom. V tomto kontexte vzniká pojem "inovatívny učiteľ", ktorý zastáva dôležitú úlohu pri prispôsobovaní sa a využívaní nových prístupov a technológií vo vzdelávaní. Koncept inovatívneho učiteľa sa stal predmetom záujmu v rôznych krajinách a vzdelávacích systémoch po celom svete. Je vnímaný ako kľúčový aktér v procese inovácie a zlepšovania vzdelávania. Avšak, chápanie toho, čo presne znamená byť inovatívnym učiteľom, a aké sú jeho hlavné charakteristiky a kompetencie, sa môže líšiť v závislosti od kultúry, kontextu a výchovných hodnôt. Nie je zreteľná jedna sumarizačná a zhrňujúca

definícia inovatívneho učiteľa. Často však môžeme vidieť v štúdiach spojitosť s autonómiou učiteľa, rolou učiteľa v školskom systéme. Definícia inovatívneho učiteľa sa často spája s pojmom tvorivý učiteľ, učiteľ tvorca kurikula a moderný učiteľ. V literatúre môžeme badať termín inovatívny učiteľ v spojitosti so špecifickými atribútmi týkajúcimi sa inovácii vo výučbe ako napríklad spojitosť s cieľmi, obsahmi, metódami a formami vzdelávania, tvorbou kurikula, pedagogickej komunikácie a práce so žiakmi.

Petlák (2000) vníma učiteľa ako významný subjekt výchovno – vzdelávacieho procesu. Podľa jeho slov pokiaľ chceme mať kvalitné školy musíme myslieť aj na kvalitu učiteľov. Pre to, aby bol učiteľ naozaj kvalitným a inovačným spomína teóriu šiestich S a to: sebareflexia, sebahodnotenie, sebavedomie, sebaovládanie. sebaregulácia a sebatvorenie. Tieto vlastnosti by mal mať učiteľ osvojené, aby bol kvalitný. Musí teda pracovať na sebe, na svojej učiteľskej roli, na svojej sebareflexii, autoevalvácii.

Inovatívny učiteľ je chápaný ako pedagóg flexibilný, neustále sa vzdelávajúci, motivujúci, primerane sebavedomý, kreatívny, osoba, ktorá efektívne zvláda udržanie disciplínu a organizáciu práce. Taktiež je to osoba, ktorá využíva nové metódy, stratégie a formy práce, nebojí sa zmien vo výchovno-vzdelávacom procese. Zároveň je to človek, ktorý je facilitáror, spolupracuje so žiakmi, rešpektuje ich, motivuje vníma ich potreby a zohľadňuje ich vo vyučovaní, nechá žiakom slobodne sa vyjadriť a ide mu o čo najefektívnejší rozvoj osobnosti žiaka (Petlák, 2020).

Petlák (2012) hovorí v kontexte inovatívneho učiteľa o autonómii učiteľa profesionála či učiteľa budúcej školy. Učiteľ by si mal vytvárať vzťah k svojej profesii, vytváraniu vzťahov a interakcii učiteľ -žiak, mal by zmeniť svoj vnútorný postoj a myslieť na aktivitu žiakov počas výchovno – vzdelávacieho procesu, využívať slobodnú voľbu svojej pedagogickej a didaktickej práce, samovzdelávania sa a participácie na aktivitách školy. Schulman (podľa Petlák, 2012) hovorí o siedmych dôležitých oblastiach, ktoré by mali byť príznačné pre učiteľa budúcej školy a to: predmetovo-odborné vedomosti, všeobecno-pedagogické vedomosti, znalosť kurikula, odborné didaktické vedomosti, poznanie charakteristík žiakov, znalosť kontextov vzdelávania a filozofické a historické zázemie zámerov, hodnôt vo vzdelávaní.

Petlák a kol. (2005) spomína inovatívneho učiteľa v spojitosti s osobnosťou tvorivého učiteľa.

V procese spoločenských zmien a globalizácie spoločnosti, kde treba brať na zreteľ meniacu sa podobu výchovy a vzdelávania a samotnej školy, ale netreba zabudnúť na dôležitého činiteľa výchovno- vzdelávacieho procesu, ktorého sa zmeny v školskom vzdelávaní priamo týkajú a to učiteľa. V zmysle týchto zmien treba venovať pozornosť aj zmene pozície, činnostiach učiteľa aj jeho učiteľskej profesie. Učiteľ je pod vplyvom premien spoločnosti a taktiež vzdelávania nabádaný k tomu, aby zmenil svoje koncipovanie výučby a svoju učiteľskú rolu. Musí nadobudnúť kompetencie, ktoré sú vhodné pre moderného učiteľa 21. storočia. Prebiehajúce zmeny a reformy školského vzdelávania v pohľadom na Slovensko však ukazujú fakt, že učitelia necítia podporu pre adaptáciu v školskej reforme, zmene vzdelávania, sú pod veľkým tlakom a preto majú negatívny vzťah k reformným procesom, zmenách vo výučbe, realizovaním inovatívnej výchovy a tým aj zmeny učiteľskej role. Môžeme teda hovoriť, že situácia je veľmi napätá, komplikovaná a fragmentovaná a prebieha skôr deprofesionalizácia učiteľskej profesie (Tomengová et al., 2017).

Podľa Porubského a kol. (2014) môžeme v kontexte súčasných zmien vo výchove a vzdelávaní na primárnom stupni vzdelávania hovoriť i o zmene chápania učiteľskej profesie a to podľa modelu, ktorý učiteľa vníma ako tvorcu kurikula. Ide tu teda o to, že profesionalita učiteľa sa poníma ako kľúčový činiteľ kurikulárnej reformy. Učiteľ by sa mal v tomto zmysle brať ako autonómny tvorca zmien kurikula, ktorý využíva všetky úrovne svojej profesijnej autonómie. Medzi spomínané úrovne profesijnej autonómie sa radí všeobecná profesijná

autonómia, osobná a kolektívna profesijná autonómia a manažérska autonómia. To priamo súvisí aj s tým, akým spôsobom učitelia vnímajú svoju pozíciu v zmene chápania ich profesie a prístupu ku kurikulu. Hovorí sa o troch typoch učiteľov a to: vývojoví projektanti kurikula, tvorcovia kurikula a implementátori kurikula.
Cox (2019) hovorí o 15 moderných zručnostiach, ktoré by mal učiaci v 21. storočí vykazovať. Sú to tieto: prispôsobivosť, dôvera, komunikácia, spolupráca, priebežné učenie, nápaditosť, vedenie, organizácia, otvorenosť novým veciam, odhodlanosť, online reputácia, pútavosť, pochopenie technológie, duševná hygiena a inšpirácia.
Vzdelávanie sa neustále mení a vyvíja, čo vyžaduje od učiteľov prispôsobenie sa novým výzvam a inovatívnym prístupom. Inovatívny učiteľ je ten, kto je otvorený novým nápadom, metódam a technológiám, a kto ich využíva na podporu interaktívneho a zmysluplného vzdelávania. Inovatívny učiteľ je schopný sa prispôsobiť rýchlo meniacemu sa prostrediu a je motivovaný neustálym profesijným rozvojom.
Tento článok sa zameriava na mapujúci prehľad chápania konceptu inovatívneho učiteľa vo svete. Skúmame existujúce literárne zdroje, výskumy a dokumenty, aby sme získali komplexný pohľad na túto tému

1.1 Ciele mapujúceho prehľadu

Hlavným cieľom mapujúceho prehľadu je analyzovať a zhromaždiť existujúce výskumy, štúdie a literatúru týkajúcu sa tohto konceptu a identifikovať hlavné trendy a prístupy, ktoré sa vyskytujú v rôznych krajinách a kultúrach.
Ako čiastkové ciele sme stanovili:

- zistiť aké sú definície a koncepty inovatívneho učiteľa v rôznych krajinách a kultúrach
- zistiť aké sú hlavné charakteristiky a vlastnosti inovatívneho učiteľa, ktoré sa spoločne vyskytujú v rôznych kontextoch

Ako výskumný problém k našej problematike sme si zvolili tento. Je vo forme otázky:

- Ako je chápaný a definovaný koncept inovatívneho učiteľa vo svete a aké sú jeho hlavné charakteristiky, trendy a vplyvy v rôznych krajinách

Tento výskumný problém sa zameriava na získanie prehľadu o rôznych perspektívach, definíciách a chápaní konceptu inovatívneho učiteľa vo svete. Cieľom je identifikovať hlavné charakteristiky, trendy a vplyvy, ktoré sa prejavujú v rôznych krajinách a kultúrach. Týmto výskumným problémom sa usilujeme o hlbšie porozumenie rôznorodosti chápania inovatívneho učiteľa a prispieť k diskusii o rozvoji inovatívneho vzdelávania vo svete.

2 METÓDY VÝSKUMU

Predkladaný článok je koncipovaný ako kvalitatívna prehľadová štúdia konkrétneho typu a to mapujúci prehľad. Mareš (2013) mapujúci prehľad charakterizuje ako typ prehľadovej štúdie, ktorá vychádza z analýzy rozsiahlejšieho počtu prác na určitú tému v určenom časovom období, pričom autor štúdie analyzuje, zoskupuje do väčších celkov a graficky znázorňuje témy.
Ako výskumné otázky sme si v našom výskume zvolili nasledujúce:
VO1: Aké sú hlavné definície a koncepty inovatívneho učiteľa v rôznych krajinách a kultúrach?
VO2:Aké sú hlavné charakteristiky a vlastnosti inovatívneho učiteľa, ktoré sa spoločne vyskytujú v rôznych kontextoch?
Výskumný súbor bol zámerný a dostupný. Spomínaný výskumný súbor tvorili kvalitatívne i kvantitatívne vedecké a odborné štúdie publikované v domácich a zahraničných časopisoch a periodikách. Ich zdôvodnenie a spôsob vyhľadávania sa viaže ku kritériám začleňovania, prípadne vyčleňovania vedeckých a odborných štúdii. Štúdie sme na základe kritérií a kľúčových slov vyhľadávali v internetových databázach ERIC, Web of Science alebo

v archívoch na internetových stránkach časopisov. Ako kritéria výberu daných štúdii sme si zvolili tieto:

- databázy domácich a zahraničných pedagogických časopisov a periodík, ERIC, Web of Science
- rok publikovania: od roku 2000 do roku 2023
- Jazyk: slovenský, český, anglický, nemecký
- Štúdie týkajúce sa problematiky inovatívneho učiteľa
- Kľúčové slová: inovatívny učiteľ, moderný učiteľ, koncept inovatívneho učiteľa, inovatívnosť výučby
- Štúdie založené na kvantitatívnom/kvalitatívnom/zmiešanom prístupe
- Stupeň štúdia: štúdie týkajúce sa prevažne primárneho stupňa vzdelávania

Po zadaní kľúčových slov a kritérií výberu štúdii bolo prvotným vyhľadávaním zaradených do prvotného výberu 50 štúdii. Počas screeningu a následného procesu selekcie bolo vyradených 41 štúdii, ktoré nespĺňali nami stanovené kritéria. Konečnému prehľadu a analýze bolo zaradených 9 vedeckých a odborných štúdii. Bližšie sú uvedené v časti Výsledky v Tabuľke 1. Tieto štúdie sme podrobili kritickému prečítaniu, analýze štúdii a na základe toho prehľadu a interpretácii výsledkov.

Ako metódy zberu dát sme zvolili rešerš literatúry, literárnu metódu. Metódy analýzy dát tvorila obsahová analýza a konceptuálne mapovanie.

3 VÝSLEDKY

V nasledujúcej tabuľke sú spracované prehľadne výsledky výskumných štúdii, ktoré sa vzťahujú k výskumným otázkam VO1: Aké sú hlavné definície a koncepty inovatívneho učiteľa v rôznych krajinách a kultúrach?

VO2: Aké sú hlavné charakteristiky a vlastnosti inovatívneho učiteľa, ktoré sa spoločne vyskytujú v rôznych kontextoch?

Tabuľka 1 Prehľad analyzovaných štúdii a definície inovatívneho učiteľa (vlastné spracovanie)

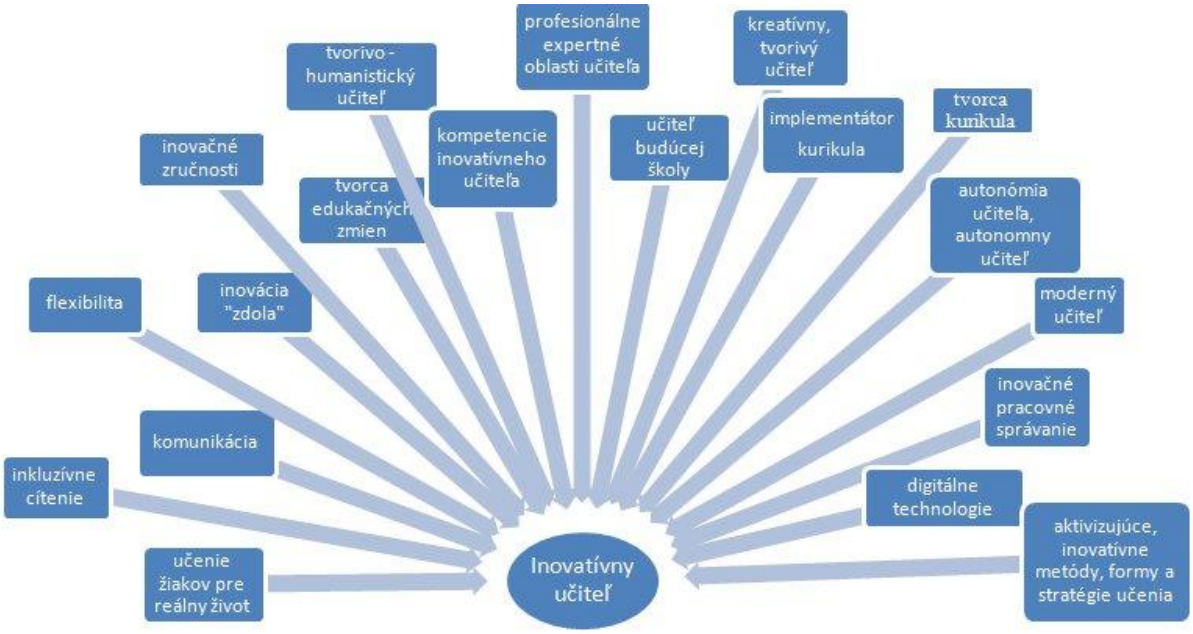
Autor	Rok	Kľúčové zistenia
Kalantzis, M. – Cope,B	2004	Učiteľ je iniciátorom a centrom diskurzu v triede. Učitelia ako facilitátori. Nový učiteľ bude tvorcom učebného prostredia pre angažovaných žiakov, a nie tým, kto opakuje učebnicu.
Matulčíková	2005	Pedagogickí pracovníci, ktorí disponujú špecifickými osobnostnými predpokladmi: citlivosť na problémy, ochota riskovať, kognitívna a sociálna flexibilita, rolový odstup, profesijná zanietenosť, schopnosť cieľavedome riešiť stresové situácie.
Porubský	2007	bežný slovenský učiteľ, hoci sa považuje za prívrženca inovácií, aj po 20-tich rokoch od pádu totality vníma edukačnú realitu ako „danú“ a svoje postavenie v nej vidí len na úrovni jej interpretátora a nie tvorcu
Kosová	2017	5 dimenzií expertnosti učiteľa so 16 atribútmi. Podľa neho experti majú: • schopnosť identifikovať základné reprezentácie svojho predmetu (štruktúrované a integrované mentálne reprezentácie vyučovania a učenia sa, schopnosť riešiť problémy, anticipovať, plánovať a improvizovať podľa situácií, rozhodovať sa, čo je najdôležitejšie)

		schopnosť riadiť učenie sa prostredníctvom interakcií v triede (vytvoriť optimálnu klímu, sú viac závislí na kontexte a vedia sa lepšie orientovať v danej situácii); • schopnosť monitorovať učenie sa a poskytovať spätnú väzbu (monitorovať problémy žiakov a posúdiť úroveň ich porozumenia a pokroku, poskytujú užitočnejšiu spätnú väzbu, dokážu formulovať, testovať hypotézy o ťažkostiach v učení sa a o výučbových stratégiách); • schopnosť venovať sa afektívnym atribútom (rešpekt k žiakom, nadšenie pre výučbu); • schopnosť ovplyvňovať výsledky žiakov (zapájajú žiakov do procesu učenia sa a rozvíjajú ich autoreguláciu, sebaúctu, dokážu žiakom ponúknuť dostatočne náročnú úlohu, majú pozitívny vplyv na dosiahnuté vzdelávacie výsledky a povzbudzujú u žiakov povrchové aj hĺbkové učenie sa
Petlák	2020	Kompetencie, ktoré prispievajú k tomu, aby bol učiteľ inovatívny: Prispôsobenie sa učiteľa novým požiadavkám Učiteľ musí dôverovať sebe a aj žiakom Dobrý učiteľ sa neustále vzdeláva Nápaditosť a tvorivosť učiteľa Vedenie a usmerňovanie žiakov Dobrá a premyslená organizácia práce Inovatívne v realite Vyučovanie v súvislostiach Učiteľ musí byť tímový partner Učiteľ sa musí zbaviť myslenia, že na otázku je len jedna správna odpoveď tri skupiny učiteľov s rozličným spôsobom prístupu ku kurikulu. Niektorí učitelia implementujú do praxe predpísané programy a obsahy vzdelávania bez minimálnej zmeny (curriculum-transmitters), iní učitelia ich vzhľadom na potreby školy, triedy alebo žiakov v rozličnej miere modifikujú (curriculum-makers), alebo vytvárajú nové (curriculum developers)
Zainal, M. – Matore, M	2020	Inovatívne správanie učiteľov sa vzťahuje na správanie spočívajúce v generovaní nových nápadov a vynakladaní úsilia na ich realizáciu s dôverou, prekonávaní možných výziev s cieľom prísť s novými metódami, stratégiami alebo prístupmi na zlepšenie kvality učenia a uľahčenie a zapojenie žiakov
Kocasaraç, H.	2021	Učitelia, ktorí majú dôležitú úlohu vo vzdelávaní, aby splnili meniace sa očakávania jednotlivca a spoločnosti a držať krok so zmenami, musia byť otvorení inováciám, informačným technológiám, rozvoju a spolupráci, vzdelávaniu a inovatívnemu správaniu. Učitelia musia mať inovatívne správanie, aby vychovávali ľudí, ktorí produkujú aj využívajú inovácie. d učiteľov sa vyžaduje, aby prejavovali inovatívne správanie z rôznych dôvodov, ako sú rýchle vedecké, technologické a sociálne zmeny prebiehajúce v spoločnosti. Učiteľ otvorený inováciám, učiteľ otvorený informačným

		technológiám, učiteľ otvorený učeniu sa a učiteľ otvorený rozvoju a spolupráci
Petlák	2022	Učiteľovi musí záležať na tom, aby sa žiaci neučili povrchne, ale hĺbkovo. Dbá na to, aby sa žiaci intenzívne zapájali do edukačného procesu. Vzdelávacími aktivitami podporuje „vysoké kognitívne výzvy“. Žiaci dostávajú príležitosť učiť sa autentickými situáciami. Učiteľ ako inšpirátor a tvorca vzdelávacích skúseností. Učiteľ ako zdroj ľudského, sociálneho a rozhodovacieho kapitálu. Učiteľ ako partner so žiakmi vo vzdelávaní podporovanom technológiou.
Kurbanova, S.N.	2023	Hlavné charakteristiky učiteľa na inovačnú činnosť. Má nasledujúce charakteristiky: tvorivo-motivačné smerovanie osoby Organizácia tried na základe národnosti, netradičné triedy a neštandardné triedy závisí od schopností a zručností učiteľa. To zahŕňa vhodnú komunikáciu učiteľa, nestranný prístup k opačným názorom, ochotu prejaviť uznanie racionálnej situácie v rôznych situáciách. V dôsledku toho učiteľ bude mať komplexnú tému (motív), ktorá bude zabezpečí jeho vedomosti a vedeckú činnosť. Tvorivý proces a tvorivá činnosť učiteľa inovatívne činnosť považovaná za výsledokTémy (motívy) ako sebaaktivizácia, tvorivosť, sebapoznanie a tvorivosť sú z veľký význam v činnosti učiteľa. To dáva možnosť formovať tvorivosť učiteľa osobnosti. Preto sa učiteľ javí ako autor, vývojár, výskumník, používateľ a propagátor nových pedagogických technológií, teórií, koncepcií. merané: Analýza inovačnej činnosti učiteľa si vyžaduje použitie určitých noriem, ktoré určujú účinnosť inovácie. Medzi takéto štandardy patrí novosť, optimálnosť, vysoká účinnosť, možnosti tvorivého uplatnenia inovácie vo verejnej experimenty. Novosť odráža podstatu navrhovanej novosti, úroveň novosti ako normy pedagogickej inovácie.

Na základe analyzovania výskumných štúdii a zistení o chápaní termínu inovatívny učiteľ sme sa rozhodli pre lepšiu orientáciu, sumarizáciu a systematizáciu poznania v riešenej problematike vytvoriť konceptovú mapu (Tab. 2). Graficky v nej znázorňujeme asociácie spájajúce sa s termínom inovatívneho učiteľa. Komplexne nám to vytvára koncept inovatívneho učiteľa.

Tabuľka 2 Konceptová mapa chápania termínu inovatívny učiteľ (vlastné spracovanie)



4 DISKUSIA

Cieľom nášho mapujúceho prehľadu bolo poskytnúť prehľad a porovnanie chápania konceptu inovatívneho učiteľa vo svete. Zameriavali sme sa na rôzne perspektívy a prístupy, ktoré existujú v rôznych krajinách. Na základe analýzy výskumných štúdii boli identifikované nasledujúce kľúčové charakteristiky inovatívneho učiteľa Kreativita a inovácia: Inovatívny učiteľ prejavuje schopnosť myslieť kreatívne a prichádzať s novými a inovatívnymi prístupmi vyučovania. Je schopný vytvárať stimulujúce prostredie, kde študenti majú možnosť rozvíjať svoju kreativitu. Flexibilita a prispôsobivosť: Inovatívny učiteľ je schopný prispôsobiť sa individuálnym potrebám žiakov a meniť svoje vyučovacie stratégie a metódy podľa kontextu a situácie. Je otvorený novým prístupom a ochotný experimentovať s rôznymi vyučovacími technikami. Technologická zručnosť: Inovatívny učiteľ je schopný efektívne využívať moderné technológie a digitálne nástroje vo vyučovacom procese. Vie integrovať technológie do vyučovania a podporuje rozvoj digitálnej gramotnosti u svojich žiakov. Spolupráca a komunikácia: Inovatívny učiteľ podporuje spoluprácu. Reflexia a profesionálny rozvoj: Inovatívny učiteľ je schopný reflektovať nad svojou vlastnou praxou a kontinuálne sa rozvíjať ako profesionál. Aktívne sa zapája do profesijného rozvoja, účastní sa odborných školení a vzdelávacích programov, aby si rozširoval svoje pedagogické znalosti a zručnosti. Inkluzívne vzdelávanie: Inovatívny učiteľ je empatický a citlivý na potreby rôznych žiakov. Aktívne sa zaujíma o individualizáciu a diferenciáciu vyučovania, aby podporil inkluzívne vzdelávanie a maximalizoval potenciál každého žiaka.

Táto štúdia poukazuje na to, že inovatívni učitelia majú výrazný vplyv na výsledky žiakov a ich vzdelávací proces. Ich kreatívne a flexibilné prístupy k vyučovaniu spájajú s technologickou zručnosťou, spoluprácou a reflexiou, čo vedie k lepšiemu angažovaniu a motivácii žiakov.

Kľúčovým záverom tejto štúdie je, že rozvoj inovatívnych učiteľských kompetencií a podpora inovatívneho prostredia v školách môže viesť k zlepšeniu kvality vzdelávania na primárnom stupni a prispieť k rozvoju komplexných schopností a zručností žiakov. Prekvapilo nás, že na tému inovatívneho učiteľa sme priamo nenašli dostatočné množstvo výskumných štúdii.

Analyzované výskumné štúdie vytvárajú určitý koncept inovatívneho učiteľa, ktorý však nie je ešte sémanticky a pojmologicky ukotvený, špecifikovaný vo výskumných štúdiách vo svete. Taktiež sa nám nepodarilo dohľadať potrebný počet štúdii týkajúcich sa inovatívneho učiteľa na primárnom stupni vzdelávania, primárne sa hovorí a špecifikuje koncept inovatívneho učiteľa komplexne v systéme vzdelávania. Do ďalšieho výskumu by sme práve odporučili skúmať viac do hĺbky problematiku vytvárajúceho sa konceptu inovatívneho učiteľa, definície a prístupy inovatívneho učiteľa v rámci rôznych kultúr a regiónov vo svete, ich vzťahy, spoločné znaky a odlišnosti a takisto koncept inovatívneho učiteľa na primárnom stupni vzdelávania.
Výsledky nášho mapujúceho prehľadu môžu pomôcť ďalšiemu hlbšiemu porozumeniu konceptu inovatívneho učiteľa vo svete a prispieť k diskusii o tom, ako podporovať a rozvíjať inovatívne učiteľstvo pre prospech vzdelávania.

5 ZÁVER

V tomto článku sme sa venovali prehľadu chápania konceptu inovatívneho učiteľa vo svete. Na základe mapujúceho prehľadu literatúry, analýzy obsahu a skúmania rôznych perspektív sme identifikovali rôzne definície, charakteristiky, trendy a vplyvy spojené s inovatívnym učiteľom. Tie sme spracovali do prehľadových tabuliek. Taktiež sme pre podporu zistení, lepšiu orientáciu ďalších výskumov v problematike a zmapovanie najdôležitejších výsledkov vytvorili konceptovú mapu chápania termínu inovatívny učiteľ. Graficky sme spracovali a interpretovali dôležité kategórie a aspekty konceptu inovatívneho učiteľa a vzťahy medzi nimi. Zistili sme, že existuje široká škála definícií a konceptov inovatívneho učiteľa v rôznych krajinách a kultúrach. Avšak, niektoré spoločné charakteristiky sa vyskytujú vo väčšine kontextov, ako je flexibilita, adaptabilita, motivácia žiakov a schopnosť vytvárať inovatívne vzdelávacie prostredie. Taktiež sme odhalili regionálne a kultúrne rozdiely v chápaní a očakávaniach voči inovatívnemu učiteľovi. Tie sme graficky spracovali a interpretovali dôležité kategórie a aspekty konceptu inovatívneho učiteľa a vzťahy medzi nimi. Na základe kvalitatívneho teoretického výskumu sme navrhli aj ďalšie témy pre budúce skúmanie v danej problematike. Celkovo je chápanie konceptu inovatívneho učiteľa viacvrstvové a obohatené o rozmanité perspektívy. Poznanie o rôznych chápaniach a prístupoch k inovatívnemu učiteľovi môže prispieť k obohateniu a zdokonaleniu vzdelávacieho systému a podporiť jeho inovácie.

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THE NEW STUDY PROGRAM COUNSELING AS A RESPONSE TO THE NEEDS OF THE TIMES

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Abstract

In the article, we aim to present the process of forming a new study program and subsequently, the process of establishing a new profession in Slovakia. We are talking about a new profession of Counseling, which currently has an important place in supporting people in various stressful situations. Thanks to foreign partners, the Faculty of Theology of the University of Trnava works intensively on rapid growth of the credibility of counseling as a profession. Efficiency of the counseling as a profession has been proved by recent multifactorial empirical research. Result of this research, as well as other sub-researches, was approval of a new professional oriented study program with focus on counseling establishing in Slovak environment.

Keywords: *counseling, study program, counseling establishing*

1 INTRODUCTION TO THE ISSUES OF COUNSELING

1.1 Definition of counseling

Counselling, also called professional mentoring in Slovakia, is one of the methods of social work that presents a help for clients coping with difficult life situations. This is a form of a client support in which a mentor guides a client to activate his/her own inner resources, necessary to solve the problem. Let us call it a help to self-help. The priority of the mentoring process is building such a professional helping relationship that is non-directive and based on trust, esteem and respect. It is built by using acceptance, empathy, congruence and effective communication. So it is about making a conversation in which the guided person is able to listen carefully. The conversation should have a support character, aimed at a searching and opening possibilities that the person had not identified or used until then. So the goal is not to advise, but to discover and strengthen. It is important to lead a guided person to searching for inner strength in oneself, to the ability to discover a possibility for solving the given problem and motivations for its implementation. The concept of counseling is based on relationship equality between social worker and client, accompanying and accompanied.

Another pillar is the acceptance of the accompanied client, who with a help of the mentoring person accepts responsibility for his/her actions and personal development so that he/she knows how to make responsible decisions and live an independent life.

The term of counseling appeared in the literature as a description of activities aimed at social or psychological problems in 1909 used by Frank Parsons. Its development significantly more appeared in the United States of America at the end of the 40‘s, while its development was primarily accelerated by two factors: the need to form a strategic and effective help for soldiers returning from war and the birth of humanistic psychology, which presents a new vision of man in which the quality of relationships, free choice, creative and planning stimulus of the individual gain importance. These factors gave rise to the creation of a new profession of counsellor, which expanded from the beginning of 50‘s, especially in Anglo-Saxon countries. Helping relationship or “counseling“ responds to the needs of a social character such as existential questions, loss of supporting points, the constant changes of society and the inevitable requirement of sufficiently suitable and adaptive manners (Meier, T.S. - Davis, R.S, 1996).

1.2 History and establishment of counseling abroad

Counseling as a specialized professional activity began to develop dominantly in the sphere of professional orientation. In this period, qualitative growth is conditional by creating an organized form of assistance. This help is not only aimed at youth and parents, but also in the field of economics or education (e.g. when choosing a profession, the study, schools). The onset of counseling was accompanied by the establishment of counseling centers and counseling centers institutions focused on various types of specialized consulting and counseling services. In 1937, at Duke University in the USA, the first course of "pair counseling" took place and in 1943 the first counseling manual for social workers was published. The theoretical foundations for this form of intervention were created by Carl Ransom Rogers, an American psychologist and founder of the so-called non-directive psychotherapy, who in 1951 in the work "On client-oriented therapy" developed a new approach to counseling and therapy. The non-directive client-centered psychotherapy suggests an approach that "focuses on the person". He emphasized that individuals have, within themselves, a source of self understanding and self-directed behavior. By the term "counseling" Rogers understood a relationship in which the client is assisted in his/her own difficulties without being denied the possibility of free choice and own responsibility. The central hypothesis of such an approach was based on a huge source self-understanding and basic attitudes of the individual. Another factor that influenced the development of counseling can be identified in the field of prevention from a model focused on the disease to a model centered on the health of the individual in which the concept of prevention took a key role.

During the 70‘s, counseling began to deal with adolescents and their families and consequently, an increasingly urgent need to intervene in school and social environment. The traditional socially branched network of multigenerational families was gradually reduced so that it created a space for a type of family that no longer created so many social relationships and often relied on social services in case of need for external help (Ivey E. A, 2015).

In Europe, counseling began to be used in the 70‘s in Great Britain as a service with a pedagogical focus and as a tool for supporting social services and volunteering. Subsequently, two important related associations were established: the British Association for Counseling (BAC) in 1977 (since 2000 known as the British Association for Counseling and Psychotherapy – BACP), and the European Association for Counseling (European Association for Counseling – EAC) in 1991. The European Counseling Association later defined educational standards and established criteria for the necessary range of education hours, education methods as well as the standards of ethical behavior of counselors. The European Escort Association published the following definition in 1995:

"Counselling is an interactive relationship that serves for solving clients‘ problems. These issues can be social, cultural or emotional and a counselor will approach to them holistically. The client can be a person or a family group or even an institution. The general goal of counseling is to help clients recognize opportunities for living more satisfied and valuable lives as individuals and as members of society." *(Definition of Counselling, 2016)* In the Eastern Europe countries, counseling is still less known and little used, thus leaving more space for other forms of help - psychological, psychiatric, social etc.

2 PREPARATION FOR THE ESTABLISHMENT OF COUNSELING IN SLOVAKIA

The process of preparation and establishment of the new Counseling profession in Slovakia can be presented as a process of finding answers in the four basic perspectives which are acceptance of culture, methodological starting points, needs and conditions.

We present our run which represents a ten-year period of research, study, practical verification, preparation of the new study program until its opening in the academic year 2022/2023.

2.1 Results of research aimed at establishing counseling in selected helping professions

At the beginning of the creation of the new program, it was necessary to build a scientific and professional basis in Slovak environment that consisted of extensive research that became the basis for creating conditions for the promotion of Counseling as an official profession in the country. This research was carried out in the professional and erudite background of already existing scientific and professional areas, namely social work and pastoral theology.

The first perspective is the answer to the question: To whom?

We focused on the needs of the people living in our country and on what our people and our culture consider as important.

It was necessary to respond to important cultural aspects and needs, resulting from the characteristics of people living in Slovakia. As important, in the field of culture, showed the three-year project "Effective Practice", which consisted of several meetings for which three groups of people were invited: teachers, students and specific groups of possible clients to counselling. In a safe environment, they talked, saw and got to know their situations, problems, ways of communication, thinking and decision making. In the conclusions of these meetings, there was carried out a qualitative research in the form of the “focus group“, the results of which showed three basic cultural aspects, namely spirituality, identity and self-confidence (Šmidová et al., 2021).

The second perspective is the answer to the question Where?

It was about finding out what the social and personnel situation is like in Slovakia. When examining of these perspectives, the results of sociological research for the other period were taken into account for they realistically represented the social situation in Slovakia and indicated the areas that require a care (Šmidová et al., 2019). Also, personnel options to provide such assistance, were taken into account. At the conclusion of this research, four basic areas were identified: *family, palliative care, young people, spiritual area.* As personally closest showed the so far developed profession of a social worker with a specific orientation to professional accompaniment. Professional training of teachers for this type of the program was carried out continuously in cooperating institutions, namely Central Florida University (US), Maryland University (US), Universita Lateranense, Instituto Camilianum (Italy) and ASPIC (Italy).

The third perspective is the answer to the question How?

We took a closer look on the steps that need to be taken when implementing counseling to the Slovak social system. This area of research was related to the consideration of social state policy, its priorities and needs, which are defined in various documents. One among them was the National Strategic Framework for Family Support and Demographic Development by the year 2030, which was developed in accordance with the principles of creating public strategies in a participatory manner with the involvement of relevant actors. For the purposes of initial expertise and processing of the initial analysis of priority areas, Family and Demographic Development department members of the government of the Slovak Republic (National Strategic framework for supporting the family and demographic development until 2030) also participated.

In the field of implementation counseling in the social system, the Faculty of Theology of the University of Trnava has implemented several scientific projects. Among the most significant

was the project APVV 15-0189 - Selected factors of pro-family strategy and the support of a stable family in a multicultural environment, which was granted by Ministry of Education of the SR. It was a long-term research on a pro-family national strategy. Its results were presented and it was accepted by the authorities of our social system. Another similar project is KEGA 006TTU-4/2021 - Creation of a module of distance education of pastoral counseling for selected helping professions – social work and pastoral theology.

The fourth perspective is the answer to the question Who?

In this area, it was necessary to choose a suitable methodology and a professional approach, to find suitable partners as professional guarantors and source of know-how. This perspective was clearly defined from the beginning of the process, resulting from long-term cooperation with foreign partners in the US, namely Scranton University in Scranton and Central Florida University in Orlando (Florida); in Italy collaboration with Universita Lateranense in Rome and ASPIC in Verona.

Faculty of Theology of Trnava University in Trnava organized several international conferences and seminars with significant foreign participation in order to support the establishment of an official counseling profession in Slovakia. University of Scranton (USA) in 2014, international conference in cooperation with the Institute of Mental Health (Hungary) in 2016 and international conference in cooperation with the University of Central Florida (USA) in 2017 and 2021.

The chosen strategy is interesting from a global point of view because it covers the key perspectives for the formation of a new professions: culture, social situation, methodology and implementation of counseling in the social system. The result of the mentioned activities was the awarding of the Faculty of Theology of the University of Trnava in Trnava by the Slovak Accreditation Agency for Higher Education of the Slovak Republic and subsequently granting of accreditation of a bachelor's professionally oriented Counseling study program in the department of social work. The study program opened from the academic year 2022/2023. The Slovak Accreditation Agency in its general summary report on study programs in Slovakia evaluated this study program positively. In Its opinion stated: one of the examples of interesting study programs is the study program counseling of the University of Trnava aimed at caring for and accompanying people in need, difficult disabled or disadvantaged and vulnerable population groups such as seniors or children. This offer includes a deep social dimension. Graduates will have a real opportunity to find employment in the field of social care and in the department of health and social services.

3 OPENING OF THE DEPARTMENT OF COUNSELING AS A RESPONSE TO CHALLENGES OF POPE FRANCIS

3. 1 Analysis of selected apostolic exhortations and encyclicals of Pope Francis

Counseling as an approach was chosen at the Faculty of Theology also because of the current challenge of Pope Francis. In his apostolic exhortations and encyclicals he implicitly and explicitly names counseling as "accompanying", while recommending it for application in the missionary and pastoral activities of the Church. By analyzing selected texts from the Pope Francis’s documents, it is clear that he has known and clearly, since the beginning of his pontificate, identifies the counseling method. He calls for the implementation of accompanying several target groups - of families, engaged and newlyweds, divorcing and divorced spouses (Amoris Laetitia, Art. 30), the poor, the sick, women in difficult situations (Evangelii Gaudium, art. 214), victims of sexual abuse in the Church (Vos estis lux mundi, art.9), young people (Christus vivit", art. 30), seniors (Fratelli tutti, art. 20), health disabled persons or migrants (Amoris laetitia, Art. 30). He also recommends the establishment of "listening centers" - centers where people in various stress situations would find a complex of

services including counseling services. The establishment of a similar type of center is also the goal of Trnava University in Trnava - Faculty of Theology.
Pope Francis perceives closeness, care, acceptance as the main elements of accompaniment and relationship. He also considers active listening of the accompanied to be very important. When describing the use and the realization of the processes of this approach thus approaches the scientific understanding of the definition of counseling, with regard to the application of accompaniment to specific missions of the Church. He recommends to use it either in traditional catholic or secularized countries.

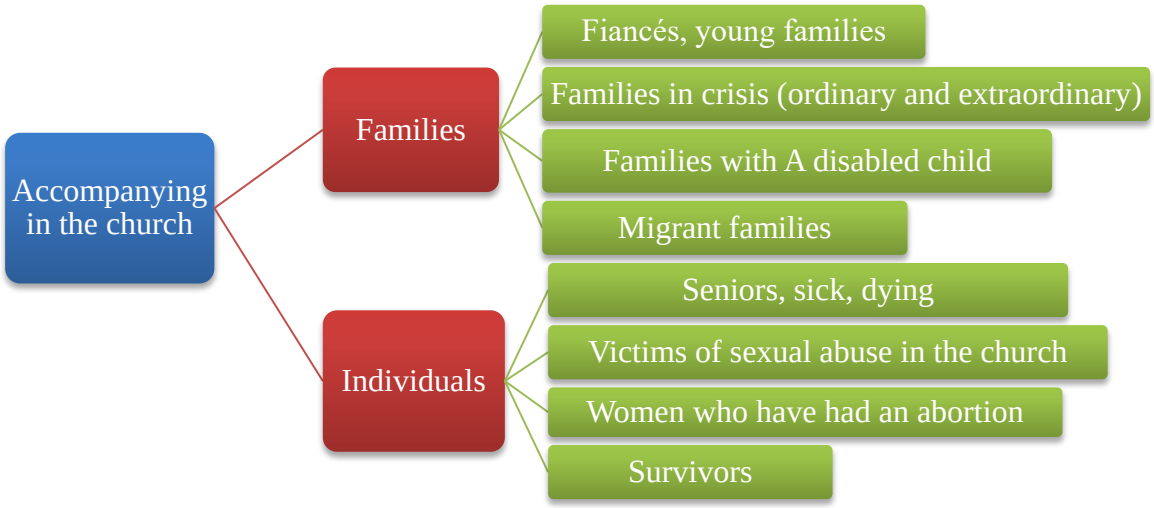

fig. 1: Pope Francis' call to accompany specific target groups (Source: custom processing)

Evangelii Gaudium
Right at the beginning of his pontificate (2013), Pope Francis defines in the apostolic exhortation Evangelii gaudium accompaniment as one of the five basic attributes of the Church, which not only takes the initiative, gets involved, bears fruit, celebrates, but also "accompanies humanity to all of its journeys, no matter how difficult or long they may be." At the same time, he reminds that accompaniment should be connected with a clear goal, which is the ideal of the gospel, but it is important to patiently and authentically take into account the various stages of growth of accompanied persons (Evangelii Gaudium, Art. 45). Through accompaniment, it is possible to express care and strengthen the richness that already exists in Christendom. At the same time, it can be used to support new processes of evangelization in deeply secularized countries (Evangelii Gaudium, Art. 69). In today's society wounded by anonymity and at the same time a huge desire for information about others, the Church needs a sense of closeness in order to contemplate, to feel emotion and stopping by the close person whenever necessary. In this way, priests as well as erudite pastoral workers, should educate in the field of "the art of accompanying", and thus to know how to feel the value of every human being who is accompanied by them. At the same time, the Pope Francis reminds that it is important to give progress a healthy rhythm of closeness with a view full of respect and compassion which, at the same time, heals, liberates and encourages maturing in the Christian life (Evangelii Gaudium, art. 169). At this point, we would like to note that pope Francis by the term "healthy rhythm of closeness" means the professional relationship and professional boundaries, which are required mainly from the erudite accompanying person (counselor) during the accompanying. The basic technique of counseling as a method used in several spheres of activity is active listening. The importance of this technique is also noted by the Pope Francis when he says that everyone needs to practice the art of listening, which involves more than just the ability to hear. "The first thing in communication is the ability of the heart

to allow closeness, without which there is no real spiritual encounter. Listening helps us find the appropriate gesture and word which forces us to leave the peaceful position of viewers. Based on this respectful listening itself, which is capable of compassion, it is possible to discover paths of authentic growth, to renew the desire for the Christian ideal and the effort to fully respond to God's love as well as the eagerness to develop it - the best that God has sown in a person's life." (Evangelii Gaudium, Art. 171)

Amoris Laetitia

The post-synodal apostolic exhortation Amoris Laetitia (on love in the family) is another document of pope Francis, in which he recommends implementing accompaniment in the Church, this time targeting engaged couples, young families and families in crisis. He used the term "accompanying" more than 40 times in this document, thus explicitly referring to its significance and usability in pastoral care. The Church should be a place with possibility to accompany and help in matters related to the growth of love, overcoming conflicts or raising children. Very specific are families with disabled children, or families of migrants, where he emphasizes the importance of integrating vulnerable persons and the importance of compassionate acceptance (Amoris Laetitia, Art. 47). Acceptance (of an accompanied person) is one of the main attributes of the definition of counseling, as already defined in the introduction of the article. In the exhortation, he devotes a lot of attention to accompanying betrothed and newlyweds. The preparation for marriage should emphasize that the engaged couple do not see the wedding as an end of journey, but to accept marriage as a vocation that moves them forward. Young couples need to be accompanied in such a way as to deepen and enrich their conscious and free decision to enter into marriage. The Pope Francis clearly defines the spectrum of crises that every family goes through. It lists the common ones from separation from parents, birth of a child, problems of education to the "empty nest" crisis. However, personal crises are also added to these, connected with economic, work, emotional or spiritual problems that can change family life. Here, it is not a mistake to seek external - professional help (Amoris Laetitia, Art. 236). However, Pope Francis goes further, according to him, accompaniment has its place even after separations or divorces. Again, it recalls the acceptance of all persons who are going through separation, abandonment and loneliness. With the help of specialized counseling centers that he calls for establishing in each diocese, these persons should be accompanied with all care. It should not be forgotten about solving the economic aspect of family breakdown and eliminating trauma committed against children. Further, the Pope presents accompanying someone after death of spouses, while it is important that the escort knows the peculiarities of each stage of mourning and helped the mourning through this stressful period of life with his/her presence (Amoris Laetitia, art. 253).

Christus Vivit

Post-synodal apostolic exhortation of pope Francis called Christus Vivit is dedicated to young people and to all God's people. In it, Francis defines how to communicate with young people in today's world, who should be their example and how important it is to support their growth by accompanying them. Specific feature of today's youth is social involvement, while young people are not bypassed even volunteering, active citizenship and social solidarity. Here is the place for adults to accompany young people and encourage them in discovering their talents and abilities and creativity, which they will know how to use those in social engagement (Christus Vivit, art. 170). The PopeFrancis also reminds that the Church should make the necessary efforts to accompany young people due to "cultural colonization" through which young people lose their most valuable features of individuality and identity. However, he adds, young people are also free human beings who, thanks to the accompaniment, can boldly and creatively find new ways to shepherd themselves. It would be useless to present them

pastoral manuals rather than they should be offered to use their talent, skills and wit so they grow into mature Christians (ChristusVivit, no. 203). At this point, one cannot overlook that Pope Francis speaks of "help to self-help“, which is a simple definition of counseling from a wider perspective.

The Pope Francis also adds, at the end of the exhortation, that the role of accompanying of young people has his/her family as a primary task, later community, which has a big value in the eyes of young people. At this point, Pope Francis also acknowledges that there is a lack of accompanying persons in parishes and therefore it is necessary to erudate not only priests, but also active lay people who would be qualified for that kind of work. He appeals to religious and seminarians to be more capable to accompany, as they take a responsible place in the life and guidance of young people (Christus Vivit, 245).

Very important part of the exhortation is paragraph 246, when Pope Francis states the expectations of young people due to the personality of the accompanying person. They have a clear idea of what he/she is like: a faithful christian, constantly striving for holiness, full of trust, non-judgmental, actively listening to needs of the young, he recognizes his limits, he/she knows how to recognize his humanity and therefore understands mistakes, he/she does not lead the young to a passive following, but walks alongside with them being active participants on the road. The guide should respect the freedom of young people and realistically see the possibilities that exist within the young to be able to use. All accompanying should receive solid basic training and strive for permanent formation (Christus Vivit 246). It is clearly very important for the guide in order to be able to guide, he/she himself/herself must undergo the path of growth by being guided and so not to impose his/her own plans about another's way of life.

4 SUMMARY

In offered official documents of Pope Francis, we focused on his appeal to the use of guidance (counseling) in pastoral care. It is important to mention that across by most of his documents, the recommendation to accompany different groups in the Church and society occurs very often, while the Pope Francis clearly defines the methods of its application, the correct selection of tools and its appropriate location of use. It also expresses the need for formation of lay workers in family pastoral care with the help of psychologists, educators, social assistants and other experts, especially those with experience in accompanying. They have it a real tendency to embody pastoral proposals in the specific family worries. (Amoris Laetitia, Art. 204). If his message regarding accompaniment in the Church could be expressed by using specific elements in pastoral activity, from the point of view of Christianity, these could be acceptance by the accompanying person, active listening, expression of respect, empathy and acceptance of the accompanied person, married couple or family.

The opening of the new Counseling study program and the process of its following establishment in Slovakia is understood, by the Faculty of Theology, as a response not only to the appeals of Pope Francis, but also as a response to the actual situation in Slovak society.

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REAKCJE POSTTRAUMATYCZNE I ICH FUNKCJE U DZIECI, MŁODZIEŻY I DOROSŁYCH ZE SPEKTRUM AUTYZMU

POST-TRAUMATIC REACTIONS AND THEIR FUNCTIONS IN CHILDREN, ADOLESCENTS, AND ADULTS WITH THE AUTISM SPECTRUM

Renata Stefańska-Klar

Abstrakt

Coraz częśćiej pojawia się pytanie o rolę traumy w życiu osób z autyzmem i jej wpływu na dalsze funkcjonowanie, przystosowanie i zdrowie psychiczne w tej grupie. Uważa się, że obrazy kliniczne spektrum autyzmu i zaburzeń posttraumatycznych nakładają się na siebie , istnieją też dowody na unikatowość reakcji posttraumatycznych u oób w spektrum autyzmu. Posiadanie autystycznych cech może sprzyjać doświadczeniom traumatycznym, a nawet generować traumę jako taką (por. Lundström i in. 2011), co często nie jest ropoznawane przezotoczenie, zaś próby radzenia sobie z trudnymi stanami przez osoby z autyzmem są traktowane jako zachowania trudne. Tymczasem wiele zachowań, uważanych za trudne u osób z autyzmem, wydaje się pełnić istotne funkcje regulacyjne i przystosowawcze, niejednokrotnie terapeutyczne, zatem zamiast restrykcji powinno się włączać fachową pomoc poprzedzoną diagnozą.

Słowa kluczowe: *zaburzenie spektrum autyzmu, ASD, zaburzenia posttraumatyczne, zachowania trudne, terapeutyczna funkcja zachowań trudnych w ASD*

Abstract

Increasingly, the question arises about the role of trauma in the lives of people with autism and its impact on further functioning, adaptation, and mental health in this group. It is believed that the clinical picture of the autism spectrum and post-traumatic disorders overlap, and there is evidence that post-traumatic reactions are unique in people on the autism spectrum. Having autistic features may be conducive to traumatic experiences and even generate trauma (for example, Lundström et al. 2011), which is often not recognized by the environment, and attempts to cope with distress by people with autism are treated as challenging behavior. Meanwhile, many behaviors considered difficult in people with autism seem to perform essential regulatory and adaptive functions, often therapeutic, so instead of restrictions, professional help preceded by a diagnosis should be included.

Keywords: *autism spectrum disorder ASD, post-traumatic disorders, challenging behaviors, the therapeutic function of problematic behaviors in ASD*

1 WSTĘP

Zaburzenie neurorozwojowe, zwane autyzmem (ASD) charakteryzuje się trudnościami w zakresie opanowywania kompetencji społecznych i rozumienia ludzi, zatem również w odniesieniu do socjalizacji, która przebiega z opóźnieniem i problemami. Drugą cechą osób ze spektrum autyzmu jest tendencja do zawężania obszaru zainteresowań i preferowania stałości w otoczeniu i własnym działaniu (APA 2013). Kondycji tej towarzyszy zwykle szereg anomalii w przetwarzaniu sensorycznym i trudności w zakresie adaptacji do zmiennego środowiska. Wszystko to sprawia, że osoby te mogą być szczególnie narażone na doświadczanie stresu o charakterze traumatycznym i to od najwcześniejszego okresu życia, a

zarazem mieć mniej zasobów do radzenia sobie z dystresem i traumą, szczególnie za pośrednictwem systemu więzi i społecznego wsparcia. Przez to można się spodziewać związku pomiędzy autyzmem a zaburzeniami posttraumatycznymi, co zaczynają potwierdzać prowadzone współcześnie badania dorosłych osób ze spektrum autyzmu (Sstefańska-klar 2022; Haruvi-Lamda i in. 2018).

W DSM-5 trauma jest rozumiana jako szczególny rodzaj stresora, przy czym w sposób enumeratywny do takich stresorów zaliczono:

- narażenie na śmierć,
- narażenie na zagrożenie śmiercią,
- narażenie na poważne obrażenia lub zagrożenie takimi obrażeniami oraz
- narażenie na przemoc seksualną lub groźbę przemocy seksualnej.

Ponadto, klasyfikacja określa warunki dotyczące okoliczności takich wydarzeń, z których przynajmniej jeden musi być spełniony, aby móc stwierdzić, że wydarzenie miało charakter traumy. Do okoliczności tych zalicza się:

- Bezpośrednie doświadczenie wydarzenia urazowego;
- Bycie bezpośrednim świadkiem wydarzenia urazowego;
- Doświadczenie pośrednie, poprzez uzyskanie wiadomości, że bliski członek rodziny lub przyjaciel był narażony na uraz. Jeżeli wydarzenie urazowe obejmowało śmierć lub groźbę śmierci, to musiało mieć charakter gwałtowny lub charakter wypadku.
- Wielokrotne lub ekstremalne narażenie na awersyjne szczegóły wydarzeń (wydarzenia) urazowych, zwykle w toku wykonywania czynności zawodowych (np. służby emergencyjne).

Z DSM-5 usunięto kryterium subiektywnej reakcji emocjonalnej (strach, bezradność, przerażenie) na wydarzenie urazowe, które było obecne w poprzednim wydaniu podręcznika. Zatem można uznać za eksponowane na traumę również te osoby ze spektrum autyzmu, które mogą wydawać się nie rozumieć tego, co się stało lub sprawiają wrażenie nie zauważenia wydarzenia w jego pełni z powodu „wyłączenia się". Dzięki temu, można zakładać u nich ostre lub odległe skutki traumatyzacji, jak również brać pod uwagę złożonych form zaburzeń posttraumatycznych, a także podejrzewać wystąpienia traumatycznych doświadczeń tam, gdzie podpowiada to zachowanie osoby a nie da się tego wykluczyć.

2 DIAGNOZA REAKCJI NA TRAUMĘ. KLASYFIKACJA ZABURZEŃ PO STRESIE TRAUMATYCZNYM

Amerykańskie Towarzystwo Psychiatryczne w najnowszym wydaniu klasyfikacji DSM-5) wydziela odrębną grupę zaburzeń określanych jako zaburzenia związane z traumą lub stresorem (*trauma- and stresor-related disorders*) (APA 2013;; Steuden, Nowakowski 2016; Zawadzki B., Popiel A. 2014)). Zaburzenia z tej grupy obejmują:

1) *Ostre zaburzenie stresowe (acute stress disorder – ASD).* Warunkiem koniecznym do rozpoznania tego zaburzenia jest doświadczenie przez osobę ciężkiego wydarzenia traumatycznego oraz utrzymywanie się objawów w okresie od 3 dni do miesiąca po wystąpieniu traumy. Klasyfikacja wymienia 14 objawów tego zaburzenia pogrupowanych w następujące kategorie: (1) objawy intruzyjne (np. nawracające wspomnienia, sny), (2) negatywny nastrój, (3) objawy dysocjacyjne (derealizacja, amnezja dysocjacyjna), (4) objawy unikania (np. wspomnień, myśli, miejsc wiążących się z traumą) oraz (5) objawy pobudzenia (np. zaburzenia snu, drażliwość, nadmierna czujność). Do ustalenia rozpoznania stwierdzić należy obecność przynajmniej 9 spośród 14 wymienionych objawów. Narażenie na śmierć lub groźbę śmierci, poważny uraz lub przemoc seksualną, w jeden (lub większą liczbę) spośród wymienionych sposobów:

A1. Bezpośrednie doświadczenie traumatycznego przeżycia (przeżyć).

A2. Bycie naocznym świadkiem traumatycznych dla innych osób wydarzeń.

A3. Uzyskanie informacji o tym, że członek bliskiej rodziny lub przyjaciel, doświadczył traumatycznego przeżycia (przeżyć). W przypadku narażenia na śmierć lub wystąpienia groźby śmierci dotyczących członka rodziny lub przyjaciela wydarzenie (wydarzenia) to musi wynikać z aktu przemocy lub być przypadkowe.

A4. Powtarzane lub bardzo duże narażenie na nieprzyjemne szczegóły danego wydarzenia/wydarzeń traumatycznego/ traumatycznych (np. pierwsze osoby na miejscu zdarzenia po wypadku – policja, straż pożarna, ratownicy medyczni; policjanci/pracownicy socjalni narażeni na oglądanie powtarzającej się przemocy wobec dzieci).

A. Obecność dziewięciu (lub większej ilości) spośród wymienionych objawów w każdej spośród pięciu kategorii: natręctw, obniżonego nastroju, objawów dysocjacyjnych, objawów unikania oraz zwiększenia pobudliwości, doświadczanych po raz pierwszy lub nasilających się po doświadczeniu traumatycznego przeżycia (przeżyć).

Objawy natrętne:

1. Nawracające i natrętne, dręczące wspomnienia traumatycznego wydarzenia (wydarzeń).
2. Nawracające, dręczące sny, których treść jest związana z traumatycznym wydarzeniem (wydarzeniami).
3. Reakcje dysocjacyjne (*flashback*), które powodują, że dana osoba odczuwa lub zachowuje się, jakby ponownie doświadczała traumatycznego przeżycia (przeżyć). (Nasilenie opisaych reakcji przyjmuje formę kontinuum, z całkowitą utratą poczucia rzeczywistości jako skrajną postacią).
4. Nasilone i przedłużające się cierpienie psychiczne występujące w przypadku narażenia na wewnętrzne lub zewnętrzne sygnały, symbolizujące lub przypominające pewne aspekty traumatycznego wydarzenia (wydarzeń).

Obniżony nastrój:

5. Uporczywe trudności w wyrażaniu pozytywnych uczuć (np. niezdolność do wyrażania radości, miłości, zadowolenia)

Objawy dysocjacyjne:

6. Poczucie nierealności otoczenia lub samego siebie (np. oglądanie siebie z innej perspektywy, poczucie oszołomienia, spowol-nienie płynącego czasu).
7. Trudność w zapamiętaniu ważnych aspektów traumatycznego wydarzenia (wydarzeń) (zwykle z powodu amnezji dysocjacyjnej, a nie innego czynnika, takiego jak uraz głowy, leki, alkohol).

Objawy unikania:

8. Próby unikania dręczących wspomnień, myśli lub uczuć dotyczących traumatycznego wydarzenia (wydarzeń) lub blisko z nim związanych.
9. Unikanie lub próby unikania czynników (ludzi, miejsc, rozmów, czynności, przedmiotów, sytuacji), które przywołują dręczące wspomnienia, myśli lub uczucia dotyczące traumatycznego wydarzenia (wydarzeń)

Objawy nadmiernej pobudliwości

10. Problemy ze snem (np. trudności w zaśnięciu lub w utrzymaniu snu albo sen niedający odpoczynku).
11. Drażliwość i wybuchy gniewu (bez bycia prowokowanym), zwykle wyrażane jako agresja słowna lub agresywne zachowania w stosunku do innych osób bądź przedmiotów.
12. Nadmierna czujność.
13. Problemy z koncentracją.
14. Wzmożona reakcja na zaskoczenie.

C. Objawy zakłócenia (z kryterium B) występują w ciągu 3-30 dni od wystąpienia narażenia na przeżycie traumatyczne.
D. Zakłócenie powoduje znaczące klinicznie cierpienie lub upośledzenie funkcjonowania w sferze społecznej, zawodowej i w innych ważnych obszarach.
E. Zakłócenie nie jest wywołane fizjologicznym działaniem substancji (np. nadużyciem leków, alkoholu) ani innym stanem ogólnomedycznym […].
Jeśli objawy występujące po zdarzeniu traumatycznym utrzymują się dłużej niż miesiąc, a nie upłynęły jeszcze od zdarzenia dwa lata, możemy postawić diagnozę PTSD (Posttraumatic Stress Disorder).
2) *Zespół stresu pourazowego (posttraumatic stress disorder, PTSD).* Podobnie, jak przy diagnozie ASD (*acute stress disorder)* dla stwierdzenia PTSD konieczne jest doświadczenie przez osobę wydarzenia traumatycznego, a jego objawy muszą się utrzymywać przez co najmniej miesiąc. Objawy podzielone są na 4 kategorie: (1) objawy intruzyjne, (2) objawy unikania bodźców związanych z traumatycznym wydarzeniem, (3) negatywne zmiany w treściach poznawczych i nastroju związane z wydarzeniem traumatycznym oraz (4) znaczne zmiany w zakresie pobudzenia i reaktywności. Do spełnienia kryteriów diagnostycznych wymagane jest stwierdzenie występowania objawów z każdej z tych kategorii. Oto one:
A. Narażenie na śmierć lub groźbę śmierci, poważny uraz lub przemoc seksualną, w jeden (lub większą liczbę) spośród wymienionych sposobów:
A1. Bezpośrednie doświadczenie traumatycznego przeżycia (przeżyć)
A2. Bycie naocznym świadkiem traumatycznych dla innych osób wydarzeń
A3. Uzyskanie informacji o tym, że członek bliskiej rodziny lub przyjaciel, doświadczył traumatycznego przeżycia (przeżyć). W przypadku narażenia na śmierć lub wystąpienia groźby śmierci dotyczących członka rodziny lub przyjaciela wydarzenie (wydarzenia) to musi wynikać z aktu przemocy lub być przypadkowe
A4. Powtarzane lub bardzo duże narażenie na nieprzyjemne szczegóły danego wydarzenia/wydarzeń traumatycznego/traumatycznych (np. pierwsze osoby na miejscu zdarzenia po wypadku – policja, straż pożarna, ratownicy medyczni; policjanci/pracownicy socjalni narażeni na oglądanie powtarzającej się przemocy wobec dzieci)
B. Obecność jednego lub większej liczby spośród podanych niżej natrętnych objawów, związanych z traumatycznym wydarzeniem (wydarzeniami), występujących po raz pierwszy po doświadczeniu traumatycznego przeżycia (przeżyć)
B1. Nawracające i natrętne, dręczące wspomnienia traumatycznego wydarzenia (wydarzeń)
B2. Nawracające, dręczące sny, których treść jest związana z traumatycznym wydarzeniem (wydarzeniami)
B3. Reakcje dysocjacyjne (np. flashback), które powodują, że dana osoba odczuwa lub zachowuje się jakby ponownie doświadczała traumatycznego przeżycia (przeżyć). Nasilenie opisanych reakcji przyjmuje formę kontinuum, z całkowitą utratą poczucia rzeczywistości jako skrajną postacią
B4. Nasilone i przedłużające się cierpienie psychiczne występujące w przypadku narażenia na wewnętrzne lub zewnętrzne sygnały, symbolizujące lub przypominające pewne aspekty traumatycznego wydarzenia (wydarzeń)
B5. Zaznaczona reakcja fizjologiczna występująca w odpowiedzi na wewnętrzne lub zewnętrzne sygnały, symbolizujące lub przypominające pewne aspekty traumatycznego wydarzenia (wydarzeń)
C. Utrwalone unikanie bodźców związanych z traumą, niewystępujące przed traumatycznym wydarzeniem (wydarzeniami), zdefiniowane jako jedno lub oba z poniższych
C1. Unikanie lub próby unikania dręczących wspomnień, myśli lub uczuć dotyczących traumatycznego wydarzenia (wydarzeń) lub blisko z nim związanych

C2. Unikanie lub próby unikania czynników (ludzi, miejsc, rozmów, czynności, przedmiotów, sytuacji), które przywołują dręczące wspomnienia, myśli lub uczucia dotyczące traumatycznego wydarzenia (wydarzeń)
D. Niekorzystne zmiany w zakresie zdolności poznawczych i w nastroju, związane z traumatycznym wydarzeniem (wydarzeniami), doświadczone po raz pierwszy lub nasilające się po nim, zdefiniowane jako jedno (lub większa liczba) spośród poniższych
D1. Trudności w zapamiętaniu ważnych aspektów traumatycznego wydarzenia (wydarzeń) (zwykle z powodu amnezji dysocjacyjnej, a nie innego czynnika, takiego jak uraz głowy, alkohol, leki)
D2. Uporczywe i nadmierne negatywne przekonania lub oczekiwania dotyczące siebie, innych osób lub świata (np. „Jestem złą osobą", „świat jest bardzo niebezpieczny", „Mój układ nerwowy został trwale zniszczony")
D3. Utrwalone, zniekształcone postrzeganie przyczyn i skutków traumatycznego zdarzenia (zdarzeń), prowadzące daną osobę do obwiniania siebie lub innych
D4. Utrwalone stany negatywnych emocji (np. lęku, przerażenia, złości, winy lub wstydu)
D5. Znacząco zmniejszone zainteresowanie ważnymi czynnościami lub chęć udziału w nich
D6. Poczucie bycia odseparowanym od innych osób, oziębienia stosunków z nimi
D7. Uporczywe trudności w wyrażaniu pozytywnych uczuć (np. niezdolność do wyrażania radości, zadowolenia lub miłości)
E. Wyraźne zmiany w zakresie pobudliwości związane z traumatycznym wydarzeniem (wydarzeniami), doświadczone po raz pierwszy lub nasilające się po nim, zdefiniowane jako dwa (lub większa liczba) spośród poniższych
E1. Drażliwość i wybuchy gniewu (bez bycia prowokowanym), zwykle wyrażane jako agresja słowna lub agresywne zachowania w stosunku do innych osób bądź przedmiotów
E2. Nieprzemyślane lub autodestruktywne zachowania
E3. Nadmierna czujność
E4. Wzmożona reakcja na zaskoczenie
E5. Problemy z koncentracją
E6. Problemy ze snem (np. trudności w zaśnięciu lub w utrzymaniu snu albo sen niedający odpoczynku
F. Czas trwania zakłócenia (kryteriów B, C, D, E) wynosi więcej niż miesiąc
G. Zakłócenie powoduje znaczące klinicznie cierpienie lub upośledzenie funkcjonowania w sferze społecznej, zawodowej i w innych ważnych obszarach
3) *Zaburzenia przystosowania (adjustment disorders 308.3*) – są konceptualizowane bardzo podobnie jak zaburzenia adaptacyjne w ICD-10 (F43.0). Traktowane są jako heterogenna grupa syndromów reakcji na stres, występujących po narażeniu na stresujące wydarzenie. Należy zaznaczyć, że klasyfikacja dopuszcza, iż stresor może mieć charakter traumatyczny (trauma w wąskim rozumieniu) lub nie-traumatyczny.
Klasyfikacja DSM-5 w tej grupie wyróżnia ponadto dwa specyficzne zaburzenia występujące w okresie dzieciństwa związane z doświadczaniem specyficznego typu wydarzeń traumatycznych w tym okresie rozwojowym (oznakowane jednym kodem). Wydarzenia te rozumiane są jako doświadczanie skrajnie niewystarczającej opieki ze strony osób znaczących (opiekunów) w postaci trwałego społecznego zaniedbania i deprywacji podstawowych potrzeb emocjonalnych (np. bezpieczeństwa, stymulacji, czułości). Za takie wydarzenie traumatyczne uznaje się również powtarzające się zmiany podstawowych opiekunów ograniczające możliwość wytworzenia stabilnego przywiązania (np. częste zmiany w opiece zastępczej) lub wychowywanie się w wyjątkowo niesprzyjającym środowisku, które znacząco ogranicza możliwość tworzenia selektywnego przywiązania (np. w instytucjach z małą liczbą opiekunów w stosunku do liczby podopiecznych). Zaburzenia te obejmują:

4) *Reaktywne zaburzenie przywiązania (reactive attachment disorder)* charakteryzuje się uporczywymi odchyleniami od normy we wzorcach wytwarzania więzi (przywiązania) u dziecka, które są związane z zaburzeniami emocjonalnymi (brak społecznej i emocjonalnej reaktywności na innych, ograniczenie pozytywnego afektu, epizody nieuzasadnionej drażliwości, smutku, lęku).
5) *Odhamowane angażowanie się w relacje społeczne (disinhibited social engagement disorder)* charakteryzuje się zmniejszeniem lub brakiem odpowiedniego zahamowania w nawiązywaniu relacji w nieznajomymi dorosłymi.
Zarówno w zespole ostrych zaburzeń stresowych jak i zespole stresu pourazowego występują objawy lęku, pobudzenia oraz dysocjacji. Do początkowych ostrych reakcji na stres traumatyczny dołączają się nowe objawy, które tworzą kolejny zespół zaburzeń (Bryant, Harvey 2003). Zaburzenie po stresie traumatycznym jest odległą lub opóźnioną reakcją na ostry, krótkotrwały stres bądź długotrwałe reakcje stresowe o charakterze lękotwórczym (Steuden, Janowski 2016).
Oprócz omówionych powyżej, najbardziej typowych zaburzeń związanych z stresem traumatycznym można wskazać na *złożony zespół stresu pourazowego - complex PTSD (Associated Features of PTSD*), który wiąże się z przedłużoną lub powtarzającą się traumą, sięgającą okresu dzieciństwa. Znaczna część osób, które doświadczyły głębokiej traumy w okresie dzieciństwa i adolescencji rozwinęła w późniejszym okresie zaburzenia osobowości, w tym tzw. osobowości wielorakiej czy zaburzeń osobowości typu borderline, zachowań przestępczych i autodestrukcyjnych, (Solomon, Heide, 1999 za Steuden, Janowski 2016).

3 CHARAKTERYSTYKA REAKCJI POSTTRAUMATYCZNYCH I ICH TERAPEUTYCZNE FUNKCJE U OSÓB Z AUTYZMEMTITLE

3.1 Swoistość reakcji posttraumatycznych u osób ze spektrum autyzmu w porównaniu z innymi ludźmi

Zagadnienie traumy i reakcji posttraumatycznych u osób z autyzmem omówiłam szerzej w innym miejscu, z czego wynikły pewne konkluzje dotyczące odrębności w zakresie obu tych aspektów w opisywanej grupie, w porównaniu z osobami nieautystycznymi (Stefańska-Klar, 2022). Okazuje się, że identyfikacja objawów traumy w przypadku zaburzenia spektrum autyzmu może być trudne ze względu na różne stany współistniejące jak lęk czy pobudzenie, które mogą zaciemniać obraz, a także powodować nakładanie się kryteriów diagnostycznych ASD (autism spectrum disorder) i PTSD (Haruvi-Lamda i in. 2018), a także CPTSD (APA 2013). Z badań, jakie zostały ta omówione wynika, że dzieci, młodzież i dorośli z zaburzeniem ze spektrum autyzmu wydają się reagować bardziej wrażliwie od swych rówieśników bez autyzmu na traumę i dłużej doświadczać powstałych wskutek niej długofalowych skutków emocjonalnych oraz innych, widocznych głownie jako zaburzone zachowania, jednak fakt ten może nie być czytelny dla otoczenia a sens zmian w reakcjach osoby nierozpoznany właściwie.
King i Desaulnier (2011) opisują dziecko ze zdiagnozowanym zaburzeniem spektrum autyzmu i niepełnosprawnością intelektualną, które stało się ofiarą długotrwałej rówieśniczej przemocy. Z opisu wyłania się bardzo szeroki pourazowy obraz kliniczny, zgodny z CPTSD, którego przyczyną jest ekspozycja na przewlekłą, interpersonalną traumę (Herman, 1992). Zaburzenie to charakteryzują, oprócz wtargnięć (flashbacks), reakcji unikania i nadmiernego pobudzenia, także znaczące negatywne zmiany w zakresie regulacji emocji, postrzegania siebie i innych oraz poczucia tożsamości, z zagrożeniem rozwinięcia się niekorzystnych zmian w strukturze charakteru i osobowości. W opisanym przypadku nie zostały wykryte objawy złożonego PTSD, pomimo ich czytelności, w związku z czym dziecko nie otrzymało ani odpowiedniego leczenia, ani wsparcia. Należy powiedzieć, ze jest to bardzo częste zjawisko w szkołach czy placówkach wychowawczych, że objawy PTSD myli się z

nieposłuszeństwem lub zachowaniami dewiacyjnymi, w najlepszym razie uważa się je za normalne przejawy niepełnosprawności i odpowiednio do tej interpretacji postępuje się z uczniem lub wychowankiem. Szczególnie niebezpiecznym jest fakt, że ta nieświadomość przyczyn i znaczenia niepożądanych przez otoczenie posttraumatycznych reakcji dziecka, nastolatka czy dorosłego z autyzmem sprawia, że otoczenie łatwo włącza w odpowiedzi czynności restrykcyjne, które w takich sytuacjach nie tylko nie pomagają w żaden sposób, lecz wręcz szkodzą (retraumatyzacja) a nawet mogą stanowić bezpośrednie zagrożenie życia podopiecznego. ext, text, text Text, text, text Text, text, text Text, text, text Text, text, text

3.2 Zachowania trudne czy forma autoterapii? Pytanie o funkcje zachowań problematycznych osób z autyzmem w kontekście radzenia sobie z traumą

W swojej praktyce psychologicznej spotykałam się często z opisami tzw. trudnych zachowań u osób z autyzmem w każdym wieku, jak również z niewiedzą lub ignorowaniem informacji o przebytej przez nie dawno lub na świeżo traumie. Zazwyczaj dostrzegałam powiązanie pomiędzy pewnymi faktami a rodzajem zachowania i efektach, które wywołało. Zwrócenie na to uwagi otoczenia osoby z autyzmem i wykorzystanie moich rad w konstruktywny sposób zazwyczaj przynosiło zadawalające skutki. Podczas pracy bezpośredniej z dziećmi, młodzieżą lub dorosłymi z autyzmem starałam się dostrzegać i doceniać rolę spontanicznych zachowań klienta w jego radzeniu sobie z regulacją stanów własnych, a także dzielić się swoimi spostrzeżeniami i refleksjami na temat głębszego znaczenia tego, co osoba robiła podczas spotkania lub w sytuacjach pojawiających się w jej/jego życiu. Mogłam dzięki temu nauczyć się wiele na temat samoleczenia i skutecznych form pomagania sobie przez osoby z autyzmem, rozwinięte zazwyczaj całkowicie autorsko i to mimo przeszkód, gdyż zazwyczaj i trwbyły za te zachowania karane lub starano się przekierowywać ich uwagę w najróżniejszy sposób by tego nie robiły. Nie muszę dodawać, ze nie dawano nic w zamian, gdyż uwaga otoczenia skierowana była wyłącznie na pozbycie się zachowań, które czasem bywały ryzykowne a nawet niebezpieczne, lecz znacznie częściej odbiegały od społecznie przyjętych norm i oczekiwań, choćby przez swoisty styl czy ekscentryzm. Zwykle nie zastanawiano się nad tym, czemu takie zachowanie służy i jakie mogą wywoływać je przyczyny, pracowano wyłącznie nad powstrzymaniem go w danej chwili i trwałym wygaszeniem w razie nawrotów. Żeby dostrzec terapeutyczną wartość zabiegów podejmowanych przez dziecko lub dorosłego z autyzmem w odniesieniu do radzenia sobie z traumą lub jej skutkami, należy spojrzeć na nie przez pryzmat struktury i funkcji procesu terapeutycznego, świadomie sterowanego przez specjalistę za pomocą rozmyślnie dobranych metod i technik. Na przykład według Herman (1998) dochodzenie do zdrowia psychicznego po doświadczeniu traumy i w zaburzeniu posttraumatycznym przebiega w kilku etapach, z których każdy służy czemuś innemu. Nie przebiegają one zawsze liniowo lecz mogą trwać równolegle i przybierać formy cykliczne. Faza składa się z określonych elementów, które można utożsamić z celami terapeutycznymi, prowadzącymi do przepracowania traumatycznych doświadczeń i przywrócenia dobrego funkcjonowania. W fazie skupionej na bezpieczeństwie można wyróżnić procesy prowadzące do nazwania problemu, odzyskania poczucia kontroli i stworzenia bezpiecznego otoczenia. Jest to faza, której celem jest wewnętrzne i zewnętrzne wzmocnienie osoby, tak, żeby mogła ona dokonać bardziej gruntownych operacji wewnętrznych i zewnętrznych, prowadzących do rekonstrukcji własnego Ja i odbudowy mechanizmów radzenia sobie z życiem oraz wzrostu i rozwoju, co nastąpi podczas etapów kolejnych. Po zbudowaniu bezpieczeństwa wewnętrznego i zewnętrznego następuje etap przebudowy traumatycznych wspomnień i generalnie – całego „wnętrza" osoby, które zostało zdezorganizowane, a nawet uszkodzone przez traumę. Jest budowanie podstaw do nowego życia, opartego na innych regułach, niż dotychczasowe i z całkiem nowymi zasobami wewnętrznymi. Etap ten autorka nazywa , rozpamiętywaniem i żałobą, a składają się na niego zmiany zachodzące w strukturach

poznawczych i emocjach osoby, które są powiązane z traumatycznym doświadczeniem lub doświadczeniami. Są to: rekonstrukcja historii urazu, przekształcanie traumatycznych wspomnień i żałoba po stracie traumatycznej. Dopiero skuteczne przepracowanie doświadczeń na tym etapie pozwoli na osiągnięcie zadowalających efektów w zakresie odbudowanie związków z sobą samym, innymi i z rzeczywistością, czyli światem zewnętrznym oraz własnym życiem. Żeby to osiągnąć, osoba walcząca z traumą i jej wpływem na własne życie powinna nauczyć się walczyć, dojść do pogodzenia się ze sobą, rozpocząć odzyskiwanie kontaktu z innymi oraz odnaleźć swą życiową misję lub choćby rozpocząć proces jej poszukiwania, by wreszcie uporać się z urazem. Ten wieloetapowy proces może zająć terapeucie i klientowi wiele lat wspólnej pracy. Ostatnie lata badań nad traumą ukazały jej ścisłe związki z ciałem, w którym dochodzi pod jej wpływem do trwałych dezorganizacji funkcjonalnych, a nawet uszkodzeń struktur organicznych w systemie nerwowym i poza nim. Dlatego pojawiły się propozycje wykorzystania do leczenia sensoryczno-ruchowych metod terapeutycznych, gdzie podkreśla się rolę oddechu, ćwiczeń angażujących mięśnie i ruch, a przede wszystkim ekspresji emocjonalnej, w tym z użyciem głosu, żeby rozładować napięcie i odbarczyć organizm ze skutków toksycznego metabolizmu, powodowanego przez stres traumatyczny. , Powszechnie stosuje się również różne formy relaksowania i uczy ich pacjentów będących w kryzysie lub po doświadczeniach traumatycznych, aby mogli radzić sobie samodzielnie i wspierać się w sytuacjach niedostępności terapeuty (van der Kolk 2023; Levine P. A. 2022; Ogden, Fischer 2023). Do takich umiejętności należy również zachowanie postawy spokojnego obserwowanie zdarzenia i swoich reakcji, zwanej uważnością (mindfulness) (Kearney, Simpson 2019).To niezwykłe, jak nie posiadające tej wiedzy dzieci i dorośli z autyzmem często wybierają nieświadomie działania mające im sprawić ulgę lub dokonać jakichś napraw w ich psychice lub ciele w sposób zdumiewająco zgodny z tym, co w pełni świadomie proponują psychoterapeuci na całym świecie swoim klientom dotkniętym skutkom przejścia przez traumę. Niemniej ich wysiłki rzadko są docenione i uwzględnione, częściej spotykają się z próbami usuwania ich z repertuaru dziecka lub osoby dorosłej, często za pomocą kar, bez próby wniknięcia w ich znaczenie, by móc właściwie je wykorzystać lub zaproponować inne, bardziej adekwatne do sytuacji podopiecznego, lecz o podobnym działaniu terapeutycznym.

Tabela 1. Formy reakcji posttraumatycznych u osób z autyzmem, uznawane za tzw. zachowania trudne lub niewłaściwie interpretowane

Funkcja adaptacyjna lub terapeutyczna	Zachowania uznawane za trudne i „tępione” przez otoczenie
Ekspresywne odreagowanie, usuwanie lub zmniejszanie napięcia, samoregulacja sensoryczna i emocjonalna	Krzyk, ataki gniewu lub „szału”, agresja lub autoagresja. Niektóre eksplozje o charakterze „meltdown”. Różne formy aktywności angażujących motorykę dużą i małą, a także poszukiwanie określonych bodźców, uważane za stereotypie (tzw. „stimy”).
Dysocjacja obronna i adaptacyjna	Zawieszanie się, pozostawanie w bezruchu, patrzenie w dal, wpatrywanie się w coś bez śladów napięcia (medytowanie, naturalne mindfulness)
Poszukiwanie komfortu, bezpieczeństwa i dobrostanu	Kiwanie się, kołysanie, oddawanie się powtarzającym się i kojącym zachowaniom ruchowym lub wokalnym. Chętne zapadanie w długie drzemki. Noszenie ze sobą wybranego przedmiotu. Obrona stałości, rutyny i rytuału. Zadawanie w kółko tego samego pytania. Odroczone echolalie pełniące funkcję uspokajająca. Wpatrywanie się w ten sam punkt. Głaskanie powierzchni. Oddalanie się od grupy. Zrywanie lub unikanie kontaktu, zwłaszcza wzrokowego. Poszukiwanie mocnego dotyku lub uścisku. Zamykanie się w szafie, kładzenie pod ławką, pod pianinem, pod materacem, itp.
Zakotwiczenie w bezpiecznej przestrzeni	. Nie pozwalanie na opuszczenie przestrzeni uznanej za bezpieczną i „odnalezioną”. Odmowa wychodzenia z domu, ze swego pokoju, apartamentu, itp. (w zależności od rodzaju miejsca pobytu). Aktywna

	obrona, opór przy wyprowadzaniu na siłę, atakowanie „intruzów”, ucieczka z miejsc następnego pobytu, odmowa angażowania się emocjonalnego i praktycznego w nowe miejsca i relacje, żeby nie stracić kontaktu z poprzednim. Porządkowanie, pielęgnowanie bezpiecznego miejsca. Porządkowanie kolekcji i zbiorów.
Ruminacja, „przeżuwanie i ponowne odtwarzanie wspomnień”	Powracanie w rozmowach do tematu, powtarzanie tych samych pytań lub wypowiadanie słów, fraz lub monologów albo wydawanie niewerbalnych dźwięków, które osobie kojarzą się z przebytym doświadczeniem traumatycznym. Powtarzanie tematu doświadczenia lub sobie tylko znanych skojarzeń w jednakowych, powtarzających się zabawach.
Zabezpieczanie się przez stałą czujność	Przechowywanie, noszenie lub trzymanie na widocznym miejscu obiektu skojarzonego z traumatycznym wydarzeniem lub będącym jego symbolem. Noszenie przy sobie czegoś do obrony, spanie z tym pod poduszką.
Gry i zabawy jako sposoby na przepracowywanie wspomnień traumatycznych, poznawczą rekonstrukcję i przewartościowanie afektywne (zwykle udział niedyrektywnego terapeuty jest tu niezbędny)	Zabawy odtwarzające sytuacje traumatyczne za pomocą klocków, figurek lub dowolnych materiałów. Pisanie książeczek z tym samym powtarzającym się motywem zagrożenia. Rysunki dzieci, które doświadczyły traumy wojny, straty lub przemocy, w tym nadużycia seksualnego. Potrzeba angażowania się w gry komputerowe z motywami przemocy lub śmierci i cierpienia. Gry i zabawy posttraumatyczne pełnią terapeutyczną rolę, jeśli ich treść z czasem się zmienia w kierunku pełnego opisu zdarza lub ku konstruktywnym rozwiązaniom

Źródło: opracowanie własne

Tabela nr 1 zawiera przykłady zachowań uważanych za trudne, które u poznanych przeze mnie osób (dzieci i dorosłych) pełniły wyraźną funkcję autoterapeutyczną i były wykorzystywane indywidualnie do poprawy stanu aktualnego i uzyskania pozytywnych zmian w ich życiu. Choć podobne zachowania często można spotkać u dzieci, młodzieży i dorosłych w spektrum autyzmu, to przytoczone przykłady odnoszą się wyłącznie do tych osób, co do których istniała pewność, że doświadczyły zdarzeń traumatycznych, a ich zachowanie było intuicyjną próbą poradzenia sobie z cierpieniem i skutkami nierozpoznanego posttraumatycznego zaburzenia, co mimo wszystko nie mogło się udać, choćby ze względu na restrykcyjne zachowanie się ich otoczenia (rodzina, szkoła, instytucje wychowawcze).

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SECONDARY SCHOOL MATURITA READING LISTS AS A MOTIVATION TO SUPPORT READING

Dana Vicherková, Veronika Murinová, Nela Nováková

Abstract

Motivation to read is important for (in)formal lifelong learning. Researches PISA (2018), PIRLS (2021) point to the necessity of active reading for employment on the labor market. Research at the University of Ostrava (2023) investigated the content of school reading of literary texts at technical secondary schools in the Czech Republic through a content analysis of "Matriculation Reading Lists". Interviews with 12 students were further to find out what kinds of non-cognitive aspects influence reading in students. An interesting finding is that the majority (75%) of respondents consider the motivation to read from their parents as key and the reading list only as a study obligation.

Keywords: *reading motivation, reader education, secondary school Maturita reading lists, cognitive and non-cognitive aspects of reading, reading research*

1 INTRODUCTION

The Czech School Inspectorate (ČŠI) conducts national-level testing of primary school students' reading skills and competencies in the Czech Republic. The PIRLS (2021) research offers an international perspective on ten-year-old readers' reading abilities, attitudes, and cognitive and non-cognitive aspects. Meanwhile, the PISA (2018) research focuses on the quality of reading abilities, reading culture, and social aspects of reading among fifteen-year-old readers.

Children's motivation to read develops formally and informally during their early (pre-school), primary, and secondary education. It is a need that develops as part of lifelong learning. Various factors can influence the development of reading skills across different reading ages. These include the availability of reading support in the school environment, such as libraries, reading clubs, reading excursions, author readings, reading portfolios, and school reading lists. Reading motivation is closely related to activating a person's targeted behaviour.

2 MOTIVATION AND EDUCATION OF THE READER

According to Homolová (2008), the pubescent age can be seen as a crucial point for readers. Kassin (2007, p. 407) defines motivation as an internal drive that motivates individuals towards a particular goal. Plháková (2023, p. 395) describes motivation as the summary of all intrapsychic dynamic forces or motives, which organise behaviour and experience to change unsatisfactory situations or achieve positive outcomes. Homolová (2008) focuses on the pubescent age, which significantly changes personality, interests, and orientations towards reading. Reading interest, competence, and need decrease during this period, and individuals choose romantic stories with a central hero they can perceive as a role model. The reading needs of both sexes also change. Pubescents view reading as an escape from reality and a way to spend their free time. Reading is closely linked to a basic human need for activity and dynamic personality traits like temperament, character, or will (Homolová, 2008, pp. 26-28).

As part of the research "Reading in the system of pubescent values and norms" (Homolová, 2008), dealing with the issues of the influence of reading on personality development, types of motivation leading to higher reading intensity or the amount of reading from the perspective of pupils and teachers, showed that pupils perceive the influence of reading on

personality development as less important than teachers. Pupils consider the amount of reading a trivial factor for lifelong reading. An important finding is that pupils are primarily emotionally motivated to read, but teachers do not reflect this motivation (Homolová, 2008, pp. 95 - 103). Motivation by classic authors and artistically valuable literature is falling due to pupils' predominantly emotional motivation to read, and it is necessary to focus on this issue (Homolová, 2008, p. 113). The author (2013) also dealt with the problem of adolescent reading with an emphasis on the significance of the adolescent stage of the process of developing an individual's relationship with a book, as in this period, there is a shift in a different interest and individual focus concerning independent learning for the next phase of secondary school and university studies. Students at this age no longer read to unravel the plot but also perceive the composition of sentences, the text's structure, or the vocabulary's richness. The fundamental difference between the perception of reading by adults and teenagers is in the position of reading within the reference groups. Adolescents frequently do not report reading. On the contrary, adults perceive it as a positive thing within general standards. However, adolescents need much more motivation to read than a child or adults. Reading provides new experiences and educates. (Homolová, 2013, p. 267-269). Readership research was also conducted by Trávníček (2007, 2010 in Homolová, 2013, p. 272 – 273), who focused on adolescent visits to public libraries and reading fiction and reading in a digital environment. The research findings were that 86% of adolescents are readers (however, the debatable criterion for the concept of the role of "reader" was reading at least one book per year). Also, 50% are passionate readers (the criterion for evaluating the role of a "passionate reader" was reading at least 50 books per year). Another result of the research was that interest in reading increases with the reader's age. From a research perspective on the digital reading environment, it emerged that the Internet does not significantly compete with books and, on the contrary, supports the sale of books.

Reading and reading attitudes

According to Ernst Pöppel (in Garbe, 2008, p. 10-11), reading is a natural activity of the brain that involves various components, such as cognitive (thinking about the content of reading and expanding one's knowledge), affective (feeling and appreciating the experience of reading), and conative (maintaining a regular or irregular reading habit). Toman (2009, p. 52) defines reading attitude as an individual's connection with reading, which may vary according to their level of reading intensity. Homolová (2013, p. 171) explores whether reading frequency affects one's reading attitude and interest. Helšusová (2012) considers a reader to read at least 1-2 times a week.

3 THE CURRENT CONCEPT OF THE SCHOOL MATURITA LIST OF ARTITIC READING IN THE CZECH REPUBLIC

Significant changes were made to the Maturita examination in the Czech language from 2020 to 2022. The oral exam now has a profile character, and each secondary school that administers the Maturita exam has specific rules for organising it while adhering to the Ministry of Education's requirements, effective January 1, 2022. The oral exam is conducted as a structured interview using a worksheet containing excerpts from a literary work. Each secondary school that administers the Maturita exam provides a mandatory list of reading materials to students in their fourth year of study. The Catalogue of Examination Requirements of the Common Part of the Maturita Examination (Cermat, 2019/2020) served as the starting point for compiling the Maturita reading lists, which includes genres of works, types of works, selected Czech and world literary works, and exact numbers of literary works for secondary school reading. The Catalogue's basic rules for creating the School Reading List (2019-2020) included:

"1. The minimum number of offered literary works is 60. The upper limit is not set.
2. A comprehensive work, not a part of it, is considered a literary work.
3. The edition is specified for a literary work from world literature.
4. The student submits a list of 20 literary works based on the criteria.
for selecting Maturita assignments for the oral exam to the head teacher" (Catalogue, 2019/2020).

Literary works, including prose, poetry, and drama, should be part of the School Maturita reading list. Furthermore, the School list contains a maximum of two works by one author. Pupils create Pupil reading lists from the School Maturita reading lists.

4 RESEARCH METHODOLOGY 1

As part of the Student Grant Competition project (SGS, 2023), we surveyed the Faculty of Education of the University of Ostrava from January to March 2023. The aim of the research was to address the issue of motivation to read among students at secondary technical schools in two regions of the Czech Republic. A total of 12 respondents were selected for the research, five from a technical secondary school in the Moravian-Silesian Region and seven from a secondary school in the same region. The research adopted a semi-structured interview method to explore the non-cognitive factors influencing reading among students at technical secondary schools.

The interview was divided into three categories, containing 18 closed and semi-open items. The three categories were: A Motivation to read (reading experiences, needs, communication about what has been read), B School list of secondary school reading, and C Reading activities, behaviour, and attitudes. We evaluated the qualitative research data using the method of coding and categorising data according to approach (Švaříček, Šeďová, 2014).

Research results

A Area: motivation to read, reading experiences and needs, communication about what has been read:

- respondents commented in A1 whether they like to read for pleasure and have a personal relationship with literary texts. Half, i.e., six (50%) respondents, answered positively (yes, I read artistic texts for pleasure). On the contrary, another 6 (50%) respondents stated that they do not read for pleasure and do not have a personal relationship with literary texts. Respondents' answers to the question of a qualitative nature (explain why you do not like reading literary texts) were categorised into three areas: 1. lack of interest in reading a literary text (examples of answers: literary texts are boring, I'm not interested in poems, I don't enjoy novels), 2. misunderstanding of the literary text (examples of answers: the literary text is difficult, I don't understand the prose, artistic texts are difficult, I'm bored, I don't read them to the end, I often don't understand them), 3. preference of other activities for pleasure (examples of the answers: I do sport instead of reading, reading slows me down, I'd rather fish, I can only read for a while, it's a waste of time).
- question (A2), whether the pupils discuss the book they read, was positively answered only by three respondents (yes, I discuss the book I read), and nine replied (no, do not discuss a book I read). From the respondents' qualitative answers, why they discuss/don't discuss the artistic text, it is clear that half of the respondents did not answer the given question (the respondents did not justify the problem). The answers of the other 6 (50%) respondents were categorised into two areas: 1. I don't have anyone to discuss this reading with/don't want to discuss it (examples of answers: "I don't know anyone to tell anything about the short story I've read", "no one is interested in what I'm reading, I don't tell it"), 2. I discuss what I have read with friends, parents, classmates, and the teacher ("I often tell

my friend what I read, we mainly enjoy historical prose, battles", "I talk at home with my parents about what everyone often reads during the holidays ", "I must regularly tell the teacher which fiction I read", "we talk about what we read with our classmates".

- question (A3), whether pupils have a reading pattern that motivates them to read artistic texts, was answered negatively by 9 (75%) respondents (no, I do not have a reading pattern for reading artistic texts). Only 3 (25%) respondents answered affirmatively (yes, I have a reading pattern for reading artistic texts). From the qualitatively oriented answers of only 3 (25%) respondents to the question of how a reading role model motivates them to read artistic reading, it is clear that one respondent stated that "the father is a passionate reader of everything, what can be read, mostly fantasy stories, for which we both draw pictures of monsters". From other respondents' statements about their motivators (models) for reading artistic texts, it is clear that they influence the intensity of their emotional experiences, which is evident from the statements of 2 respondents: "When reading war novels, my father sometimes shouts, other times he lowers his voice, that also attracts me to read", "my friend often cries at sad stories."

B Area: School Maturita reading list

- respondents commented in B1 whether: a) they consider School Lists of Maturita Reading as a school obligation or b) they consider School Lists of Maturita Reading as motivation for reading. An alarming finding is that 10 (83.33%) respondents consider them a school obligation, and only 2 (16.66%) consider them a motivation to read. Three categories were determined from a total of 10 qualitatively oriented answers to the question of why they consider School Lists of Maturita Reading as a school obligation: 1. SL as an unnecessary (formal) study tool for reading (examples of answers: "the list does not offer me what I enjoy reading, there are formal titles", "often outdated book titles", "I don't need a list, the school hasn't changed it for more than 20 years"), 2. SL as a demotivating factor to study ("lists keep me from reading, which I enjoy", "books in the lists bore me", "I don't read reading lists, I read texts that I enjoy, that have meaning in life"), 3. SL as a manipulative way to reading and studying ("lists are a scarecrow to reading anything, they just order something", I consider the lists as persuading the school to read by force", the lists do not allow the free choice of books to read for students", "the lists take away our freedom to study by reading").
- respondents expressed their opinion in B2 whether students can cooperate in creating SL. 12 (100%) respondents answered negatively (no, I cannot participate in creating the SL). From the qualitative answers of the respondents, why would students like to be involved in the creation of the proposal of the SL, we categorised 3 areas: 1. deeper interest of students in recommended reading by the school (examples of answers: "I like to read, so I have a general overview of quality literature, what would I also recommend to students read", "I enjoy reading, I would like to help with what to read for school"), 2. students' motivation to create a more modern secondary school ("the lists are quite inflexible, I would include more modern literature", "the list could be formally more innovative in terms of content and with digital references to artistic texts"), 3. interest in cooperating with teachers in the creation of secondary schools ("I would like to help the teachers if they wanted", "there is no offer for cooperation in the construction of the list by the teachers, they think that we don't understand, I would like to help", "they say we are not educated in this literary and didactic field, but I would be involved").

- respondents commented in B3 whether they understood the information in SL. 6 (50%) respondents answered the question positively (yes, I understand the information in SL), and 6 (50%) respondents answered negatively (no, I do not understand the information in SL). In the case of a negative answer, the respondents had the option to specify what they did not understand, but none of them used it. The respondents could not specify what information they did not understand regarding the SL content.

C Area: Reading activities, behaviour, and attitudes

- the respondents commented in C1 whether they consider reading artistic texts valuable for life. Half, i.e., 6 (50%) of the respondents, answered positively (yes, I consider reading artistic texts a life value). On the contrary, another 6 (50%) respondents said they do not consider reading artistic texts a life value. Respondents' answers to the question of a qualitative nature (justify why you consider reading artistic texts to be valuable for life) were categorised into three areas: 1. reflection of the wisdom of our ancestors, tradition (examples of answers: "My grandmother has already told me about some stories and poems", "He who reads a lot knows a lot, for example, my grandfather", I can find what I don't understand in a storybook"), 2. Relationship to art (examples of answers: "I like to draw and pictures are in books, that's valuable", "after all the word is art") 3. Connection with life (examples of answers: "in the Bible, there is a connection with life", "what happens around us in life is captured by stories").
- respondents commented in C2 whether they spend their time reading in the family. Only 4 (33.33%) respondents answered positively (yes, we spend our free time reading in our family). A total of 8 (66.66%) respondents answered that they do not spend their free time in the family reading. 0 (0%) respondents answered the qualitatively oriented question to specify how the family spends their free time reading.
- respondents commented in C3 whether they read more than three books in 1 school year. Only 3 (25%) respondents answered positively that they read more than three books in 1 school year. Nine respondents (75%) said they read at most three books in 1 school year. Based on coding, we categorised respondents' answers to a question of a qualitative nature (why you read more than three books a year) into two areas: 1. reading for fun (examples of answers: "I read a lot, I enjoy it", "I read for pleasure, to it brought fun, joy, satisfaction", "I enjoy reading nice books", I read what my brother also enjoys" 2. reading for knowledge (I choose to read what I am interested in, what I want to know more about", I read, to be smarter than father").

An attractive research discovery reveals that 75% of those surveyed were influenced by non-cognitive factors, such as parents providing motivational reading recommendations, spending free time reading with family, and understanding the value of reading in life. These factors contribute to their interest in reading, the pleasure of discussing what they've read, and sharing with other readers. The research clearly shows that both external and internal factors play a role in shaping students' attitudes and motivation towards reading. Furthermore, 60% of those surveyed consider the school Maturita reading lists a formal study obligation.

5 RESEARCH METHODOLOGY 2

Between December 2022 and March 2023, the second phase of our research focused on analysing the school Maturita reading lists from ten technical secondary schools in the Czech Republic. We began with a qualitative research approach to develop our research plan and tool for analysing the content of the reading lists at the selected schools (Vicherková et al., 2020). Our research objective was to determine the types of literary texts in the reading lists of schools completed by the Maturita examination in the Moravian-Silesian and Olomouc

regions using a content analysis method. Using document analysis, we analysed ten school reading lists from 10 technical secondary schools in these regions. The first phase of our research was also conducted between December 2022 and March 2023.

Our research aimed to analyse the reading lists of artistic texts in secondary schools focused on technical education in the Moravian-Silesian and Olomouc Regions of the Czech Republic. By conducting a content analysis of the school Maturita documents, we determined whether the current school reading lists align with the guidelines outlined in the Catalogue of Requirements (CERMAT, 2019/20) for graduation.

5.1 Content analysis of school Maturita reading lists (artistic literature)

5.1.1 Objectives of content analysis and research questions

Main objective:

The research objective is to analyse the content of the school Maturita reading lists of 10 secondary technical schools completed by the Maturita examination in the Czech Republic.

Partial objectives

1. To find out how many works of contemporary Czech literature of the 21st century (published since 2000) are represented in selected school Maturita reading lists.
2. To find out how many works of contemporary world literature of the 21st century (published since 2000) are represented in selected school Maturita reading lists.
3. To find out how many world and Czech literature works up to the end of the 18th century are represented in selected school Maturita reading lists.
4. To determine how many world and Czech literature works up to the end of the 19th century are represented in selected school Maturita reading lists.
5. To find out whether there is a difference in the number of books in individual selected school Maturita reading lists of selected secondary technical schools.
6. To determine how many printed publications are represented in selected school Maturita reading lists.
7. To determine how many electronic publications are represented in selected school Maturita reading lists.
   7.1 To find out whether the number of printed publications prevails over electronic ones in selected school Maturita reading lists.

Research questions related to sub-objectives 1-7:

1. Are works of world and Czech literature up to the end of the 18th century represented in the selected school Maturita lists in a minimum number of 2 literary works (according to the requirements set out in the Catalogue of Examination Requirements for the Common Part of the Maturita Examination (Cermat, 2019/2020)?
2. Are works of world and Czech literature up to the end of the 19th century represented in the selected school Maturita lists in a minimum number of 3 literary works (according to the requirements set out in the Catalogue of Examination Requirements for the Common Part of the Maturita Examination (Cermat, 2019/2020)?
3. Are works of world literature of the 20th and 21st centuries represented in the selected school Maturita lists in a minimum number of 4 literary works (according to the requirements set by the Catalogue of Examination Requirements of the Common Part of the Maturita Examination (Cermat, 2019/2020)?

4. Are works of Czech literature of the 20th and 21st centuries represented in the selected school Maturita lists in a minimum number of 5 literary works (according to the requirements set out in the Catalogue of Examination Requirements for the Common Part of the Maturita Examination (Cermat, 2019/2020)?
5. Research questions related to sub-objective 5:
   - Do the selected Maturita lists contain more works than the specified minimum number according to the Catalogue, 2019/2020 (i.e., 60 works)?
   - How many works match the selected Maturita lists?
   - Do the selected Maturita lists contain fewer works than the specified minimum number according to the Catalogue, 2019/2020 (i.e., 60 works)?
6. Are printed publications represented in the selected school Maturita lists?
7. Are electronic publications represented in selected school Maturita lists?
   - Does the number of printed publications exceed electronic ones in selected school Maturita lists?

5.1.2 Research sample:

The research sample consisted of 10 documents (i.e. ten school Maturita reading lists from ten Czech secondary schools with a technical focus). These schools agreed to participate in the content analysis research of the school document.

5.1.3 Variables:

Variable 1 - works of world and Czech literature up to the end of the 18th century
1 – are present 2 – are not present

Variable 2 - works of world and Czech literature up to the end of the 19th century
1 – are present 2 – are not present

Variable 3 - works of world literature of the 20th and 21st centuries
1 – are present 2 – are not present

Variable 4 - works of Czech literature of the 20th and 21st centuries
1 – are present 2 – are not present

Variable 5 - minimum number of works (60 works)
1 – contains 2 – does not contain

Variable 6 - printed publications
1 – are present 2 – are not present

Variable 7 - electronic publications
1 – are present 2 – are not present

5.2 Table for summarising the research results (the occurrence of individual variables P1 – P7 was recorded in the table):

A table to record data for the content analysis of documents of art reading lists of selected schools in MSK and OL regions (S1 – S10).

List →	**S1**		**S2**		**S3**		**S4**		**S5**		**S6**		**S7**		**S8**		**S9**		**S10**	
Variable↓	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
P1	**1**	**–**	**1**	**–**	**1**	**–**	**–**	**2**	**1**	**–**	**1**	**–**	**1**	**–**	**–**	**2**	**1**	**–**	**1**	**–**
P2	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**

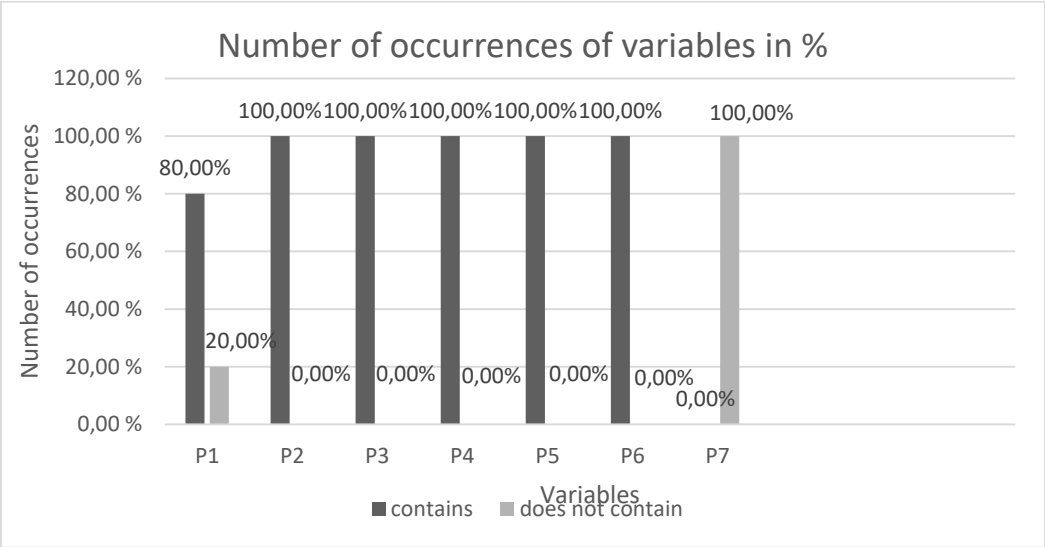
P3	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**
P4	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**
P5	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**
P6	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**	**1**	**–**
P7	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**	**–**	**2**

Table 1: Content analysis data of Maturita reading lists

S1 – Secondary school 1, (67) S5 – Secondary school 5, (83) S9 – Secondary school 9, (86)
S2 – Secondary school 2, (90) S6 – Secondary school 6, (115) S10 – Secondary school 10 (147)
S3 – Secondary school 3, (72) S7 – Secondary school 7, (62)
S4 – Secondary school 4, (79) S8 – Secondary school 8, (64)

We conducted the research using a content analysis of documents from the school Maturita reading lists of 10 Czech technical secondary technical schools completed by the Maturita exam.

The analysis of the documents pointed to the problem that variable P1 contains works of world and Czech literature up to the end of the 18th century in the specified minimum number of 2 literary works on only eight school Maturita reading lists. Graph 1 shows that only works of world literature up to the end of the 18th century and no works of Czech literature up to the end of the 18th century were offered on the two Maturita reading lists from ten schools (20%). Another research finding is that variable P5 (determining the minimum number of literary works in school lists in the number of 60 literary works) differs in the actual number of literary works listed in the school reading lists of individual ten schools, the number of recommended literary works is listed in the school Maturita reading lists from 62 to 147 publications offered. Variable P7 shows that no titles of literary works in electronic form of text are listed in the school Maturita reading lists (0%). No link to an electronic publication was found on the schools' websites in any analysed school list of art reading from ten technical secondary schools, regardless of the school's location in the Moravian-Silesian or Olomouc region.



Graph 1: Number of occurrences of variables in %

Based on the content analysis of school reading shown in Graph 1, it can be concluded that all ten schools participating in the research have included the recommended minimum number of literary works in their Maturita reading lists. Variable P2 contains the correct minimum number of three works of world and Czech literature up to the end of the 19th century, while variable P3 contains a minimum of 4 works of world literature of the 20th and 21st centuries.

Variable P4 contains works of Czech literature of the 20th and 21st centuries in a minimum of 5 literary works. Additionally, variable P6, which pertains to the format of literary works in printed texts, is part of all ten Maturita reading lists. This indicates that the schools have considered the curriculum requirements and included diverse literary works in their reading lists.

6 CONCLUSION

From the results of the first phase of research using a semi-structured interview method with 12 students from 2 Czech technical secondary schools, it is clear that students do not think deeply about the concept of cultural capital from the point of view of the outcomes of education at the secondary school completed by the Maturita exam. Špaček (2020, p. 58) claims that "the Czech school system is highly selective in curriculum differentiation." Špaček (2020, p. 63) further pointed to the problem of canonisation of works of art in the current Czech concept of education, specifically with the school Maturita reading lists in the Czech Republic. The author claims that "literature is an integral part of the compulsory part of the Maturita exam and thus provides an adequate reflection of the curriculum and the acquired cultural capital" (Špaček, 2020, p. 59). Research finding and a call for expert discussion is that 83.33% of respondents consider SL a school obligation, and only 16.66% consider it a motivation to read. The respondents expressed that the SL is an unnecessary (formal) study tool for reading because "the list does not offer me what I enjoy reading, there are formal titles", "often outdated book titles", "I don't need the list, the school doesn't change it any more than 20 years". Furthermore, it is clear from the results of the research that the respondents consider SL:

- as a demotivating factor to study ("lists keep me from reading that I enjoy", the offer of books in the lists bores me", "I don't read reading lists, I read, texts that I enjoy, that have meaning in life"),
- as a manipulative way to read and study ("lists are a scarecrow to read anything, they just order something", lists = convincing the school to read by force", lists do not allow free choice of books to read for students").

Furthermore, the respondents commented in C1 whether they consider reading artistic texts valuable for life. Half, i.e. 50% of the respondents, answered positively (yes, I consider reading artistic texts a life value). On the contrary, another 50% of respondents said they do not consider reading artistic texts a life value. Alarming information is (C3) that only 25% reads more than three books in 1 school year. Bloom (2000) considers the canon a grouping of works based on their aesthetic value. It is clear from the results of the second phase of the research that the content analysis of the documents pointed to the problem that P1 contains works of world and Czech literature up to the end of the 18th century in the specified minimum number of 2 literary works in only eight reading lists. Two Maturita reading lists from ten schools (20%) offered only works of world literature up to the end of the 18th century; Czech literature up to the end of the 18th century was not part of the list. P5 (the norm of 60 literary works) differs in the actual number of literary works listed in the reading lists of 10 schools. The number of recommended literary works in the lists ranged from 62 to 147 publications. There are no titles of literary works in electronic text in the Maturita reading lists (0%). No link to an electronic publication was found on the schools' websites in any analysed school art reading lists from the ten technical secondary schools.

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students at secondary vocational schools with a technical orientation in the Moravian-Silesian and Olomouc regions.

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PREDIKUJE MOTORIKA VÝVIN REČI? SÚVIS VÝVINU MOTORICKÝCH A KOMUNIKAČNÝCH ZRUČNOSTÍ U DETÍ S PORUCHOU KOMUNIKAČNÝCH ZRUČNOSTÍ

DO MOTOR SKILLS PREDICT LANGUAGE DEVELOPMENT? THE CONNECTION BETWEEN THE DEVELOPMENT OF MOTOR AND COMMUNICATION SKILLS IN CHILDREN WITH COMMUNICATION DISORDER

Daniela Mitríková, Rebeka Kráľová

Abstrakt

Cieľom príspevku je priblížiť výsledky skúmania súvislostí úrovne vývinu motoriky s jednotlivými oblasťami komunikačných zručností u klinickej populácie s identifikovanou poruchou komunikačných zručností a overiť možnosť predikcie vývinu komunikačných zručností vývinom motoriky. Zároveň je cieľom informovať o pilotnom overovaní nového skríningového nástroja ŠOMS-D, ktorým bola zisťovaná úroveň vývinu motorických zručností. Úroveň vývinu komunikačných zručností bola zisťovaní nástrojom TEKOS II. Výsledkom sú zistenia významných vzťahov medzi vývinom motoriky a zložkami komunikačných zručností (pasívnej a aktívnej slovnej zásoby, používania gramatických pravidiel a komplexného využívania jazyka), ako aj empirická podpory prediktívneho potenciálu úrovne vývinu motorických zručností. Záverom je zistenie vplyvu motorických zručností na úroveň aktívnej a pasívnej zásoby, ovládania gramatika aj komplexného používania jazyka.

Kľúčové slová: *raný vývin, motorické zručnosti, komunikačné zručnosti, ŠOMS-D, TEKOS II, poruchy komunikačných zručností , skríning a diagnostika*

Abstract

This paper aims to show the research results of the connection between the developmental level of motor skills and developmental areas of communication skills in the clinical population with identified Communication disorder and to verify the prediction of the development of communication skills by developmental level of motor skills. Also, it aims to inform about the pilot use of the new screening tool ŠOMS-D, intended to measure the developmental level of motor skills. The developmental level of communication skills was measured by the tool TEKOS II. The finding results, that motor skills development and components of communication skills (passive and active vocabulary, knowledge of grammatical rules and complex use of language) are significant related, as well as results empirical evidence for the predictive potential of the motor skills developmental level. In conclusion it´s to accent the predictive value of motor skills on the level of active and passive vocabulary, grammar knowledge and complex language use.

Key words: *early development, motor skills, communication skills, ŠOMS-D, TEKOS II, communication disorders, screening, diagnostics*

1 Úvod

Vývin človeka vnímame ako kontinuum a ako proces jedinečný, formujúci ľudskú individualitu. V teoretickej rovine vymedzujeme niekoľko vývinových oblastí, z ktorých každá nasleduje vlastnú vývinovú trajektóriu. V empirickej rovine sa tieto oblasti sa navzájom prelínajú a tiež podmieňujú, formujú sa do komplexných skúseností, do celostného vývinu. Každá vývinová oblasť nasleduje zákonitú postupnosť vývinových etáp, pričom jedna etapa podmieňuje ďalšiu.

Vymedzenie odchýlky od fyziologického vývinu sa odráža od stanovenia fyziologickej postupnosti zmien vývinu v súlade s chronologickým vekom. Kvantitatívnu odchýlku vymedzuje Říčan (2006) ako vývinové oneskorenie; vývinovú stagnáciu a vývinový regres. Okrem prechodnej nerovnomernosti vo vývine, ide často o dôsledok organického poškodenia nervovej sústavy v dôsledku vnútorných (neurovývinových) alebo vonkajších (trauma, infekcia, národ) vplyvov. Kvalitatívne odchýlky vyžadujú precíznejšie pozorovanie sú náročnejšie na objektívne merania, sú sami osebe ukazovateľom rizikového vývinu.

Poruchy vývinu so začiatkom v ranom veku (poruchy intelektu, poruchy komunikácie, motorické poruchy, porucha autistického spektra, špecifická porucha učenia, porucha pozornosti s hyperaktivitou, a všeobecné vývinové oneskorenie) vymedzuje DSM-5 (APA, 2013) aj IDC 11 (WHO, 2019) ako neurovývinové poruchy. Metaanalýza 17tich štúdií prináša záver, že neurovývinové poruchy je treba vnímať ako chronické, heterogénne; diagnostikované v nedostatočnej miere; komorbidita viacerých neurovývinových porúch je častá (Francéz et al., 2022), preto považujeme empirickú evidenciu súvislostí dvoch z oblastí vývinu – motoricky a komunikácie – za dôležitý prínos.

1.1 Komunikačné zručnosti

Vývin komunikačných schopností má svoje korene už v prenatálnom vývine – v komunikácii s prostredím, s matkou (Průcha, 2011). Po narodení je vývin komunikačných zručností závislý od vnútorných predispozícií, od zmyslového vnímania (sluch), neurovývinovej kondície alebo naopak indispozície (Bernstein, 2002), a od vstupov z prostredia, najmä matky (Horňáková et al., 2005; Průcha, 2011; Owens, 2001). Pomocou komunikačných zručností vedome používame systém znakov a symbolov za účelom realizovania komunikačného zámeru (Lechta, 2002).

Owens (2001) vymedzuje vývin komunikačných zručností ako predikovateľný, jednotlivé vývinové míľniky sú očakávané v určitom veku na základe populačnej vývinovej normy, nevyhnutné sú príležitosti na rozvoj komunikácie – vývinovo prajné prostredie. Odráža vývin kognície, vývin stratégií pre porozumenie a expresívny prejav (Owens, 2001), vývin prechádza jednotnými fázami a zároveň vykazuje istú mieru variability a závislosti na ostatných činiteľoch bio-psycho-sociálneho kontextu (Braginsky, et al., 2015; Frank et al., 2021; Horňáková et al., 2005; Owens 2001).

Raný vek (0-36 mesiac) je pre vývin komunikačných zručností kľúčový. Kapalková (2009) rozdeľuje fyziologický vývin detskej reči na obdobie nezámernej komunikácie (0-8 mesiacov), kedy si dieťa osvojuje zručnosti, ktoré sú podkladom budúcich rečových schopností. Dieťa snaží komunikovať s prostredím a vníma pokusy okolia komunikovať s ním. Ide o motorické prejavy (mimika, gestika, haptika), postupne prichádza zvuk (plač, hrkútanie, džavotanie, prozodika) (Kapalková, 2009). Obdobie zámernej komunikácie (nástup v 8-12. mesiaci) charakterizuje prvé zámerné používanie gest (ukazovanie prštekom na predmety, podávanie, kývanie a i.) a tvorba prvých slov, rozširuje sa porozumenie reči. Ide o zámerné prejavy, ktoré dieťa využíva na reguláciu správania, najprv za pomoci gest a zrakového kontaktu, neskôr predverbálne a verbálne. Gesto sa objavuje v komunikácií skôr ako slovo. Má kľúčový význam vo vývine detskej komunikácie, je to prejav zámerného správania, naznačuje pocity, potreby, myšlienky (Kapalková, 2008). V druhom roku sú gestá,

ktoré napodobňujú činnosti dospelých (česať bábu, čítať, zametať...), tvorba slov a viacslovných spojení („vety“ ako napr. mama pápá) merateľnými vývinovými míľnikmi. V treťom roku pomerne bohatá slovná zásoba a porozumenie umožňuje deťom hovoriť vo vetách, používať gramatiku, pýtať sa a rozumieť krátke texty (rozprávky) (Bernstein, 2002; Horňáková, 2005; Kapalková, 2009; Owens. 2001; Průcha, 2011).

1.2 Porucha komunikačných zručnosti

Odchýlky od fyziologickej normy vývinu môžu byť odrazom individuálnej variability vo vývine komunikačných zručností. Zároveň DSM-5 (APA, 2013) diagnosticky vymedzuje neurovývinové poruchy (Neurodevelopmental Disorders), poruchy s nástupom v ranom veku, ukotvené v neurovývinovej charakteristike organizmu, prítomné počas celého života, súvisiace s komplexným vývinovým obrazom dieťaťa.

Medzi neurovývinovými poruchami je aj kategória Poruchy komunikačných zručností (Communication Disorder), ktorá zahŕňa vývinové odchýlky charakterizované deficitmi vo vývine a používaní jazyka, reči, sociálnej komunikácie, ktorých miera je stanovená jednotlivými skríningovými a diagnostickými nástrojmi postavenými na vývinových míľnikoch očakávaných v určitom veku a na stanovených populačných percentilových noriem. Podľa DSM-5 ide o vývinovú jazykovú poruchu, poruchu artikulácie, poruchu plynulosti reči a sociálno pragmatickú poruchu reči.

V Slovenskej republike je pre slovenskú populáciu detí k dispozícii Test komunikačných schopností: Gestá a Slová pre deti od 8 – 16 mesiacov (TEKOS I) a Test komunikačných schopností: Slová a Vety pre deti od 17-36 mesiacov (Kapalková et al., 2010) (TEKOS II). TEKOS je diagnostický nástroj na hodnotenie vývinu gest, symbolickej hry, pasívnu a aktívnu slovnú zásobu, používanie gramatiky, tvorbu viet a komplexné jazykové zručnosti. Vymedzuje percentilové skóre a odporúčané hraničné hodnoty (≥ 10. percentil pásmo ohrozenia, oneskorenie vývinu komunikačných schopností; ≥ 5. percentil pásmo vysokého rizika, narušenie vývinu komunikačných schopností).

1.3 Motorické zručnosti

Pohyb je jedným zo základných prejavov života – vyjadruje potrebu zmeny alebo potrebu udržania stabilného stavu (Dylevský, 2012). Pohyb spontánny alebo zámerný realizujú motorické zručnosti (Dylevský, 2012). Mnohí autori uvádzajú motorický vývin ako esenciálne zásadný pre oblasti vývinu, ktoré sa vyvíjajú neskôr, na motorický vývin nadväzujúc (Diamond, 2000; Frith et al., 2019; Gernsbacher et al., 2008; Harrowell et al., 2018; Kollář et al., 2011; Sanchez a Morgan, 2018; West, 2018).

Motorický vývin je jednou z prvých domén vývinu, ktoré sa explicitne prejavujú a ktoré sú pozorovateľné aj odborníkom aj rodičom a výrazne formuje profil ostatných oblastí vývinu (Anderson, et al., 2013; Cohen 2018; Dylevský, 2012; Harbourne et al., 2014; Langmeier a Krejčířová, 2006; Lesný, et al., 1987; Murray, et al., 2007; Soska a Adolph, 2014; Wiesen et al., 2016), hrubá motorika významne prispieva k podpore verbálneho, aj neverbálny kognitívny rozvoj detí (Shopler et al., 2011) Motorický vývin je pojem, ktorý vo vývinových postupnostiach zahŕňa hrubú motoriku, postupom vývinu nastupujúcu jemnú motoriku, v prieniku vývinu hrubej a jemnej motoriky sa ocitá oromotorika (Pados et al., 2018; Sanchez a Morgan, 2018).

Hrubá motorika sa realizuje veľkými svalovými skupinami a umožňuje lokomočné pohyby (chôdza, skákanie) a nelokomočné pohyby (sed, ťahanie a pod.) (Opatřilová, 2010). Jemná motorika sa realizuje drobnými svalovými skupinami rúk, prstov, tváre, očí a artikulačných orgánov –ide o manipulačnú a komunikačnú jemnú motoriku. Manipulácia zahŕňa pohyby jednotlivých častí ruky, ktoré sú potrebné pre prácu s predmetmi ale aj na vyjadrenie myšlienok, ako spôsob neverbálnej komunikácie. Pomocou komunikačnej motoriky

využívame jemné pohybové úkony, ako prostriedok dorozumievania sa pomocou spomenutých svalových skupín. A to vo forme komunikácie verbálnej, slovnej alebo komunikácie neverbálnej, bez používania reči (Vyskotová a Macháčková, 2013). Vývin jemnej motoriky vychádza z hrubej motoriky smerom proximo-distálnym (Dylevský, 2012; Zelinková, 2001).
Na hodnotenie vývinovej úrovne motorických zručností sme využili nový skríningový nástroj, ktorého slovenskú jazykovú verziu využívame a overujeme na slovenskej populácii. Motorika a oromotorika je nástrojom skúmaná vo svojich raných prejavoch ako prediktor vývinových javov v nasledujúcich vývinových obdobiach, čo podnietilo náš záujem o vytvorenie a používanie slovenskej verzie v spolupráci s autormi pôvodného vydania – Škálu oromotorických a motorických schopností u detí – ŠOMS-D (Mitríková, 2022). Vychádza z originálneho nástroja Child Oral and Motor Proficiency Scale (ChOMPS) zostaveného tímom autorky Britt Pados (Pados et al., 2018; Pados, 2019; Park et al., 2019) pre deti od 6 mesiacov do 7 roku života. Škála oromotorických a motorických schopností u detí – ŠOMS-D je rozdelená do subškál Komplexné pohybové vzorce (KPV), Základné pohybové vzorce (ZPV), Oro-motorická koordinácia (OMK), Základné oro-motorické zručnosti (ZOMZ). Pôvodnými autormi sú stanovené percentilové normy zodpovedajúce vekovým obdobiam, pričom pásmo ohrozenia je definované ≥ 10. percentil, pásmo vysokého ohrozenia ≥5. percentil dosiahnutého výkonu.

2 Cieľ a metodológia práce

Výskum bol zameraný preskúmanie súvislostí vývinu motorických a komunikačných zručností u klinickej populácie detí s poruchou komunikačných zručností s cieľom zistenia prediktorov motorických zručností vplývajúcich na vývin komunikačných zručností, resp. ich podoblastí (pasívnej a aktívnej slovnej zásoby, úrovne vývinu gramatiky a komplexného používania jazyka i symbolickej hry).
Výskumný súbor tvorilo 42 participantov navštevujúcich denný stacionár centra Dialóg, poskytujúci deťom s poruchou komunikačných zručností komplexnú logopedickú a psychologickú starostlivosť. Išlo o 26 chlapcov (61,9%) a 16 dievčat (38,1%), vo veku 20 do 91 mesiacov.
Rodičom detí bol administrovaný dotazník TEKOS II a skríning ŠOMS-D.

2.1 Použité metódy

TEKOS II (Test komunikačných schopností: Slová a vety) je diagnostický nástroj, ktorý vypĺňa rodič (Kapalková et al., 2010). Obsahuje časť *Slová*, zameranú na pasívnu a aktívnu slovnú zásobu, obsahuje 610 testových slov rozdelených do 20 tematických častí, kde rodič označí, či dieťa dané slovo rozumie, rozumie aj hovorí alebo nerozumie ani nehovorí. Druhá časť *Gramatika a vety* obsahuje subtest: Subtest *Gramatika* zisťuje používanie 31 prototypov gramatických kategórií, kde rodič označí, či sa v reči dieťaťa objavujú alebo nie. V subteste *Index komplexnosti* rodič označí používané vyjadrovanie dieťaťa určujúce komplexnosť používania jazyka. Subtest *Využitie predmetov* hodnotí prítomnosť symbolickej hry, predstierania a napodobňovania. Kvalitatívne vyhodnocované subtesty do výskumu neboli zahrnuté.
ŠOMS-D (Škála oromotorických a motorických schopností u detí) je skríningový nástroj vypĺňaný rodičom alebo primárnym opatrovateľom, ktorý pozná typické správanie dieťaťa a jeho motorické zručnosti pri každodenných aktivitách. *Škála obsahuje 63 položiek, ktoré sú rozdelené do štyroch subškál – komplexné pohybové vzorce, základné pohybové vzorce, oro-motorická koordinácia a základné oro-motorické zručnosti. Rodič určí mieru osvojenia zručnosti v danej položke (áno (2b), občas (1b), ešte nie (0b))* (Mitríková, 2022).

3 Výsledky

Úroveň vývinu komunikačných schopností zisťovaná nástrojom TEKOS II v skúmanej výskumnej vzorke klinickej populácie v pasívnej slovnej zásobe charakterizovanej priemerom PSZ (M=512), v aktívnej slovnej zásobe ASZ(M=382), čo zodpovedá priemernému výkonu 23 – 24 percentilu. Úroveň gramatiky dosiahla priemernej hodnoty G (M=16,8), teda 24 percentil. Index komplexnosti v priemernej hodnote IK (M=2,32) zodpovedná výkonu na úrovni 24-28 mesiacov. V premennej symbolická hra priemerná hodnota bola SH (M=2,12) pri teoretickom aj empirickom maxime SH=4.

Úroveň vývinu oromotorických a motorických schopností zisťovaná skríningom ŠOMS-D charakterizovaná hodnotou priemeru bola ŠOMS-D (M=120,5), čo pri priemernom veku participantov 4,25roka (4 roky a 3 mesiace) zodpovedá úrovni > 10. percentilu, teda úrovni rizika. V subškále Komplexné motorické vzorce priemerná hodnota KPV (M=41,3) zodpovedá úrovni > 5. percentil; v subškále Základné pohybové vzorce priemer ZPV (M=39,9) v úrovni pod 10. percentilom. Subškály merajúce Oro-motorickú koordináciu s priemernou hodnotou OMK (M=27,7) zodpovedá úrovni > 5. percentilu a Základné oro-motorické zručnosti dosiahli priemer ZOMZ (M=11,6) na úrovni > 5. percentilom.

Z iného pohľadu, po rozdelení participantov podľa zodpovedajúcich vekových období je v pásme vývinového rizika (>10. percentil) 11 detí (26%), z toho v pásme vysokého rizika (> 5. percentil) 7 detí (16%).

3.1 Vzťah vývinu motoriky a komunikácie

Pre zisťovanie vzťahov medzi premennými bol aplikovaný Spearmanov korelačný koeficient, nakoľko vzhľadom na charakter používaných nástrojov bolo rozloženie dát vo všetkých skúmaných premenných nenormálové.

Výsledky výskumu podporili predpoklad silného vzťahu motorických zručností Komplexných pohybových vzorcov

Tabuľka 1 *Matica korelácií podoblastí ŠOMS-D a TEKOS II*

	KPV	ZPV	OMK	ZOMZ	ŠOMS-D
Pasívna slovná zásoba	**.616****	- .175	.328*	.436**	**.677*****
Aktívna slovná zásoba	**.703****	- .258	.288	.279	**.699*****
Úroveň gramatiky	**.693****	-.254	.265	.403**	**.701*****
Index komplexnosti	**.617****	- .342*	.267	.285	**.627*****
Symbolická hra	.167	.000	.053	.141	.160

*p < .05; **p < .01; ***p<.001

3.2 Predikcia komunikačných zručností na základe úrovne vývinu motoriky

Motorické prediktory, vplývajúce na úroveň komunikačných schopností boli zisťované pomocou lineárnej regresnej analýzy. Výsledky naznačujú významné hodnoty regresie motorických premenných, ktorých korelačné vzťahy s subtestami TEKOS II boli v silnejšej miere –subškála Komplexné pohybové vzorce a celkový výsledok ŠOMS-D. Výraznosť korelačných aj regresných koeficientov v celkovom výsledku ŠOMS-D naznačuje zmysluplnosť jednotlivých skúmaných konštruktov a celistvosť hodnotenia vývinu motorických zručností.

Dosiahnutá úroveň komplexných motorických vzorcov (KPV) je významným prediktorom pasívnej slovnej zásoby (p < .001) a vysvetľuje 39,2% variability v dosiahnutej úrovni aktívnej slovnej zásoby, predikcia celkovým výsledkom ŠOMS je významná a vysvetľuje

45,8% variabilita aktívnej slovnej zásoby. Pri pasívnej slovnej zásobe je vyšší vplyv celkového výsledku ŠOMS-D (p<.001), až 51,5% variability porozumenia vieme zdôvodniť celkovou úrovňou vývinu motorických a oromotorických zručností. Miera zrelosti poznania a využívania gramatických javov, ako aj úroveň komplexného používania komunikačných a jazykových zručností je do významne predikovateľný úrovňou vývinu motoriky (p<.001), percento variability vysvetliteľné úrovňou vývinu motoriky je od 39,8% po 42%, čo je pomerne vysoká miera vplyvu.

Tabuľka 2 *Zhrnutie regresnej analýzy KPV a ŠOMS-D*

Prediktor:	**KPV**					**ŠOMS-D**				
	R	**R^2**	**B**	**Beta**	**Sig.**	**R**	**R^2**	**B**	**Beta**	**Sig.**
Pasívna slovná zásoba	.626	.392	12.576	.626	<.001	.718	.515	21.862	.718	<.001
Aktívna slovná zásoba	.704	.496	24.660	.704	<.001	.677	.458	11.834	.677	<.001
Úroveň gramatiky	.631	.398	1.184	.631	<.001	.648	.420	1.057	.648	<.001
Index komplexnosti	.644	.415	.126	.644	<.001	.644	.415	.110	.644	<.001

*p < .05; **p < .01; ***p<.001

4 Diskusia a odporúčania pre prax

4.1 Súvislosti vývinu motoriky a komunikácie

Výskumný súbor tvorený klinickou populáciou detí navštevujúcich centrum Dialóg preukázal úroveň vývinu jazykových zručností pod úrovňou 25 percentilu, takže sme overili prítomnosť nižšej vývinovej úrovne komunikačných zručností v súlade s očakávanou prítomnosťou porúch komunikácie. Participanti prevyšovali chronologický vek zodpovedajúci vývinu komunikačných zručností hodnotených nástrojom TEKOS II, úroveň vývinu sa však ukázala na úrovni, zodpovedajúcej meraniu týmto nástrojom. Odporúčame preto aj u detí vo vyššom chronologickom veku využiť nástroj TEKOS na zistenie aktuálne vývinovej úroveň komunikačných zručností a určenie hranice vývinu ako východisko pre intervenčné postupy.

Priemerný výkon výskumného súboru tvoreného klinickou populáciou v motorických a oromotorických zručnostiach, ktoré boli hodnotené skríningom ŠOMS-D sa ukázal vzhľadom na priemerný vek pod hranicou vývinového rizika (> 10. percentil), čo empiricky podporuje predpoklad nižších výkonov v motorike u detí s identifikovanou poruchou komunikačných zručností.

Skúmanie venované vzťahom medzi úrovňou vývinu jednotlivých zručností komunikácie a úrovňou vývinu motorických a oromotorických zručností prinieslo empirickú podporu predpokladu silného vzťahu medzi úrovňou motoriky, predovšetkým komplexných vzorcov pohybu a expresívnej zložke reči – aktívnej slovnej zásoby v súlade s Alcock a Krawczyk (2010), kde hrubá, jemná aj oromotorika výrazne koreluje s aktívnym používaním reči. Zároveň preukázali (Alcock a Krawczyk, 2010) vzťah motorických zručností s porozumením, čo empiricky podporili aj naše dáta, a to v oblasti motoriky celkovo, ale aj oromotoriky. Autori Libertus a Violi (2016) popisujú vzťah medzi prvkami hrubej motoriky (sed) a porozumením, kým Varuzza et al. (2023) upresňujú ťažkosti v hrubej motorike vo vzťahu s vývinovou jazykovou poruchou, zatiaľ čo vizuo-motorickú koordináciu viažu s poruchami plynulosti reči. Owens (2001) popisuje trajektórie vývinu motoriky a komunikácie ako priebežne sa prelínajúce.

Za zaujímavé považujeme empirické zistenia, že konštrukty priamo zisťujúce úroveň oromotoriky s vývinovými prvkami komunikácie boli v menšom vzťahu ako celkový výkon

v motorike. Rovnako symbolická hra, kde možno predpokladať využívanie motorických zručností bola vo výrazne slabšom vzťahu k vývinu motoriky ako porozumenie reči a aktívne používanie reči.
Hľadanie prediktorov vývinu komunikačných zručností ukázalo potrebu preskúmať oblastí vývinu komunikácie samostatne. Úroveň motorických zručností je významným prediktorom expresívnej zložky reči, aktívneho používania slov a jazyka u klinickej populácie s poruchou komunikácie, v súlade so zistením prediktívneho potenciálu motoriky pre aktívnu komunikáciu aj u klinickej populácie PAS (Gernsbacher et al., 2008). Osvojenie si gramatických pravidiel a komplexného využívania reči je na základe našich empirických dát možné predikovať tiež celkovou úrovňou motorických a oromotorických zručností. Najnižšia predikcia úrovňou vývinu motoriky sa ukázala v našom výskume v oblasti pasívnej slovnej zásoby – stále však ide o významný prediktívny potenciál. Rovnako popisujú priamy vplyv včasného osvojenia si motorických zručností na impresívnu zložku reči (porozumenie) aj Libertus a Violi (2016). Vývin motoriky podľa mnohých autorov vplýva aj na vývin kognitívnych zložiek (Wu et al., 2017), vplýva na kvantitu aj kvalitu skúmania a upevňovania poznania vecí a súvislostí medzi nimi (Soska a Adolph, 2014), nižšia zrelosť motorických zručností vplýva aj nižšie výkony v akademických zručnostiach v porovnaní s rovesníkmi (Harrowell et al., 2018). Všetky spomenuté oblasti sa odrážajú aj v komunikačných zručnostiach.

4.2 Odporúčania pre prax

Práca prináša overenie využitia nástroja TEKOS pre klinickú populáciu aj vo veku, chronologicky prevyšujúcom základné určenie nástroja.
Zároveň prináša prvé klinické overenie nového nástroja ŠOMS-D u klinickej populácie a odporúčanie jeho zaradenia ako skríningového nástroja do preventívnej aj diagnostickej starostlivosti.
Empirická podpora významného a silné vzťahu medzi vývinovými oblasťami zdôrazňuje nutnosť intervenčnej práce v zmysle komplexnej starostlivosti, zapájaním stratégií zameraných na vývin komplexne, zahŕňajúc podporu tak motorických ako aj komunikačných zručnosti.
Z empirických zistení vyplýva záver významnej prediktívnej hodnoty motoriky voči jednotlivým zložkám vývinu komunikačných zručností, z čoho plynie odporúčanie vnímať riziká vo vývine motoriky ako prognostické a zahájiť intervenčné opatrenia.

5 Záver

Motorický vývin má vo všeobecnej vývinovej úrovni špecifickú pozíciu. Je jedným z prvých prejavov života, zdravia a vývinu dieťaťa, zároveň je jedným z prvých pozorovateľných a merateľných ukazovateľov trajektórie vývinu a/alebo odchýlok od fyziologickej normy. Preto považujeme za dôležité využiť poznanie vplyvu vývinu motoriky na vývin zložiek komunikácie ako jeden z ukazovateľov potenciálneho rizika. Pri zistenom riziku vo vývine motoriky je predpoklad zvýšeného rizika vo vývine komunikácie, čo sme empiricky podporili zisteniami u klinickej populácie. Preto odporúčame formou preventívnych intervenčných stratégií, rozvíjaním rodičovských kompetencií a podporou prajného, vývinovo podnetného sociálneho i environmentálneho prostredia podporovať zároveň vývin motoriky aj komunikácie a to nie izolovanie, ale komplexným, vývinové oblasti prepájajúcim, prístupom.

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SEBA-REGULOVANÉ UČENIE SA: VZŤAH ÚROVNE METAKOGNITÍVNYCH SCHOPNOSTÍ, ŠTUDÍJNYCH VÝSLEDKOV A ČASU VENOVANÉMU UČENIU SA

SELF-REGULATED LEARNING: THE RELATIONSHIP BETWEEN LEVEL OF METACOGNITIVE ABILITY, LEARNING ACHIEVEMENT AND TIME DEVOTED TO LEARNING

Peter Šebáň, Adam Laktiš

Abstrakt

Cieľom štúdie bolo zistiť celkovú úroveň metakognitívnych schopností študentov rôznych odborov a porovnávať ich medzi sebou podľa študijnych výsledkov, času venovanému štúdiu a typu preferovanej literatúry. Výskum bol realizovaný formou online dotazníka. Výskumný súbor tvorilo 129 respondentov, z toho 21 mužov a 108 žien vo veku 19-26 rokov. Na zistenie úrovne metakognitívnych schopností sme použili štandardizovaný dotazník Metacomprehension inventory. Výsledky nášho výskumu naznačujú, že faktory školského prostredia súvisia s celkovou úrovňou metakognície minimálne. Ďalej sme zistili, že existuje vzťah medzi čítaním odbornej literatúry a úrovňou metakognitívnych schopností, no beletria s týmito schopnosťami nesúvisí.

Kľúčová slova: *seba-regulované učenie sa, metakognícia, monitoring, efektívne techniky*

Abstract

The aim of the study was to explore the overall level of metacognitive abilities of students from different fields of study and to compare them with each other according to several criteria such as learning outcomes, time spent on studying and type of preferred literature. The research was conducted in the form of an online questionnaire. The research population consisted of 129 respondents, including 21 males and 108 females aged 19-26 years. A standardized questionnaire, the Metacomprehension inventory, was used to determine the level of metacognitive abilities. The results of our research suggest that school environmental factors are minimally related to the overall level of metacognition. Further, we found that there is a relationship between reading scientific literature and the level of metacognitive ability, but fiction is not related to these abilities.

Key words: *self-regulated learning, metacognition, monitoring, effective techniques*

1 ÚVOD

Seba-regulované učenie možno definovať ako schopnosť porozumieť a kontrolovať vlastné podmienky učenia sa. Preto potrebujeme správne nastavenie cieľov, výber vhodných stratégií, ktoré nám pomôžu dosiahnuť daný cieľ a monitorovanie progresu vlastného učenia sa v smere zvoleného cieľa (Schunk, 1996). Seba-regulovaných študentov možno opísať ako aktívnych účastníkov na ich vlastnom procese učenia sa (Zimmermann, 1989). Seba-regulované učenie sa skladá z troch hlavných zložiek: kognitívnej, metakognitívnej a motivačnej (Butler & Winne, 1995; Zimmermann, 2000). Kognícia zahŕňa zručnosti potrebné na kódovanie, zapamätávanie a vybavovanie informácií. Metakognícia zahŕňa zručnosti, ktoré študentom umožňujú pochopiť a monitorovať ich kognitívne procesy. Motivácia zahŕňa presvedčenia a

postoje, ktoré ovplyvňujú využitie a rozvoj kognitívnych a metakognitívnych schopností (Schraw et al., 2006).

1.1 Metakognitívny komponent

Flavell (1979) definuje metakogníciu ako poznanie vlastného poznávania (poznanie vlastnej kognície). Koncepcia metakognície sa teda skladá z metakognitívnych vedomostí (vedomostí o vlastnom poznávaní) a zo schopností monitorovať a následne regulovať vlastné vedomosti, procesy a afektívne stavy (Hacker, 1998). Podobne uvádza aj Schraw a Moshman (1995), že metakognícia zahŕňa dve hlavné zložky, ktoré sa všeobecne označujú ako vedomosti o poznaní (knowledge of/about cognition) a regulácia kognície (regulation of cognition).

1.2 Vedomosti o poznaní

Vedomosti o poznaní sa týkajú toho, čo vieme o našom poznaní, a možno ich rozdeliť do troch subprocesov. Prvý zahŕňa *deklaratívne vedomosti*, teda vedomosti o nás samých a o tom, aké faktory ovplyvňujú náš výkon. Ide o poznanie vlastných obmedzení a hraníc, napríklad jazykového alebo pamäťového systému (Schraw et al., 2006). Inak povedané, sú to explicitné vedomosti o našich kognitívnych schopnostiach. *Procedurálne vedomosti* sa týkajú poznatkov o stratégiách a iných postupoch, pričom k týmto stratégiám patrí písanie si poznámok, prehľady dôležitých informácií, mnemotechnické pomôcky, zhrnutie hlavných myšlienok atď. (Schraw et al., 2006), pričom tieto vedomosti sú ťažko verbalizovateľné (Schraw & Dennison, 1994). *Podmienené alebo kondicionálne vedomosti* sú vedomosti o tom, prečo a kedy použiť konkrétnu stratégiu (Schraw et al., 2006). Študenti s vysokou úrovňou podmienených vedomostí sú schopní lepšie posúdiť požiadavky a konkrétnu situáciu počas učenia sa a voliť také stratégie, ktoré sú pre danú situáciu najvyhovujúcejšie (Schraw et al., 2006).

1.3 Regulacia kognície

Niekedy sa o regulácii hovorí aj ako o monitorovaní či kontrole seba-regulácie v procese učenia sa (Schraw & Dennison, 1994). Regulácia poznania obsahuje nasledovné tri komponenty. *Plánovanie* zahŕňa výber najvhodnejších stratégií a zdrojov informácií. Súčasťou plánovania je aj nastavenie cieľov, aktivácia príslušných základných znalostí a čas na zostavenie plánu. *Monitorovanie*/kontrolovanie zahŕňa schopnosti seba-hodnotenia potrebné na kontrolu učenia. *Hodnotenie* sa týka najmä hodnotenia regulačných procesov učenia sa. Medzi typické príklady patrí prehodnotenie svojich cieľov, prehodnotenie predpovedí a upevnenie intelektuálnych ziskov (Schraw & Moshmann, 1995). Podľa Schraw a Dennison (1994) predstavuje metakognitívna regulácia (monitoring) schopnosť retrospektívne posúdiť svoj vlastný výkon a schopnosť predvídania (predpovedania) vlastného výkonu, čo možno porovnať s modelom cyklických fáz (Zimmermann, 2000).

1.4 Čitateľská dispozícia

Aplikovaním vhodných metakognitívnych schopností a stratégií by sa mala zlepšiť aj čitateľská dispozícia študenta (Soto et al., 2018). To znamená, že študent by mal postupom času vedieť, kedy a ktoré stratégie má použiť na to, aby jeho proces učenia sa bol efektívny. Študent by mal mať dostatočnú úroveň metakognície, aby dokázal rozlíšiť efektívne a neefektívne stratégie a následne vedieť aplikovať tie, ktoré mu pomôžu správne pochopiť, naučiť sa a interpretovať konkrétny text. Musí vedieť uplatniť najvhodnejšie stratégie v závislosti od náročnosti danej úlohy, ktorú má vykonať (Soto, et al., 2018). Z toho vyplýva, že koncepciu metakognitívnych schopností možno využiť pri rôznych výskumoch v oblasti čitateľských skúseností, porozumenia alebo vo vzdelávaní (Hacker et al., 2009). Ďalej ju

možno využiť vo výskumoch zameraných na zlepšovanie seba-regulácie, vo výskumoch stratégií a zručností využívaných v škole alebo pri učení sa v domácom prostredí.

1.5 Výskum

V posledných rokoch sa štúdie zaoberajúce sa metakognitívnymi schopnosťami rozvíjali hlavne v akademickom prostredí v dôsledku preukázaných signifikantných vzťahov medzi niektorými zručnosťami, a to seba-reguláciou v procese učenia sa, riešením problémov a akademickými výsledkami (Memnun & Akkaya, 2009), sebaúčinnosťou, metakognitívnymi schopnosťami a akademickým úspechom (Javanmard et al., 2012). Preto pre náš výskum považujeme za dôležité preskúmať oblasť seba-regulovaného učenia a metakognitívnych schopností. V tomto výskume nás zaujíma hlavne oblasť metakognitívnych schopností študentov v súvislosti s čítaním, resp. učením sa odborných textov. Ako dôležitá premenná sa nám javí čas venovaný štúdiu a jeho súvislosť s úrovňou metakognície študentov. Nakoľko má každý študent nastavený svoj vlastný proces učenia sa, budeme ich porovnávať podľa frekvencie učenia sa. Okrem toho je dôležitý aj čas vo všeobecnosti, a preto sme sa rozhodli preskúmať, či súvisí úroveň metakognitívnych schopností študentov s akademickými výsledkami.

1.6 Výskumné otázky a hypotézy

VO1: Existuje vzťah medzi úrovňou metakognície a študijnými výsledkami?
H1a: Predpokladáme, že existuje signifikantný vzťah medzi metakognitívnymi schopnosťami a študijnými výsledkami.
H1b: Predpokladáme, že študenti, ktorí majú výborné (A) výsledky v škole, dosahujú vyššie skóre v metakognícii ako študenti, ktorí dosahujú hodnotenie B príp. C.

VO2: Existuje súvislosť medzi dĺžkou času venovanému učeniu sa a úrovňou metakognitívnych schopností?
H2: Predpokladáme, že študenti, ktorí sa učia každý deň, majú vyššiu úroveň metakognitívnych schopností ako študenti, ktorý sa neučia pravidelne.

VO3: Existuje súvislosť v miere metakognitívnych schopností študentov a typu a frekvencie čítanej literatúry (beletristickej alebo odbornej literatúry)?

2 METÓDA

2.1 Participanti

Výskumný súbor tvorilo 129 respondentov (108 žien). Respondenti boli vyberaný stratifikovaným výberom, pričom sme zohľadňovali študijný odbor v ktorom sa respondent nachádza. Z výskumného súboru nebol vyradený ani jeden respondent, nakoľko všetci vyplnili dotazníky zodpovedne a korektne. Priemerný vek súboru bol 20,72 rokov.
V rámci nášho výskumu sme sa zamerali na študentov z viacerých univerzít (8) a viacerých študijných odborov (15).

2.2 Nástroje

Pre náš výskum sme použili dva dotazníky. Prvý bol zameraný na zistenie všeobecných údajov o respondentoch a druhý, Metacomprehension inventory (Soto, et al., 2018) sa zameriava na zistenie úrovne metakognitívnych schopností pri čítaní.

Všeobecný dotazník

Tento dotazník sa skladal z dvoch častí: demografické údaje a čítanie. V rámci demografických údajov sme sa zamerali na vek, pohlavie, povolanie, resp. či študuje na

vysokej. Ďalej sme sa pýtali na univerzitu, študijný odbor a ročník. Nasledovali otázky o mieste bydliska (kraj, v ktorom má respondent trvalý pobyt) a materinský jazyk. Zaujímalo nás aj to, či má respondent diagnostikovanú nejakú konkrétnu poruchu učenia sa. Nakoniec nás zaujímali informácie týkajúce sa maturity a pýtali sme sa, akú výslednú známku respondent získal z maturity zo Slovenského jazyka a aké sú vo všeobecnosti jeho akademické výsledky. V druhej časti o čítaní, resp. učení sa, sme sa zamerali hlavne na dĺžku denného učenia sa, počet prečítaných kníh za rok a aký typ literatúry preferuje – beletriu alebo odbornú literatúru.

Metacomprehension Inventory

Metacomprehension inventory (MI) od Soto, et al. (2018) sme použili na zistenie úrovne metakognitívnych schopností našich respondentov. Bol vytvorený s cieľom odhaliť hodnotiace a regulačné procesy čitateľov (študentov) v rôznych časových úsekoch počas čítania. Položky v ňom sú zamerané na konkrétne stratégie, ktoré čitatelia používajú. Dotazník využíva rozlíšenie komponentov metakognície, ako ich navrhli Schraw a Dennison (1994) na vedomosti o poznaní (knowledge about cognition) a reguláciu kognície (regulation of cognition). V rámci vedomostí o poznaní (KaC) rozlišuje tri subprocesy – deklaratívne vedomosti o osobných vlastnostiach a stratégiách čitateľa vo všeobecnosti, procedurálne vedomosti – poznatky o tom, ako používať stratégie, a podmienené vedomosti o tom, kedy a prečo použiť konkrétne stratégie (Schraw & Dennison, 1994; Schraw & Moshman, 1995). V rámci regulácie kognície (CoC) je dotazník zameraný na plánovanie (CoC-P), teda položky týkajúce sa kontrolných otázok, ktoré si čitateľ kladie pred začatím úloh. Hodnotenie (CoC-E), ktoré sa týka tendencie a schopnosti čitateľov skúmať ich porozumenie pri čítaní, pričom táto schopnosť zahŕňa dva subprocesy – hodnotenie počas čítania a hodnotenie po prečítaní. Nakoniec kontrola regulácie kognície (CoC-R) zahŕňa tendenciu a schopnosti čitateľov regulovať svoje porozumenie čítania, hovorí Soto, et al. (2018, podľa Schraw & Dennison, 1994). Výsledné štyri subtesty, ktoré po vyplnení dotazníka možno merať, sú vedomosti o poznaní – KaC, plánovanie – CoC-P, hodnotenie – CoC-E a kontrola regulácie kognície – CoC-R (Soto, et al., 2018).

2.3 Dizajn

Celý výskum prebiehal v online priestore. Respondentom sme poslali externý link pre vyplnenie dvoch vyššie spomenutých dotazníkov. Obidva dotazníky boli zlúčené do jedného Google formulára. Respondenti boli riadne oboznámení s priebehom zberu dát a ubezpečení, že ide o anonymný výskum. Taktiež boli poučení, že kedykoľvek môžu z výskumu odstúpiť. Všetky otázky boli označené ako povinné. Najskôr bolo potrebné vyplniť Všeobecný dotazník a potom nasledovali jednotlivé otázky z dotazníka Metacomprehension inventory. Vyplnenie obidvoch dotazníkov bolo časovo nenáročné a celkový čas potrebný na ich vyplnenie nepresiahol 20 minút.

3 VÝSLEDKY

V prvej hypotéze H1a sme predpokladali, že existuje vzťah medzi metakognitívnymi schopnosťami a študijnými výsledkami. Hypotézu sme overovali neparametrickým Spearmanovým korelačným koeficientom. Zamerali sme sa na vzťah medzi jednotlivými subtestami MI tak, ako ich používa Soto et al. (2018), teda na vzťah medzi študijnými výsledkami a úrovňou vedomostí o poznaní (KaC), plánovania (CoC-P), hodnotenia (CoC-E) a kontroly regulácie poznania (CoC-R). Okrem toho sme overovali vzťah medzi študijnými výsledkami a celkovým skóre regulácie poznania (CoC-P + CoC-E + CoC-R) a študijnými výsledkami a celkovým skóre metakognície (KaC + CoC-P + CoC-E + CoC-R). Výsledky reflektuje Tabuľka 1. Štatistická analýza poukázala na štatisticky významný, slabý a

negatívny vzťah medzi študijnými výsledkami a KaC (R = -,182*), študijnými výsledkami a celkovou úrovňou regulácie poznania (R = -,213*) a študijnými výsledkami a celkovou úrovňou metakognície (R = -,225*) na hladine štatistickej významnosti $p < 0,05$ a študijnými výsledkami a CoC-R (R = -,241**) na hladine štatistickej významnosti $p < 0,01$. Hypotézu na základe týchto výsledkov prijímame.

Tabuľka 1
Korelácie medzi študijnými výsledkami a Metacomprehension inventory (MI).

	MI (celkové skóre)	KAC (Vedomosti o poznaní)	COC (Kontrola kognície)	COC_R (subškála regulácia)	COC_E (subškála hodnotenie	COC_P (subškála plánovanie)
Študíjne výsledky (*N*=129)	-.225*	-.182*	-.213*	-.241**	-.151	-.132

* p < 0.05
** p < 0,01

V rámci hypotézy H1b, sme predpokladali, že študenti, ktorí majú výborné (A) študijné výsledky, dosiahnu vyššie skóre v úrovni metakognície ako študenti, ktorí dosahujú hodnotenie B príp. C. Na overenie tejto hypotézy sme použili parametrický test pre komparáciu viacerých súborov One-way ANOVA. Porovnávali sme súbory jednotkárov (A), dvojkárov (B) a trojkárov (C). Štvorkárov a päťkárov náš výskumný súbor nezahrňoval. Jeden respondent nevedel jednoznačne odpovedať na otázku, aké sú jeho študijné výsledky, preto sme ho z komparácie vylúčili. Výskumný súbor v tomto prípade obsahoval 128 respondentov. Štatistická analýza nepreukázala štatisticky významný rozdiel ($p > 0,05$) v premennej metakognícia medzi súbormi podľa študijných výsledkov. Možno teda povedať, že hypotézu sme nepotvrdili a že študenti sa nelíšia v miere metakognície podľa dosahovaných študijných výsledkov. Výsledky sú zobrazené v Tabuľke 2.

Tabuľka 2
One-way ANOVA pre rozdiely medzi skupinami

	N	M	SD	F	p
Jednotkár (A)	37	89,95	9,449	2,522	,084
Dvojkár (B)	81	85,49	9,950		
Trojkár (C)	10	86,90	12,215		
Spolu	128	86,89	10,110		

V hypotéze H2 sme predpokladali, že študenti, ktorí sa učia pravidelne a každý deň, dosahujú vyššiu úroveň metakognitívnych schopností. Overovanie hypotézy prebehlo v celom výskumnom súbore a pracovali sme pomocou nástroja One-way ANOVA. Výsledky obsahuje Tabuľka 3. Štatistická analýza poukázala na štatisticky významný rozdiel v skupinách podľa frekvencie učenia ($p < 0,05$), pričom najvyššie priemerné skóre (M = 91,58) získal súbor študentov, ktorí sa učia každý deň. Druhé najvyššie skóre (M = 87,92) získal súbor študentov učiacich sa len pred skúškami. Najhoršie priemerné skóre (M = 83,98) získal súbor študentov, ktorí uviedli, že iba niekedy majú obdobie, kedy sa učia. POST-HOC analýza potvrdila signifikantné rozdiely medzi tými, ktorí sa učia každý deň a ktorí, sa podľa potreby učia niekedy viac a niekedy menej (p = ,005). Podobný priemer mali však aj tí, ktorí sa učia len pred skúškami v porovnaní so študentmi, ktorí sa učia každý deň.

Tabuľka 3
One-way ANOVA pre rozdiely medzi skupinami (pravidelnosť učenia sa) a skóre v MI

	N	**M**	**SD**	**F**	**p**
Každý deň	19	91,58	9,359	3,061	,031
Učím sa niekedy viac, niekedy menej	51	83,98	10,574		
Učím sa max. dvakrát do týždňa	9	85,44	10,573		
Učím sa len pred skúškami	50	87,92	9,512		
Spolu	129	86,73	10,237		

V rámci tretej výskumnej otázky sme chceli zistiť, či existujú vzťahy v miere metakognitívnych schopností študentov v súvisloti od typu a frekvencie čítanej literatúry (beletristickej alebo odbornej literatúry). Dáta sme overovali Pearsonovým párovým korelačným koeficientom a zistili sme, že štatisticky významný vzťah existuje iba medzi čítaním odbornej literatúry a metakogníciou (p = ,003). V prípade študentov, ktorí viac čítajú beletristickú literatúru sa štatisticky významný vzťah nepotvrdil (p = ,499). Výsledky Pearsonovho párového korelačného koeficientu reflektujú *Tabuľka 4*.

Tabuľka 4
Korelácie podľa počtu prečítaných beletristických a odborných kníh so skóre v MI

Typ	MI (celkové skóre)	KAC (Vedomosti o poznaní)	COC (Kontrola kognície)	COC_R (subškála regulácia)	COC_E (subškála hodnotenie	COC_P (subškála plánovanie)
Beletristická (*N*=129)	,060	,142	,016	,143	,009	-,084
Odborná (N=129)	,260**	,312***	,202*	,149	,189*	,149

* p < 0.05
** p < 0,01
*** p < 0,001

4 DISKUSIA

Čo sa týka hypotézy H1a, v ktorej sme predpokladali, že existuje signifikantný vzťah medzi úrovňou metakognície a študijnými výsledkami, tak štatistická analýza potvrdila tento vzťah, hoci nás prekvapilo, že negatívne. Teda zdá sa, že čím lepšie študijné výsledky študent dosiahne, tým má nižšiu úroveň metakognitívnych schopností. Zahraničné štúdie však zistili, že existuje pozitívny vztah medzi úrovňou metakognitívnych schopností a študijnými výsledkami (Javanmard et al., 2012). Rôzne ďalšie štúdie v oblasti vzdelávania zdôrazňujú dôležitosť rozvoja metakognitívnych zručností a spájajú ich so študijnými výsledkami v rôznych oblastiach vedomostí a seba-regulácie (Doganay & Demir, 2011; Hernández & Camargo, 2017).

Naše výsledky môžu byť spôsobené niekoľkými faktormi, ktoré vyplývajú zo štúdií spomenutých v teoretickej časti. Či už ide o základné, stredné alebo vysoké školy, školy neučia svojich študentov, ako sa čo najefektívnejšie pripraviť na skúšku, písomku či odpoveď.

Učiteľ alebo inštruktor zvyčajne zadá svojim študentom presný obsah, potrebný na skúšku a tí sa ho naučia naspamäť niekoľko dní pred ňou (Credé & Phillips, 2011). Efektívny študent by sa však mal naučiť manažovať svoj čas a prostriedky na dosiahnutie potrebných vedomostí (Bjork et al., 2013). Rovnako školy vyžadujú od študentov naučiť sa obrovské množstvo poznatkov v obmedzenom čase a bez kvalitného výkladu na hodine. Zimenová a Havrilová (2011) vidia problém v zle nastavených štátnych vzdelávacích programoch (ŠVP). Štát školám vymedzuje základné učivo nejednoznačne, určuje im povinné predmety aj časovú dotáciu. Učitelia majú nedostatok času na dôkladné vysvetľovanie obsahu, a tým vyžadujú od študentov prebrať si väčšinu učiva doma a narýchlo. Študenti potom učeniu nevenujú dostatok času, resp. si ho len opakovane čítajú alebo sa učia naspamäť (Credé & Phillips, 2011). Zimenová a Havrilová (2011) ďalej hovoria, že absentujú praktické cvičenia, kde si môžu študenti prakticky vyskúšať to, čo sa naučili. Školský systém je tým pádom nastavený tak, že študenti sa memorujú učivo, najčastejšie tesne pred skúšaním, ktoré však rýchlo zabúdajú. Ak sa študenti neučia seba-regulovane, nie sú schopní plánovať, kontrolovať a regulovať vlastný proces učenia sa (Bjork et al., 2013).

V hypotéze H1b sme overovali rozdiely v miere metakognície a študijných výsledkov. Výsledky zahraničných štúdií naznačujú, že metakognitívne zručnosti pozitívne súvisia so študijnými výsledkami; teda jednotlivci s lepšími zručnosťami dosahujú lepšie výsledky pri učení (Young & Fry, 2008). Týmto by najvyššiu úroveň metakognície mali dosahovať jednotkári a najhoršiu trojkári, nakoľko iných v súbore nemáme. Ako však vyplýva z výsledkov, študenti sa nelíšia v miere metakognície podľa študijných výsledkov. Skutočnosť, že sa nepreukázal rozdiel medzi jednotkármi a trojkármi svedčí o tom, že študenti využívajú niektoré techniky, ktoré pôsobia pozitívne na subjektívny pocit zo získavaných vedomostí. Ide napríklad o techniky ako je memorovanie, prípadne opakované čítanie poznámok a textov, ktoré sa učia narýchlo pred skúšaním a po ňom naučené obsahy rýchlo zabúdajú (Bjork et al., 2013). Samozrejme, niektoré z týchto neefektívnych techník (ako napríklad opakované čítanie) skutočne zlepšujú výkony v škole (pri testoch, skúškach a pod.) a bol preukázaný ich súvis so správnymi odpoveďami. Môžu sa zdať efektívne, práve vďaka výbornému výkonu v testoch, ale študenti si nimi vôbec nezlepšujú svoje monitorovacie schopnosti (Rawson et al., 2000). Preto možno tvrdiť, že študijné výsledky nemajú žiadny súvis s úrovňou metakognitívnych schopností, a musíme hľadať iné premenné alebo faktory, ktoré by metakognitívne zručnosti a schopnosti študentov mohli vysvetľovať.

V rámci hypotézy H2 sme predpokladali, že dĺžka času venovaná učeniu sa súvisí s úrovňou metakognície. Ak sa študenti učia pravidelne a každý deň, mali by dosahovať vyššie skóre v úrovni metakognície ako tí, ktorí uviedli, že sa učia iba niekedy, ale podľa príležitosti. Z našich výsledkov vyplýva, že študenti, ktorí sa učia pravidelne a každý deň, dosahujú v priemere vyššiu úroveň metakognitívnych schopností ako tí, ktorí uviedli, že sa učia niekedy viac, niekedy menej podľa možností. Štatistická analýza medzi týmito dvomi súbormi potvrdila rozdiel v miere metakognitívnych schopností. Z výsledkov ďalej vyplýva, že tí, čo sa učia pravidelne a každý deň majú takmer rovnaké priemerné skóre ako tí, ktorí sa učia iba pred skúškami, teda obidva súbory sa len minimálne líšia v miere metakognitívnych schopností. Okrem toho možno povedať, že najhoršie priemerné skóre v úrovni metakognitívnych schopností majú tí, ktorí sa učia maximálne dvakrát za týždeň alebo sa učia iba niekedy.

V poslednej výskumnej otázke, Výskumná otázka č. 3, sme zisťovali, či existujú rozdiely v miere metakognície študentov v závislosti od typu a frekvencie čítanej literatúry (beletristickej alebo odbornej literatúry). Ak to nie sú študijné výsledky ani dĺžka učenia sa, pozreli sme sa na typ a frekvenciu čítania preferovanej literatúry študentov. Na základe výsledkov korelácie celkového skóre metakognície a typom preferovanej literatúry sme zistili, že štatisticky významné výsledky dosahujú len študenti, ktorí čítajú odbornú literatúru. V

rámci analýzy zisťujeme, že beletristická literatúra nemá žiadnu súvislosť s úrovňou metakognitívnych schopností ani v jednom subteste. Ak sa však pozrieme na výsledky v rámci odbornej literatúry, zistíme, že okrem plánovania (CoC-P) a kontroly regulácie poznania (CoC-R) pozitívne, hoci slabo koreluje odborná literatúra s úrovňou vedomostí o poznaní, hodnotením poznania, celkovou úrovňou reguláciou poznania a celkovou úrovňou metakognitívnych schopností.

4.1 Limity výskumu

Naša štúdia má niekoľko limitov. Po prvé, naše údaje vychádzajú zo seba-hodnotiacich úsudkov našich participantov, ktoré nemusia nevyhnutne odrážať ich skutočné študijné správanie. Napriek tomu, že účastníci nemali dôvod poskytovať zámerne zavádzajúce informácie, je možné, že zabudli na dôležité detaily. Preto by sa platnosť získaných údajov mala interpretovať opatrne. Po druhé, veľkosť našej vzorky je malá. Pre vyššiu zovšeobecniteľnosť výsledkov, by bola potrebná väčšia vzorka participantov. Po tretie, veľkou nevýhodu v rámci našej krajiny je, že neexistuje určité štandardizované meranie študijných výsledkov, ako je tomu napríklad v USA (SAT skóre). Meranie študíjnych výsledkov prostredníctvom známok (A, B, C, D, E) sa javí ako veľmi nepresné pre výskumné učeli, keďže každá univerzita a vyučujúci môžu mať nastavený iný štandard hodnotenia.

4.2 Návrhy pre budúce skúmanie

Z výsledkov nášho výskumu možno vytvoriť ďalšie výskumné otázky a hypotézy, ktoré viac osvetlia problematiku seba-regulovaného učenia a metakognitívnych schopností. V ďalších výskumoch navrhujeme zamerať sa na problematiku vývinu seba-regulácie alebo samotnej metakognície. Ak by sa výskum v oblasti vývinu metakognície zameral aj na rodičov efektívnych a seba-regulovaných študentov, zistili by sme, ako by mala vyzerať výchova samostatného a seba-regulovaného dieťaťa. Rovnako považujeme za prínosné zistiť, prečo študenti, ktorí čítajú odbornú literatúru, dosahujú vyššie priemerné skóre metakognitívnych schopností. Okrem toho sme spomenuli aj motiváciu, ako faktor ovplyvňujúci metakognitívne schopnosti. Motivácia je dôležitá na strane študenta, no aj na strane pedagógov. Ak im chýba, nemôžu od študentov očakávať také výsledky, aké oni sami skutočne očakávajú.

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DETERMINANTS OF ECONOMETRICS GRADES: A CASE STUDY FROM SLOVAKIA

Mária Vojtasová, Rastislav Solej

Abstract

Studying quantitative methods and econometrics develops the analytical skills of economics students. It deepens their knowledge in the field of quantitative research and opens possibilities for use. This work aims to identify the possible determinants that affect the study result from two mid-term tests. We tested the statistical significance of variables on a sample of 163 students of the bachelor's program in finance, banking, and insurance, divided across 8 study groups. In addition to the data collected during seminars, we have sent 2 questionnaires that were implemented with over 97% return rate. The main goal of the article was to assess the extent to which individual factors determine the results of students in econometrics. The results of the research showed that the most important determinant of grade is participation in seminars, activity in seminars, the number of hours spent preparing for the interim test or participation in lectures. Of the variables we included, in the first mid-term test, the place where the student was sitting emerged as a statistically significant factor. The further from the teacher student sat, the worse the results were.

Key words: *econometrics, GRETL, study results, quantitative methods*

1 INTRODUCTION

The use of econometrics and quantitative methods forms the basis of more advanced research in economics, finance, and other scientific disciplines. Universities not only in Slovakia have been trying to include this knowledge in the educational process in recent decades. More and more students are required to take some kind of quantitative or econometric course (Conaway et al., 2018). Being able to use econometric methods, students are capable to produce higher quality outputs and their final thesis, such as bachelor thesis or master's thesis. Simkins, Mahjabeen, and Mahmud (2016) claim, that students exposed to any research experience are more likely to improve analytical thinking and forming their ideas together, also such students can improve their communication skills.

At the University of Economics in Bratislava students of finance, banking, and insurance get to know and work with statistical software Gretl as early as the second year of their bachelor's degree. According to Mixon and Smith (2006) GRETL (*Gnu Regression, Econometrics and Time-series Library)* is user-friendly software suitable for an introductory econometrics course.

During the lessons, the students completed two challenging mid-term tests; at the end of each, they received a questionnaire that served as the main data source for this study. The article's main goal was to assess to what extent individual variables influence the student's results in econometrics classes. In the literature review, we focus on previous studies that investigated the determinants of grades. Furthermore, the methodology chapter specifies the collection of our data and the selected sample. The result part presents an econometric model for the evaluation of determinants.

2 LITERATURE REVIEW

Many authors and studies have dealt with the determinants of study results at the university and other types of schools. Among the first available studies dealing with the teaching of econometrics is Tintner (1954), who defined econometrics as the application of mathematical economic theory and quantitative statistical methods to the solution of economic problems.

The purpose of his work was to get information about the teaching process in different countries and to compare them with each other. The authors received responses from countries such as France, Sweden, the USA, Great Britain, and India and some information from countries such as Poland, Mexico, and Egypt. However, a big limitation of the research was the poorly posed questions and their large number.

Another author, Cohn (1972) collected data at Pennsylvania State University Cohn in the USA. The sample included students from the course "Introduction to Quantitative Methods" and there were only 43 students, predominantly male. At the end of the winter semester 1971/1972, the students filled out a questionnaire that focused on the students' performance in economics, mathematics and statistics. The main goal was to get an overview from the students for a possible reorganization of the course. In addition to the questionnaire data, the author had available information from the university and his own data about individual performances at seminars and test results. Among the main results of the work, we include the observation that studies in economics do not guarantee success in econometrics. On the contrary, the results in mathematics to a large extent achieve the success achieved in econometrics. Other studies that confirmed the impact of mathematics were Anderson et al. (1994) on a sample of 6718 college students in an introductory to economics course. Results at high school and a strong mathematics background were statistically significant.

A more extensive study at Towson State University was conducted between 1976 and 1979 on more than 800 students. Paul (1982) collected this data through a questionnaire and, in addition to categorical variables such as gender, age, race, also collected information on employment. The employment shown to be statistically significant. According to Paul (1982), this raised questions of possible discrimination, as working students were largely from less financially stable families and therefore had less time to prepare. Similar conclusion was provided by Greenberger and Steinberg (1986).

A study by Romer (1993) showed class attendance as a statistically significant variable. The main motivation was to assess the impact of absences and whether it is appropriate to introduce mandatory lectures. The study was conducted at the University of California on 195 students.

Gender differences were investigated in a study by Dancer (2003). He collected data for 696 students at the University of Sydney. Both sexes were represented approximately equally. Assumption was that female students achieve better results than male students. This statement was confirmed in econometrics, where women achieved better results. Conversely, in economics, women had worse results than men. Previous studies that measured differences between men and women in learning economics were MacDowell, Senn, and Sopper (1977). The data suggest that academic achievement in economics does not matter.

Cladera (2021) works in her article with the assessment of Spanish undergraduate students' approach to econometrics. Cladera (2021, p.8) claims “Econometric knowledge and skills are increasingly valued and demanded in the labour market. However, students often show distaste and negative attitudes towards this subject.“ In her study she uses a sample of 87 students registered for the econometrics course in 2018. She included 36 determinants „to assess the following dimensions: Affect, Self-confidence, Value, Difficulty, Interest and Effort“ (Cladera, 2021, p.4).

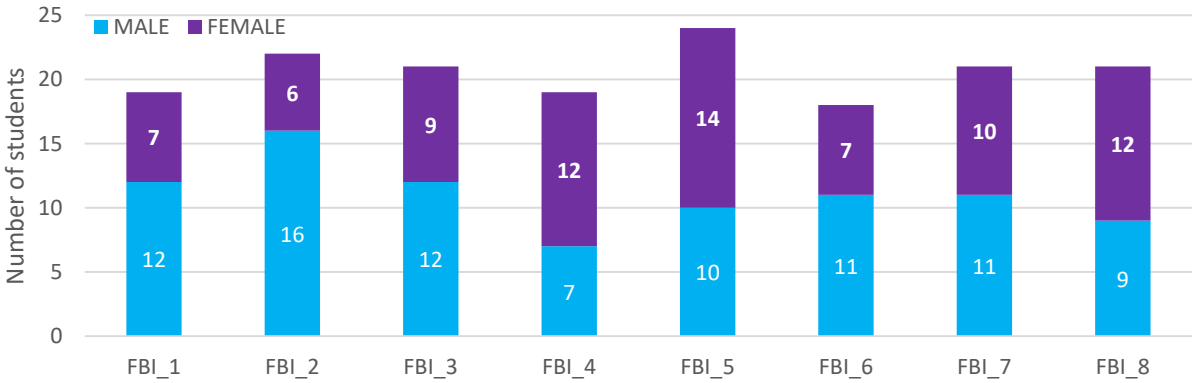
The results confirmed that students who perceived themselves as more capable of learning Econometrics and students who liked Econometrics achieved better results. Existing studies verified this on other subjects such as Statistics (Mills, 2004; Emmioğlu, Capa-Aydin, 2012).

3 DATA AND METHODOLOGY

This chapter contains a specification of the relevant data collection process and a description of our sample. The aim of the contribution was to capture the possible explanatory variables that affect the study results in econometrics.

The research participants were students in the 2nd year of bachelor studies at the University of Economics in Bratislava. The data was collected between November 2022 and January 2023. The students were attending during the winter semester 2022/2023 a course entitled "Introduction to Quantitative Methods." The course was taught in their native language. They completed two mid-term tests that were part of their final assessment. Out of the total number of 165 students, 164 students took part in the first survey (99.39 % return rate) and 161 students took part in the second survey (97.57 % return rate). Both genders were represented approximately equally. Men represented 53 % of all students, and the remaining 47 % were female. Out of a total of 8 study groups, men made up the majority in 5 groups; women made up the majority in groups FBI 4, FBI 5, FBI 8. As a motivation to participate in the survey, students could get 1 point for filling out the questionnaire and another 2 points for the final exam for filling out the second questionnaire that was more extensive. All collected data from students were anonymized and used for academic purposes.

Figure 1: Distribution of students by study group and gender



Source: own research

Data that were collected without questionnaires are about the gender of students, study group, number of points for midterm-test I. and for midterm-test II., attendance at seminars, and a number of activity points obtained at seminars. In the first questionnaire for the Mid-term test I. were included basic questions regarding the categorization according to the study group. It also included variables related to computer equipment. The classroom included four rows, with four computers in each row. This meant that some students had to bring their own computers (laptops) or had to work with someone else. Therefore, we included the variable school computer. At the same time, we were interested in whether the distance from the blackboard affects the overall academic result of individuals.

The first questionnaire focused mainly on preparation for the seminars and participation in the lectures, which were taking place two days before the seminar and provided the students with a theoretical basis for the issues being addressed. These were mainly information on regular preparation before the seminar, expressed in the average number of minutes the student spent preparing apart from lectures and seminars. In addition, we were interested in immediate preparation before the midterm exam, expressed in minutes. Also, we examined how many days before the credit report students started their preparation. This variable did not represent the total number of preparation days.

The second questionnaire focuses on mid-term test 2 and addresses more extended questions and variables that align with the available scientific literature. Likewise, variables regarding

preparation for seminars and participation in lectures were also included here as well. After discussions with students, we also included questions that tested the test preparation in groups and individually. Students also had the opportunity to use consultation hours, so we included this variable as well. There was also a personality type variable included in the research, where students could choose between introvert and extrovert types. The majority of full-time students also performed an internship or other form of gainful activity during their studies, through which they financed their personal life. For this reason, we asked whether the student worked and, if so, how many hours per week he devoted to a job. We were also interested in measuring the number of hours of sleep before Test II and whether the student performed any physical activity or sport in his free time.

Since econometrics was taught in Gretl software, we were interested in whether there is a connection between technical skills such as using Microsoft Office packages (Word, Excel, etc.). Moreover, variables of students' academic performance were also included in the research. Especially grades in statistics and overall academic average in all subjects. Furthermore, to the before mentioned, in the data collection stage, we also focused on the indicators from the article by Kara et al. (2009), where the authors have been analysis determinants affecting student's grades in principles of microeconomics and macroeconomics. Based on the results presented in this study, not only variables such as gender but the number of hours also worked, SAT scores, number of missed classes, and number of economics courses taken were significant factors contributing to the student's final grade. But also factors like interest, GPA, age, university housing, mathematics classes taken, or instructor are important determinants of student success. Similarly, in her research, Cladera (2021) assessed attitudes toward econometrics through a questionnaire at the end of the introductory Econometrics course. The questionnaire was addressed to undergraduate Economics students. The research revealed the importance of assessing students' attitudes at the end course. It is important to evaluate students' attitudes toward their achievement to find a method to motivate them and subsequently improve their performance.

3.1 Empirical model

We built an OLS model for empirical data analysis that included some information collected through questionnaires. In our study, we construct two starting empirical models using the following equation:

$$POINTS\text{-}total = a0 + a1.FEMALE + a2.TUTORIAL\text{-}activity + a3.TUTORIAL\text{-}attendance + a4.GROUP + a5.ROW + a6.PC + a7.PREP\text{-}continuous + a8.LECTURES\text{-}attendance + a9.PREP\text{-}days + a10.PREP\text{-}beforetest + \varepsilon \quad (1)$$

,where

a0	Initial value (constant)
POINTS-total	Total number of points from Test I.
FEMALE	gender, binary variable (0 = male, 1 = female)
TUTORIAL-activity	number of points for the activity (max. 6 points)
TUTORIAL-attendance	the number of seminars the student attended
GROUP	test group, binary variable (0 = Variant X, 1 = Variant Y)
ROW	row from the blackboard in which the student sat during the seminars
PC	binary variable (0 = if the student has a school's computer, 1 = if no)
PREP-continuous	the number of minutes spent preparing for the seminar
LECTURES-attendance	the number of the lectures attended
PREP-days	the number of days before the mid term exam, that student spent preparing

PREP-beforetest	the number of minutes the student spent preparing for the credit report (in the week before the report)
εi	error term

Above the equation based on which we compiled the econometric models is being displayed. We included the variable female, and we expect it to be statistically insignificant with a positive sign, and according to the theory, women should achieve better results than men. The Tutorial_activity variable represents the number of points per activity within the seminar. In this case, we expect a positive impact on the overall outcome. Moreover, a similar result is also expected for Tutorial_attendance, which represents the participation of students. The ROW represents the row in which the student sat in during the semester. We were interested in whether the distance from the teacher's blackboard has an impact on the test result. As mentioned above, not every student had access to a school computer. Therefore, we were interested in whether this factor also enters the teaching process. Other variables were related mainly to ongoing preparation and attendance at lectures where the theory was presented.

4 RESULTS

The results chapter focuses on presenting the results associated with our research. Due to the volume of data, we have collected, we focus mainly on the primary indicators we have measured. In the first part, we present the summary statistics of the results of the mid-term tests based on groups. The second part describes of the results of the OLS models compiled based on the previous chapter.

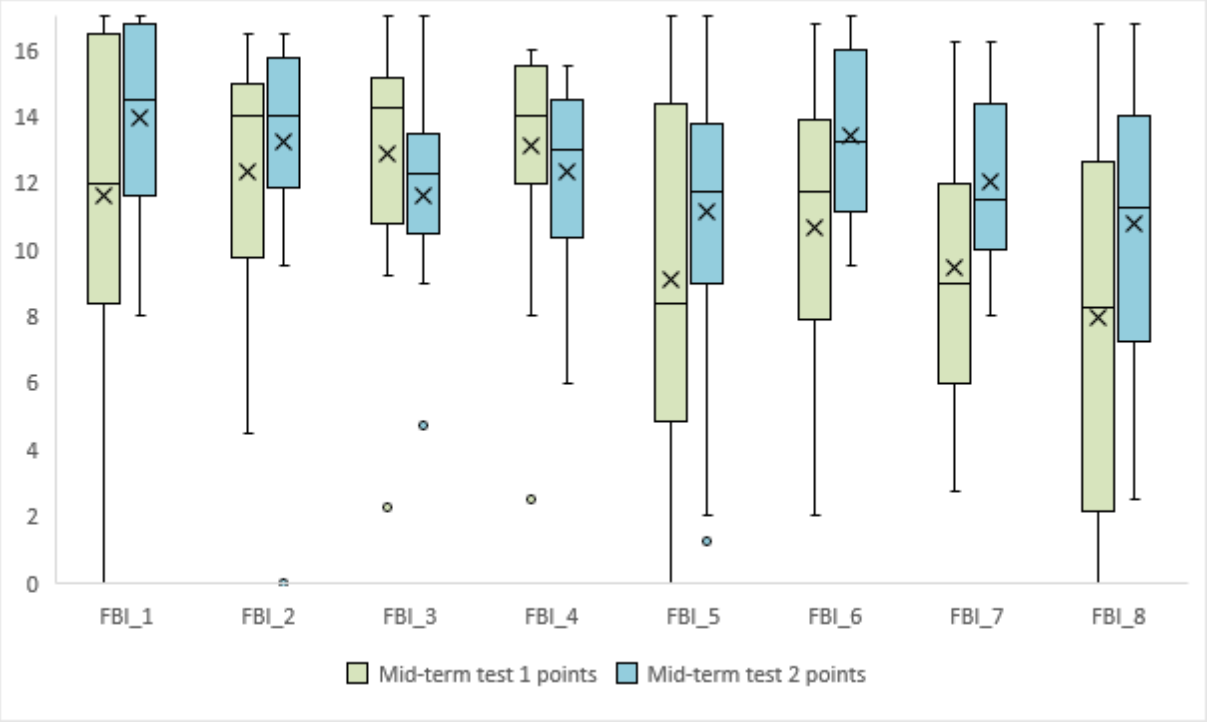
4.1 Summary statistics

The average number of points obtained for mid-term test 1 was 10.828 from 17 possible points. Based on the median value, we can say that half of the students scored above 12 points. When comparing the results based on gender, men achieved, on average, 10.96 points, which is a slightly better result than women (10.68 points). However, based on the t-test, this difference is not statistically significant.

Analysing the figure 2, we can compare the results achieved by students from both mid-term tests based on study groups. In the first mid-term test, group number 4 performed best with an average result of 13.13 points. They were followed by groups FBI 3 with 12.88, FBI 2 with a result of 12.31. The groups FBI 8 with a below-average score of 7.94 points and FBI 5 with a score of 9.09 were the worst performers. The worse performed group have had classes in the evening, starting at 5 pm.

However, at least one individual in each group achieved a result above 16 points. In the second mid-term test, the average result was higher. Students scored, on average 12.37 points out of a total of 17 points. The median was slightly higher at the value of 12.75 points. If we compare the results based on gender, women scored 12.61 points, and men scored 0.43 points less.

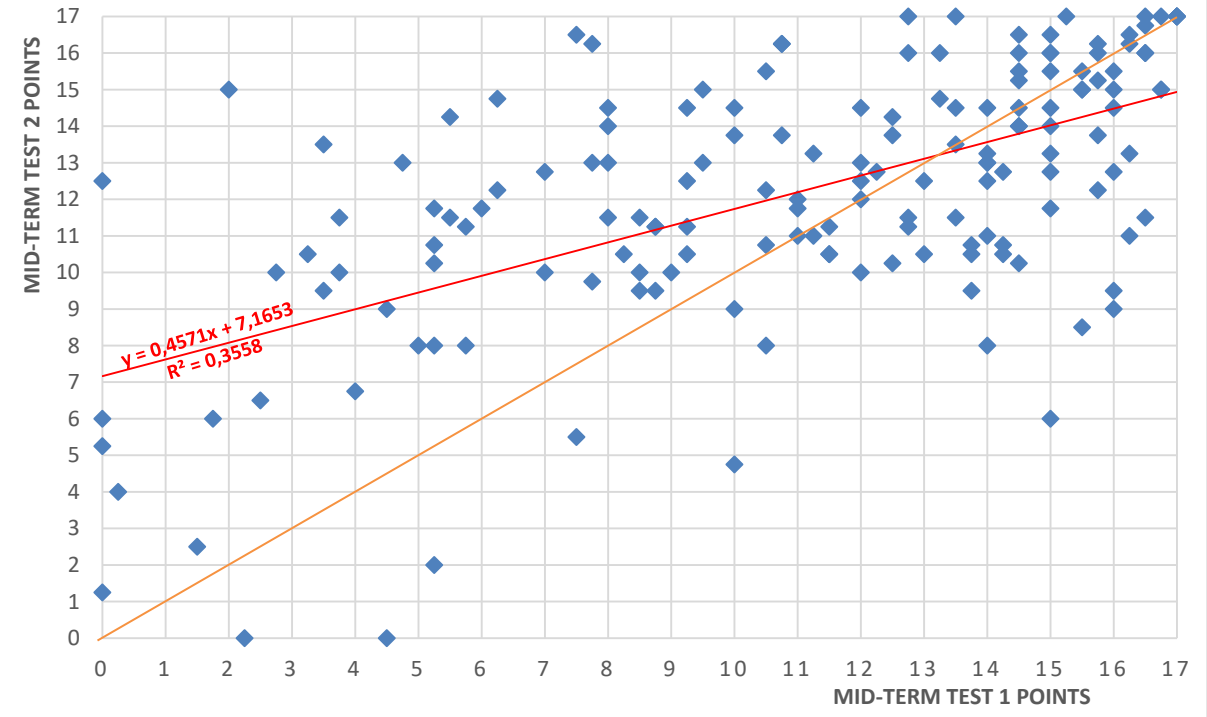
Figure 2: Boxplot of Mid-term tests points by study group



Source: own processed

Based on the t-test, however, this difference is statistically insignificant. All groups, except for the two FBI 4 and FBI3, achieved a better average than the first mid-term test. The groups FBI 1 with an average number of points of 14.45 and FBI 6 with 13.43 points were the best performers. The worst results were again achieved by the group FBI 8 with 10.79 points. This group attended seminars starting at 5:00 pm, and the class lasted 90 minutes.

Figure 3: Scatter plot of mid-term test 1 and mid-term test 2 results



Source: own research

In the next chart, we can see the relationship between the results of students obtained from mid-term test 1 and mid-term test 2 (Figure 3). Hence the minimum criteria for admission to the final exam was to achieve at least 17 points cumulatively from both mid-term tests. In addition to the overall variability, i.e., the student's results, a red regression line can be observed on the graph. The line presents the relationship between the result of test 1 and test 2.

The orange line goes from the point 0 below the 45 degrees and all values above this line represent the result of the student who achieved better result from mid-term test 2 than from the first mid-term test. The points on this line indicate the student who had the same result on both tests. Moreover, the variability below the orange line indicates a deterioration of the results.

Overall, however, the graph indicates a possible relationship between the results of individual mid-term tests. It is not surprising since these are the same students, and the tests were related to each other thematically.

4.2 Empirical model

The results of the empirical model can be seen in Table 1, which includes the unrestricted and restricted models. An unrestricted model shows us that the model as a whole is statistically significant. The value of the F-statistic is relatively high (10.5) and is in the area of rejecting the null hypothesis ($p<0.05$). Based on the R-squared value, we can say that the first model explains up to 34% of the total variability of the dependent variable, which is a relatively high figure. Statistically insignificant variables turned out to be gender, own computer, group of tests, continuous preparation for tutorials, or the number of days when the student started preparing for the test.

Table 1: Dependence of the result from mid-term test 1 on the explanatory variables

Dependent variable:	***Unrestricted Model***			***Restricted model***		
log (Mid-term Test_1 points)	Coefficient (p-value)			Coefficient (p-value)		
const	−0.413558		(-0.8718)	−1.09587		(-0.6493)
FEMALE	−0.268997		(-0.6661)			
T1_TUTORIAL_activity	0.34900	**	(-0.011)	0.40344	***	(-0.0023)
T1_TUTORIAL_attendance	1.92587	***	(<0.0001)	1.97234	***	(<0.0001)
T1_GROUP	−0.191113		(0.0893)			
ROW	−0.914819	***	(-0.0017)	−0.879301	***	(-0.0021)
PC	−0.523016		(-0.4423)			
T1_PREP_continuous	−0.019670		(-0.1355)			
T1_LECTURES_attendance	0.52442	***	(-0.003)	0.42812	***	(-0.0091)
T1_PREP_days	0.03689		(-0.8127)			
T1_PREP_before	0.00420	***	(-0.0071)	0.00391	***	(-0.0061)
Observations	162			162		
Adjusted R square	0.3427			0.3508		
F-Statistic	9.3900			18.3957		
P-value (F)	$4.98\ e^{-12}$			$2.47\ e^{-14}$		

Source: own calculation

As can be further observed in Table 1, participation in seminars itself had the greatest impact on the result. For every class that a student missed, they lost an average of 1.93 points on the mid-term test. Additional activity at the seminars could bring up to 0.35 points for each point earned for the activity. The place occupied by the students also turned out to be significant,

and in this case these differences were quite significant. The further away students were from the teacher's blackboard, the more points they lost on average. One of the last significant variables was the attendance at lectures. On the basis of these data, we can say that the participation paid off for the students, and with each lecture they attended, the students were able to improve by 0.52 points. In terms of preparation, only the variable that includes the number of minutes student spent preparing immediately prior to the test was significant. With each hour spent studying, the student was able to improve his grade by an average of 0.25 points.

Based on statistical tests, the Unrestricted model does not have a problem with the presence of heteroskedasticity. White's test for heteroskedasticity had a p value of 0.438159. The test for normality of residual came out with $p<0.05$ with a value of ($p=0.006$). In the unrestricted model, the errors are not normally distributed. Chow test for structural break with p-value 0.64392 indicates no structural break. Ramsey's reset test shows inappropriate model specification.

The restricted model (see Table 1) shows an increase in the significance of the tutorial activity variable from 0.35 to 0.4 points for each activity during tutorials. Moreover, seminar attendance increased its influence and with each seminar the student should gain 1.97 (an increase of 0.05 compared to the unrestricted model). Other variables reduced their influence, but only slightly. Attending lectures had an impact of 0.43 instead of the original 0.52 points for each lecture. The ROW variable recorded a decrease to -0.88 points. Also, the time for preparation increased the score by approximately 0.23 point.

Based on statistical tests, the restricted model does not have a problem with the presence of heteroskedasticity. White's test for heteroskedasticity had a p value of 0.36. The test for normality of residual came out with $p<0.05$ with a value of ($p=0.014$). In the restricted model, the errors are not normally distributed. Chow test for structural break with p-value 0.0543 indicates no structural break. Although the number is significantly higher. Ramsey's reset test shows that the model specification is appropriate.

Table 2: Dependence of the result from mid-term test 2 on the explanatory variables

Dependent variable:	***Unrestricted Model***			***Restricted model***		
log (Mid-term Test_2 points)	Coefficient (p-value)			Coefficient (p-value)		
const	−6.18989	**	(0.0347)	−8.524	***	(0.0005)
FEMALE	0.344		(0.4884)			
Total_TUTORIAL_activity	0.213	*	(0.0833)	0.384	***	(0.0009)
Total_TUTORIAL_attendance	1.649	***	(<0.0001)	1.772	***	(<0.0001)
T2_GROUP	0.970	*	(0.0946)	0.551		(0.3371)
ROW	−0.08617		(0.7237)			
PC	−0.65658		(0.2539)			
T2_PREP_continuous	−0.00384		(0.4891)			
Total_LECTURES_attendance	0.124		(0.1051)			
T2_PREP_days	0.005		(0.9743)			
T2_PREP_before	−0.0012		(0.5551)			
Observations	159			159		
Adjusted R square	0.2812			0.3633		
F-Statistic	7.1797			31.8062		
P-value (F)	$3.54\ e^{-09}$			$3.68\ e^{-16}$		

Source: own calculation

Table 2 presents the influence of determinants on the results of the second mid-term test, which was carried out one month after the first one. The difference compared to the first models is that the variables tutorial activity, attendance and lecture attendance include records for the entire period. The influence of the result from mid-term test 1 on the results of the second mid-term test is captured in Figure 3 and it was not included in the model.
The unrestricted model results show that most variables were statistically insignificant in the second test. Only the tutorial attendance variable was statistically significant at the 5 percent significance level. At the significance level of 10 percent are tutorial activity and group. With each participation in the seminar, the students' mid-term test 2 result was on average 1.7 points higher. The model as a whole explains 28% of the total variability of the dependent variable. Therefore, we can conclude that the model is statistically significant.
White's test for heteroskedasticity showed a p-value of 0.80. Thus, the Unrestricted model does not have problems with heteroskedasticity of the residuals. However, the model has a problem with the normality of the residuals. The specification of the model based on the RESET test is adequate with a p-value of 0.11. Chow test no structural break says that there are no problems in the model. Restricted model increased R-squared from 0.28 to 0.36. The model explains 36% of the total variability of the dependent variable. The effect of the activity on the tutorial has increased by 0.38 points for each point. The tutorial attendance variable has a greater impact. With each seminar for 1.77 points. The model has no problem with heteroskedasticity (p-value 0.08). The test for normality of residual showed that the errors are not normally distributed. The specification of the model based on the RESET test was adequate. It also does not contain a structural break.

5 CONCLUSION

The use of econometrics and quantitative methods can improve the quality of the research. For this reason, compared to the past, universities try to provide their students with this information and skills already in the initial stage of their studies.
This paper aimed to analyze the determinants that influence the grade, the overall result and, last but not least, the understanding of the issue among university students, based on a sample of 162 students involved in the research. To fulfil this goal, we compiled a questionnaire at the end of both mid-term tests.
An econometric model was built and showed that active participation in seminars was statistically significant and participation at tutorials was important. In the case of the first test, the distance from the teacher's desk was also an important factor. The further the student sat from the department, the worse the result. Moreover, lecture attendance was also a decisive factor during the first mid-term test. Preparation for the test before the test also proved to be an important indicator.

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A TYPOLOGY OF PROCRASTINATING SECONDARY SCHOOL AND UNIVERSITY STUDENTS IN THE CONTEXT OF SELECTED VARIABLES

Dominika Kurajda, Lenka Selecká

Abstract

Through the observation of selected variables, the study aims to identify the types of procrastinating secondary school students and university students. The research sample consists of 673 secondary school (N=224) and university (N=449) students. The age range of the respondents is from 16 to 25 years old, with an average age of 20.9 years (SD=1.95). Questionnaire methods, the General procrastination scale for student population, the New active procrastination scale, the Generalized Problematic Internet Use Scale 2, the Internet addiction test, and the Behavioral rating inventory of executive functions were used to collect data. Data analysis showed the existence of three types of procrastinating students in both secondary school students and university students, namely: functional procrastinators, moderate procrastinators, and dysfunctional procrastinators.

Key words: *academic procrastination, executive functioning, problematic internet use, internet addiction, active procrastination, university students, secondary school students*

1. INTRODUCTION

Academic procrastination is a recent phenomenon associated with adolescence and young adulthood (Sabri et al., 2016; Gabrhelík, 2008). Research on academic procrastination has begun to differentiate as some authors (Janssen, 2015; Steel, 2007; and others) have argued that the occurrence of academic procrastination is most likely to occur in university students; however, we advocate that academic procrastination begins earlier than in university, namely in secondary school students. The prevalence of academic procrastination itself may be influenced to some extent by the presence of certain cognitive, emotional, and personality variables. In the case of the present study, we consider these variables to be the rate of academic procrastination, the rate of active procrastination, the rate of executive functioning, the rate of problematic internet use, and the rate of internet addiction.

Research (Chu and Choi, 2005; Choi and Moran, 2009) has found that procrastinators can be divided into passive procrastinators (in the traditional dysfunctional conception) who procrastinate on planned activities, with this procrastination occurring due to an inability to make timely decisions and thus to complete the task in a timely manner. On the other hand, there are active procrastinators who perceive time pressure as a challenge, which in turn has a motivational effect on them, so they seek and prefer this pressure. The consequence of this deliberate procrastination, unlike passive procrastinators, is the timely completion of the task, with the individual being satisfied with this performance. Both groups of procrastinators differ from non-procrastinating individuals, who procrastinate only minimally. Similarly, Schweigerová and Slavkovská (2015) investigated the differences between procrastinators and non-procrastinators in the level of executive functions, finding significant differences in favor of non-procrastinators. The results of the studies (Rabin et al., 2011; Schweigerová and Slavkovská, 2015) show an overall weakening of executive functioning of procrastinators, but a weakening of executive functioning of passively procrastinating students. Among other things, there is a difference between procrastinators and non-procrastinators in the rate of Internet use. Fun activities that are online (social networking, online videos, online games) are related to immediate gratification, counteracting task aversion, which means that higher rates

of procrastination are related to higher use of online activities or poorly controlled internet use (Reinecke et al., 2018). The results of empirical studies (Mohammadi et al., 2015; Reinecke et al., 2018) on the relationships between problematic internet use or internet addiction and academic procrastination revealed that there is a positive correlation between these variables. Based on the available research on the existence of a correlation between academic procrastination, active procrastination, executive functioning, problematic Internet use, and Internet addiction, we consider it important to develop a typology of procrastinating students and to look at these variables in the context of procrastination. Sliviaková (2011) created a typology of procrastinators inspired by Chu and Choi's (2009) typology, revealing four clusters, namely frivolous procrastinators (cluster 1), anxious non-procrastinators (cluster 2), passive procrastinators (cluster 3) and active procrastinators (cluster 4). The first cluster (frivolous procrastinators) is characterized by higher academic procrastination total scores, active procrastination, higher independence, and very low self-control and anxiety. The second cluster (anxious non-procrastinators) is characterized by moderate to low scores on academic procrastination, low scores on active procrastination, very high anxiety and self-control, and low independence. The third cluster (passive procrastinators) is characterized by high levels of academic procrastination, low levels of active procrastination, low levels of self-control, moderate levels of independence, and high anxiety. The fourth cluster (active procrastinators) is characterized by very low levels of academic procrastination, higher levels of active procrastination, high self-control, moderate independence, and low anxiety.

In the present study, in addition to creating a typology based on selected variables of procrastinating students, we will focus on examining the different characteristics of procrastinating students with respect to the type of school, and thus whether the student attends secondary school or university, as there may not be a typical profile of procrastinators in secondary school and university that are similar in certain characteristics.

RQ: How do respondents' profile themselves on the variables academic procrastination, active procrastination, executive functioning, problematic Internet use, and Internet addiction with respect to school type?

2. METHODS

2.1. Research sample

The research sample consists of 673 secondary school and university students (N=673) who were selected for the research through a convenience sampling method. Of the total research sample, 66% (N=449) were university students and 34% (N=224) were secondary school students. 72% (N=484) females and 28% (N=189) males participated in the research. The age of the participating students ranged from 16 to 24 years, with a mean age of 19.88 years (SD=2.30). All respondents voluntarily participated in the research by completing an anonymous battery of questionnaires in written or electronic form, without any financial or other form of remuneration, while the basic ethical principles of the research were maintained. Table 1 shows the classification of respondents by school type or field of study.

Table 1 Characteristics of the research sample by school type, field of study

		N	%
Type of school	Vocational secondary school (SS)	135	20,1
	Business Academy (SS)	30	4,5
	Grammar school (SS)	59	8,8
	Technical sciences (U)	40	5,9
	Humanities (U)	181	26,9
	Agricultural and veterinary sciences (U)	56	8,3
	Social, economic, and legal sciences (U)	39	5,8

Arts (U)	29	4,3
Education (U)	66	9,8
Health Sciences (U)	38	5,6
TOTAL	673	100

Note. SS- Secondary school, U- University

2.2. Measures

Respondents were presented with a questionnaire battery, including basic demographic data, consisting of multiple methods, such as General procrastination scale for student population, New active procrastination scale, Generalized Problematic Internet Use Scale 2, Behavioral rating inventory of executive functions and Internet addiction test. The data were collected between February 2022 and June 2022, and due to the unfavorable pandemic situation in Slovakia caused by the coronavirus, the data were collected online.

General procrastination scale for student population (Lay, 1986)

This scale is designed for secondary and university school students and examines behavioral tendencies to procrastinate. It provides information on whether and to what extent an individual has procrastinated. The Lay Procrastination Scale for Students contains 20 questions that respondents rate using a 5-point Likert scale.

New active procrastination scale (Choi and Moran, 2009)

This scale is designed for secondary and university students. Through this method, we obtain information whether an individual is experiencing active procrastination, or whether an adaptive form of procrastination or a passive form of procrastination is occurring. It is a multidimensional scale in which the student self-assesses himself through 16 items.

Internet addiction test (Young, 1998)

This scale is designed for adults and adolescents. The method provides information on whether an individual has an Internet addiction or what degree of Internet addiction is present. It consists of 20 items to which the respondent answers using a five-point Likert scale from 1 to 5, where 1= rarely and 5= always.

Generalized Problematic Internet Use Scale 2 (Caplan, 2010)

This scale is designed for adults and adolescents. The method is used to identify both cognitive and behavioral dimensions of PIUs along with their negative consequences. It consists of 15 items to which the respondent answers using an eight-point Likert scale, ranging from 1- completely disagree to 8- completely agree.

Behavioral rating inventory of executive functions (Roth et al., 2005)

This scale is designed for adults and adolescents. This method can be considered one of the most recent tools for measuring executive functions. The scale consists of 75 items, with 70 items saturating 9 non-overlapping theoretically and empirically derived clinical scales.

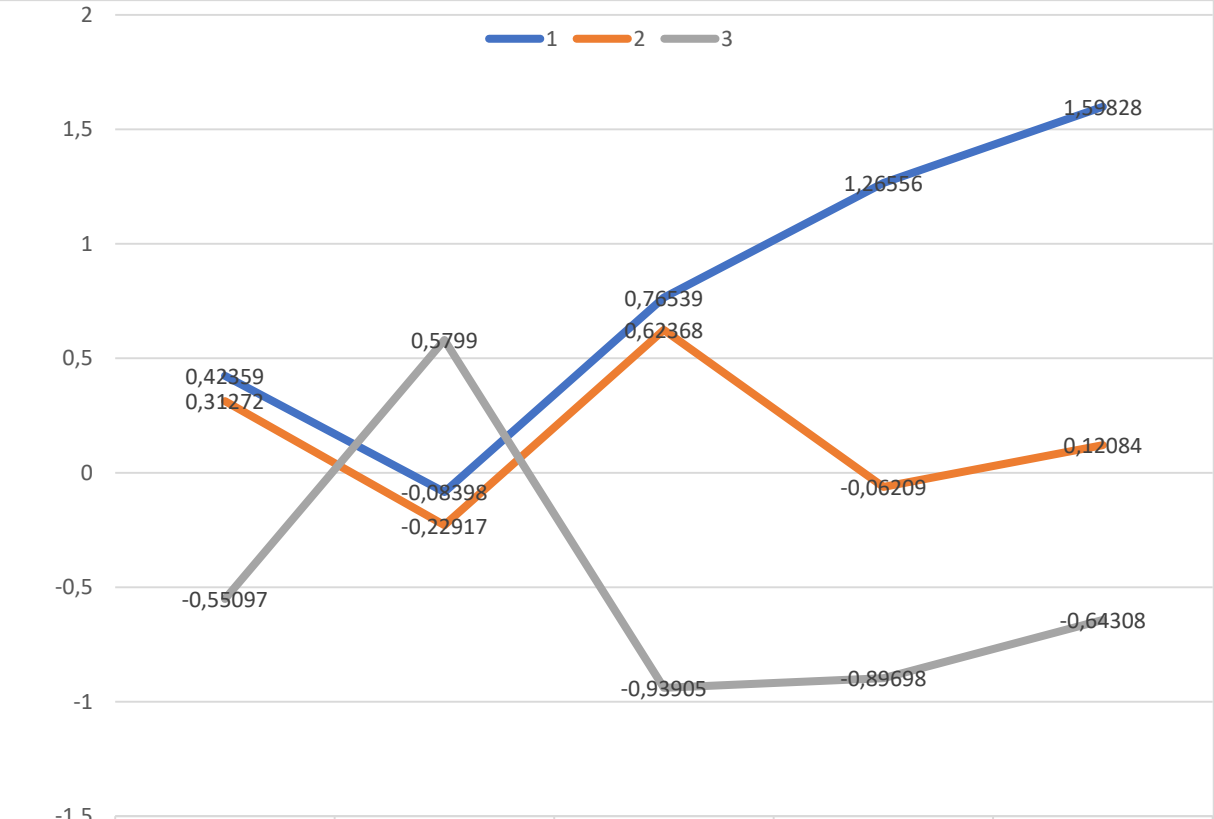
2.3. Statistical processing

The data was processed in IBM SPSS statistical software. Typologies were created for a group of secondary school and university students with respect to the severity of the manifestations of procrastination using non-hierarchical cluster analysis in the areas of academic procrastination, active procrastination, executive functioning, problematic Internet use, and Internet addiction rates. As the data are metric variables, relocation cluster analysis was used. Individual domains of interest were standardized to Z-scores prior to the actual analysis, considering the different variance of the variables. The three-cluster model appears

to be appropriate in both cases but with a different profile of the individual typologies. The significance of the items for the cluster analysis was tested using analysis of variance.

3. RESULTS

Through a non-hierarchical relocation cluster analysis, we identified types of individuals in the study areas who differ in their levels and manifestations of procrastination. Calculations carried out for a group of secondary school and university students separately led to slightly different typologies with three clusters. In the case of secondary school students, 3 types of persons differing in the manifestations and degree of procrastination were identified (chart 1).

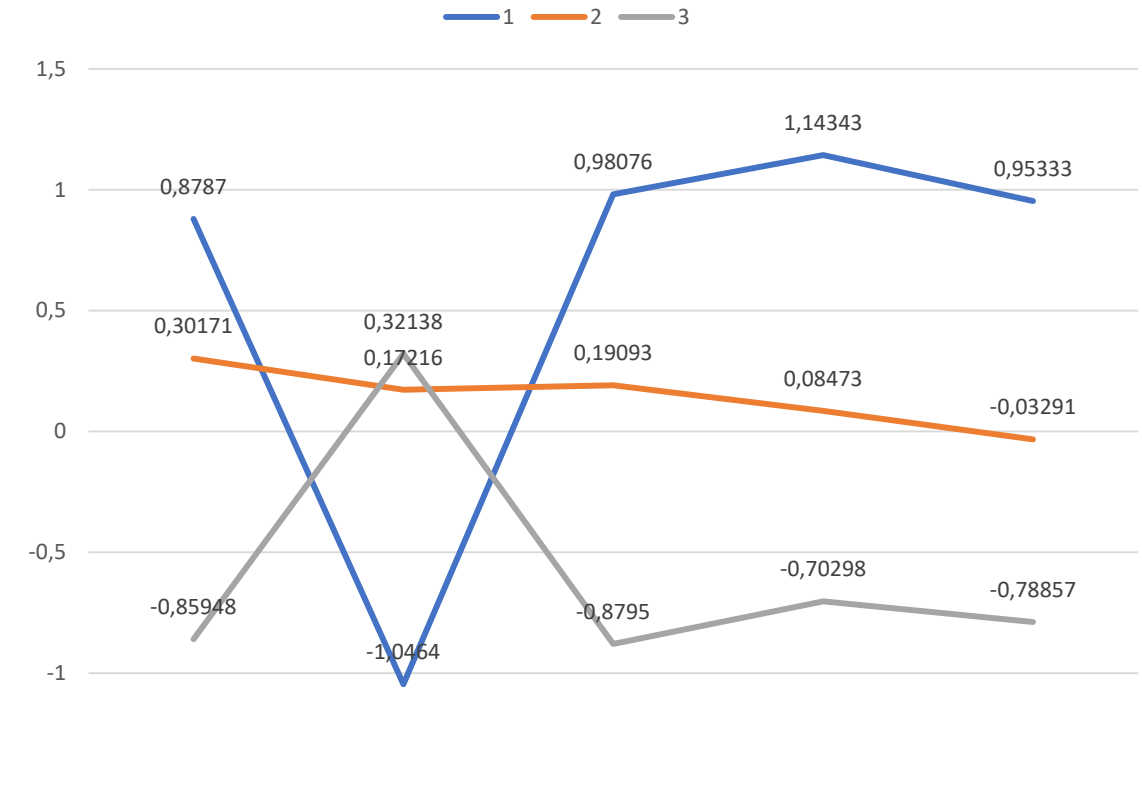


	Academic procrastination	Active procrastination	Executive functions	Problematic internet use	Internet addiction
1	0,42359	-0,08398	0,76539	1,26556	1,59828
2	0,31272	-0,22917	0,62368	-0,06209	0,12084
3	-0,55097	0,5799	-0,93905	-0,89698	-0,64308

Chart 1: Visual representation of the typology of procrastination in secondary school students and their descriptive characteristics (cluster kernels)

Specifically, Type 1: dysfunctional procrastinator (N=53) represents adolescents with the highest rates of academic procrastination, the highest rates of executive functioning, and also the most problematic Internet use and Internet addiction. Type 2: moderately procrastinator (N=86) exhibit moderate rates of academic procrastination and also the lowest rates of active procrastination, on the other hand, they exhibit moderate rates of problematic Internet use and Internet addiction. Type 3: Functional procrastinator (N=85) is characterized by the lowest rate of academic procrastination and the highest rate of active procrastination, but the lowest rates in executive functioning, problematic internet use and internet addiction.

In the case of university students, as in the case of secondary school students, we obtained a three-loop solution (chart 2).



	Academic procrastination	Active procrastination	Executive functions	Problematic internet use	Internet addiction
1	0,8787	-1,0464	0,98076	1,14343	0,95333
2	0,30171	0,17216	0,19093	0,08473	-0,03291
3	-0,85948	0,32138	-0,8795	-0,70298	-0,78857

Chart 2: Visual representation of the typology of procrastination in university students and their descriptive characteristics (cluster kernels)

Specifically, Type 1: dysfunctional procrastinators (N=105) showed the highest levels of academic procrastination and conversely the lowest levels of active procrastination, with all other areas of study scoring highest, namely executive functioning, problematic internet use and internet addiction. Type 2: moderately procrastinator (N=173) is characterized by medium rates in all the areas studied. Type 3: functional procrastinator (N=171) reaches high values only in the area of active procrastination and, as can be observed from the graphs, is significantly similar in its tendencies to the third cluster of the group of secondary school students. The other clusters did not reach such a significant similarity.

To verify the significance of each tested domain for the typologies of the group of secondary school students and the group of university students, we conducted an analysis of variance (Table 2). All items manifested as significant for the cluster analyses we conducted.

Table 2 Analysis of variance

	Cluster Mean Square	df	Error Mean Square	Df	F	Sig.
Secondary school students						
Academic procrastination	21,848	2	0,573	221	38,135	0,000
Active procrastination	15,327	2	0,729	221	21,012	0,000
Executive functions	69,265	2	0,506	221	136,988	0,000
Problematic internet use	76,334	2	0,503	221	151,833	0,000
Internet addiction	82,248	2	0,582	221	141,300	0,000
University students						
Academic procrastination	111,561	2	0,625	446	178,639	0,000
Active procrastination	68,177	2	0,761	446	89,549	0,000
Executive functions	119,559	2	0,406	446	294,240	0,000
Problematic internet use	111,279	2	0,413	446	269,356	0,000
Internet addiction	99,154	2	0,380	446	260,727	0,000

Note. Analysis of variance was performed on items standardized to Z-scores.

4. DISCUSSION

Some authors (Ziegler and Opdenakker, 2018; Steel, 2007) describe different experiences of academic procrastination in secondary school and university students because of personality and mindset changes in students; therefore, our research question investigated whether it is possible to create a typology of procrastinating secondary school and university students based on scores on active procrastination, executive functioning, problematic internet use, or internet addiction. In a similar study, Doktorová and Kochanová (2020) identified 3 types of perfectionists through cluster analysis, and further examined their relationship with procrastination rates, finding that dysfunctional perfectionists showed the highest rates of academic procrastination compared to functional perfectionists and non-perfectionists. Clearly, procrastination can have a negative impact on the profile of a person who procrastinates at a high rate, compared to a non-procrastinator or a low procrastinator. Given the wide range of characteristics, there may not be a typical profile of academic procrastinators, but there are similarities that do occur. The aim of the research question was to exploit the primary psychological factors related to procrastination found in the literature and examine whether reliable subgroups of procrastinators can be identified using non-hierarchical cluster analysis. After retrospectively assessing our stated aim of the study to identify the typology of procrastinators in our sample of secondary school and university students and examining the differences between the types in the variables we identified-i.e., academic procrastination, active procrastination, executive functioning, problematic Internet use, and Internet addiction-we can conclude that the variables in question profile differently across the types we selected. We found that through relocation cluster analysis, it is possible to identify 3 types of procrastinators in a group of both secondary school and university students, namely, functional procrastinators, moderately procrastinators, and dysfunctional procrastinators.

The first cluster (functional procrastinators) in both groups was characterized by low academic procrastination scores, were classified as active procrastinators with the highest achievement scores, and scored lowest on executive function, problematic Internet use, and Internet addiction achievement scores. Thus, task procrastination does not occur because of fun online activities that are related to immediate gratification but because of thoughtful and planned postponement of an activity (Chu and Choi, 2005; Choi and Moran, 2009; Reinecke

et al., 2018). Because these individuals scored low on measures of executive functions, we can conclude that they have individual executive functions well developed, with executive functions playing an important role in understanding the behavioral regulation and metacognition of procrastinating students (Steel, 2007). The prevalence of this cluster is similar in both groups, with 38.1% of secondary school students and 38.2% of university students belonging to this cluster, while Sliviaková (2011) found that the prevalence of a similar cluster, namely the active procrastinator cluster, is highest in the graduate student group.

The second cluster (dysfunctional procrastinators) in both groups was characterized by high academic procrastination scores, similarly high executive functioning scores, indicating problems in executive functioning. In addition, high scores of Internet addiction and problematic Internet use are typical of this cluster. Thus, the highest Internet addiction scores were achieved by respondents with high levels of procrastination, which is in line with the authors' findings (Kandemir, 2014; Saleem et al., 2015; Gürültü, 2016; Hayat et al., 2020), according to which as the degree of Internet addiction increases, the level of academic procrastination increases. In the group of university students, the students in this cluster were characterized by achieving the lowest scores in the active procrastination variable, which placed them in the category of passive procrastinators. The occurrence of this cluster is similar in both groups, with 23.6% of secondary school students and 23.3% of university students belonging to this cluster, while Sliviaková (2011) found that the occurrence of a similar cluster, namely the passive procrastinator cluster, is highest in the secondary school and university student groups, compared to the graduate students.

A third identified cluster (moderately procrastinators) was located on their range. In the group of university students, this cluster is characterized by the mean scores achieved on all the variables examined. On the other hand, in the group of secondary school students, this cluster is characterized by mean scores for academic procrastination, problematic Internet use and Internet addiction, but the lowest scores for active procrastination, i.e., placing students in the category of passive procrastinators. The prevalence of this cluster is similar in both groups, with 38.3% of secondary school students and 38.5% of university students falling into this cluster.

Limits

We consider the use of self-assessment instruments to be a limitation, and it may have been the case that students may not have had sufficient self-knowledge, which could have led them to lie or deliberately conceal answers, and thus not give answers that reflected their actual behavior. Another limitation is the research population, specifically its size, whereby an increase in the number of respondents (approximately 1,000 respondents) could constitute a nationwide survey. We also consider as a limitation the online data collection without the presence of a researcher carried out during the COVID-19 pandemic, where, despite sufficient instructions provided in the questionnaire header, some questions could have been misunderstood. Further, during this type of data collection, respondents may not have come forward with true socio-demographic information such as age, gender, or school type, which may have also contributed to some extent to bias the results.

Future research

In future research, we recommend an increase in the number of secondary school as well as university students. We also recommend conducting research on procrastination using qualitative methods, as multiple domains of procrastination behavior can be explored through a qualitative methodological framework. Similarly, in future research, we would proceed with longitudinal research, examining the academic behaviors of secondary school students up to

the point of entering university and then studying at university, which could confirm the increasing levels of procrastination over the course of study.

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ARTEFILETIKA AKO CESTA K OTVORENIU VLASTNÉHO JA. ROZVOJ SEBAREALIZÁCIE A SPIRITUÁLNEJ GRAMOTNOSTI CEZ ARTEFILETICKÚ EDUKÁCIU

MEETING WITH MYSELF ART STUDENTS' PERCEPTIONS OF THE TEACHING PROFESSION AT THE BEGINNING OF THEIR TEACHING PRACTICE

Michaela Košútová Guillaume

Abstrakt

Predkladaná štúdia si berie za cieľ ukázať možnosti rozvoja spirituálnej gramotnosti skrze vizuálne možnosti artefiletickej výtvarnej edukácie. Školská edukácia akokoľvek sa snaží vzdelávať a vychovávať deti v duchu aktuálnych poznatkov, má mnoho nedostatkov, zvlášť ohľadom individuálneho a osobného prístupu ku žiakom a vo vytváraní priestoru pre ich individuálne názory a postoje. Aktuálne aj do nášho geografického priestoru prenikajú poznatky z oblasti spirituálnej gramotnosti, ktorá rieši práve túto medzeru v našom edukačnom priestore. Výtvarná tvorba ako forma špecifického sebavyjadrenia sa môže stať priestorom pre slobodné a autentické riešenia (diela), ktoré sú prejavom originálnej tvorivej osobnosti. Takýto priestor ponúkajú artefiletické výtvarné stretnutia, ktoré svojím expresívnym a reflexívnym charakterom suplujú chýbajúci priestor sebavýpovede, rešpektujúc jedinečnosť každého zúčastneného indivídua. Nasledujúca štúdia ponúka výpovede študentov, budúcich pedagógov elementárneho stupňa, ktorí po prvý krát v rozsahu jedného semestra absolvovali artefiletický kurz. Výskumným zámerom bolo odhaliť významové štruktúry a komplexnejšie témy, ktoré by potvrdzovali prekrývanie obsahov artefiletiky a spirituálnej gramotnosti predovšetkým v dvoch nosných oblastiach – poznávanie samého seba a poznávanie sveta.

Kľúčové slová: *artefiletika, expresia, reflexia, výtvarná edukácia, spiritualita, spirituálna gramotnosť, tematická analýza*

Abstract

The present study aims to show the possibilities of developing spiritual literacy through the visual possibilities of art education. School education, however much it tries to educate and raise children in the spirit of current knowledge, has many deficiencies, especially with regard to the individual and personal approach to pupils and in creating space for their individual opinions and attitudes. Currently, knowledge from the field of spiritual literacy is also penetrating into our geographical space, which addresses this very lack in our educational space. Art as a form of specific self-expression can become a space for free and authentic solutions (artworks) that are expressions of an original creative personality. Such a space is offered by artistic art meetings, which, with their expressive and reflective character, substitute the missing space of self-expression, respecting the uniqueness of each participating individual. The following study offers the testimonies of students, future elementary teachers, who took an art-philatelic course for the first time in the span of one semester. The research intent was to uncover meaning structures and more complex themes that would confirm the overlapping content of artephilitics and spiritual literacy, particularly in the two supporting areas of self-knowledge and knowledge of the world.

Keywords: *artephiletics, expression, reflection, art education, spirituality, spiritual literacy, thematic analysis*

1. OD ESTETICKÉHO ZÁŽITKU K SUBJEKTÍVNEJ/VNÚTORNEJ PRAVDE

„Tím, že malíř postihuje podstatu věci, postihuje také sám sebe. Rovněž nikoli teoreticky, například tak, jako psycholog zkoumá vlastní nitro, nýbrž bezprostředním prožíváním. Tím, že v sobě pociťuje dotek podstaty věci, probouzí se něco v jeho vlastní podstatě. ...Člověka můžeme přímo nazvat bytostí, jež je schopna odpovídat svým vnitřním bytím na věci světa a tím uskutečňovat samu sebe" (Guardini, 2009, s. 33).

Cesta k pochopeniu významov, ktoré možnosti artefiletickej edukácie prinášajú na poli poznávania samého seba a poznávania tohto sveta, musí byť osvetlená aspoň veľmi krátkym exkurzom, ktorý načrtne niečo zo spirituality výtvarného sebavyjadrenia a niečo z úplných základov spirituality, respektíve toho, čo by mohlo a malo byť obsahom spirituálnej gramotnosti. Limity tohoto exkurzu si veľmi dobre uvedomujeme a veríme, že je to len začiatok rozsiahlejšieho preskúmavania a integrovania tejto dôležitej témy do edukačného priestoru.

Už od dôb starovekých mysliteľov sa traduje Thalesov výrok *poznaj sám seba*, ktorý bol považovaný za základný kameň poznania a sebarealizácie na tomto svete, alebo ako povedal sám Sokrates: *„kto chce hýbať svetom, nech najskôr pohne sám sebou"*. Ľudské poznanie sa však stále rozširuje, zovšeobecňuje, inštitucionalizuje a predovšetkým objektivizuje. Počas 20. storočia sme sa stali vedeckou civilizáciou, ktorá uznáva predovšetkým to, čo je dokázateľné, empiricky skúmateľné a objektívne. A poznatky odlišné od tohoto vedeckého poznania sveta sú neurčité, neisté a majú oveľa nižšiu váhu. Alebo spadajú do oblasti spirituality, ktorá je s vedou v opozícii, pretože je považovaná a subjektívnu, čo umožňuje, aby bola často spochybňovaná. V súčasnosti, kedy aj vo vede dochádza k mnohorakým prepojeniam a transdisciplinárnym prechodom sa pomaly rodia prístupy, ktoré rehabilitovali aj ono duchovné poznanie a začínajú ho vnímať ako rovnocenný spôsob skúmania a poznávania tohoto sveta.

„Lidská mysl je schopna dvojího způsobu poznání a získávání informací o světě a povaze vesmíru. První modus poznání je naše běžné, každodenní vnímání propojené s racionálním úsudkem. Druhý modus vnímání se projevuje ve spiritualitě a jejích rozličných podobách, stupních a projevech (mystika, psychospirituální krize), v intuici, v poezii, v umění, v hudbě, ve snech a v lucidním snění, v imaginaci, v lásce a zamilovanosti, a také třeba v prožitkových psychologických technikách. Duchovní stránka, byla ale ve značné míře z naší kultury vytěsněna" (Nemečková, 2015, s. 5)

Hoci je 21. storočie už oveľa bližšie k subjektívnym oblastiam našich životov a veda začína skúmať fenomény ako šťastie, lásku, wellbeing alebo vplyv meditácie na život a kvantová fyzika sa približuje k odhaľovaniu toho, čo sme dlho považovali za duchovné pravdy, predsa len je subjektívne vnímanie a poznávanie tohoto sveta ešte akosi mimo „hlavný ťah". Jednou z oblastí, ktorej poznávanie a „uchopovanie sveta" sa nachádza mimo závažné pravdy a relevantné poznatky tohoto sveta, a preto ju nie je nevyhnutné prednostne presadzovať ani vo vzdelávaní, je aj umelecká tvorivosť. Keďže našou perspektívou je vizuálna umelecká tvorivosť a jej možnosti v rozvíjaní spirituálnej gramotnosti, budeme sa uberať týmto smerom.

Keď vo vývoji našej spoločnosti pominul pragmatický účel výtvarného (vizuálneho) procesu a zaznamenávanie obrazov i samotného deja prevzali kamery a fotoaparáty, výtvarná tvorba stratila pre väčšinu populácie významnú časť opodstatnenia. Zostala vymedzená ako oblasť veľmi špecifickej skúsenosti talentovanej elity. Výrazná marginalizácia umeleckej tvorby delegovala vizuálnu umeleckú tvorbu do oblasti voľnej a rekreačnej činnosti, ktorú človek

vykonáva pre svoje individuálne potešenie, prípadne potešenie ostatných, nemá však všeobecnejšie a zvlášť racionálne a objektívne vyústenie a nemôže sa preto vyrovnať nárokom, ktoré sú kladené na racionálne (vedecké) poznávanie tohoto sveta. Ako sa vyjadruje Vančát (2000) ono subjektívne sa potom voči objektívnemu javí ako čiastočné a neúplné a tiež i ľahko pominuteľné. Avšak tak je tomu, len z tejto objektívnej vedeckej perspektívy, ktorá neuznáva subjektívnu pravdu. Po celé 20. storočie však prichádzajú solitérske osobnosti a neskôr aj hnutia, ktoré presadzujú podnety z oblasti individuálneho prístupu, individuálnej skúsenosti a poznania, uznávajú autenticitu mysliaceho a tvorivého subjektu, aby upozorňovali na význam autentickej sebaskúsenostnej pravdy, ktorá je jedinečná a neprenesiteľná. Tento moment - človek ako autentický subjekt tvorenia je zvlášť vypuklý pokiaľ ide o sebavyjadrenie, ktoré je prirodzeným odrazom vnútorného sveta individuálneho bytia i jeho vnímania vonkajšieho sveta. Jaroslav Vančát pri tvorbe pragmatického modelu výtvarnej výchovy upozorňuje na závažný avšak skrytý fakt:

Je-li dosud za cílový smysl umění často považováno vyvolání kantovské „libosti bez praktického prospěchu“, je v předkládaném modelu takto vyjadřované očekávaní považováno pouze za fenomén, překrývající pravý, obecně neuvědomovaný účel uměleckého výtvarného procesu – být nástrojem jistějšího existenciálního vymezení a tím i pevnějšího existenčního zajištění subjektu i lidstva v realitě (neboli vůči realitě), ve které jsou nuceni obhajovat svou existenci“.

„…takto přijatá premisa však dává důvod považovat umění za jednu z nejpodstatnějších činností lidstva, principiálně stejné podstaty a tudíž stejně důležitou jako získávaní potravy či zajišťovaní životního prostoru“ (J. Vančát 2000, s. 28).

Porozumieť tomu, kto som, kam smerujem, čo je mojím účelom, prečo som tu na svete, patrí medzi podstatné – existenciálne otázky každého človeka. Odpoveďou na ne človek získava svoje životné smerovanie, naplnenie, sebarealizáciu, zmysel života. Lekár a psychoterapeut Viktor Frankl autor logoterapie[1] považoval existenciálnu frustráciu – pocit nezmyselnosti vlastnej existencie a prázdnoty za základnú príčinu takmer všetkých psychických problémov.[2] Tie v rámci psychoterapie liečil nájdením vôle k zmyslu, k pochopeniu a naplneniu účelu, pre ktorý sa človek narodil, alebo ktorý vyplýva z jeho aktuálnej situácie. Spiritualita ako všeobecný pojem pre hľadanie tohto zmyslu a účelu je verme, tak ako tvrdí Nemečková (2015) súčasťou kultúrnej evolúcie človeka, pričom ide o proces evolúcie vyšších etáp vedomia. Spiritualita je novou métou, a tým že napomáha človeku vstúpiť do seba, nájsť a porozumieť účelu a zmyslu vlastnej existencie, by isto nemala stáť ani mimo nášho edukačného systému.

Alfried Längle, psychoterapeut, ktorý si uvedomuje silnú väzbu medzi existenciou a spiritualitou, vníma psychoterapiu ako liečbu duševných chorôb, porúch a problémov skrze mobilizáciu duševných a duchovných síl. Existencia ako taká podľa neho pramení v štyroch základných dimenziách:

svet so svojimi podmienkami a možnosťami; vlastný život, vlastné osobné bytie (bytie sám sebou); budúcnosť so svojimi výzvami k jednaním.

Uvedené štyri dimenzie sú základné podmienky naplnenej existencie, neustále prestupujú naše bytie, a to vo všetkých jeho oblastiach ako hovorí Längle vstupujú až na úroveň motivácie:

1. *Motivácia k fyzickému prežitiu a k duchovnému zvládnutiu svojho bytia - Môcť byť;*
2. *Motivácia k psychickej chuti žitia a prežívania hodnoty - Priať si žiť;*
3. *Motivácia k osobnej pravdivosti a spravodlivosti - Smieť byť taký;*

[1] Logoterpia je druh psychoterapie, ktorej cieľom je vyvolať vôľu k zmyslu a tým vyriešiť existenciálnu frustráciu, ktorá je najčastejším dôvod psychických problémov dneška. Pochopenie zmyslu života, dáva životu účel a prebúdza vôľu a chuť žiť. Stratu zmyslu života považuje za neurózu našej doby.

[2] Za výnimku považoval len noogénne neurózy.

4. *Motivácia k existenciálnemu zmyslu a k napĺňaniu hodnôt - jednať určitým spôsobom* (Längle, 2007, s. 38-40)

Podľa Längle-ho tieto štyri dimeznie predstavujú podmienky k naplneniu existencie a sú zároveň základom tzv. existenciálnej analýzy, ktorá významne hraničí so spiritualitou. Základom je *existenciálny zmysel,* ktorý si Längle požičiava z Franklovej definície „možnosť pred pozadím skutočnosti", tú Längle vymedzuje ako *najhodnotnejšiu možnosť danej situácie.* Ide o to, čo je momentálne v aktuálnej situácii pre človeka možné a čo je potrebné, aby urobil, lebo je to najnaliehavejšie, najhodnotnejšie a najzaujímavejšie. No a popri tomto existenciálnom zmysle, ktorý vnímame v rovine indivídua a toho, čo je jeho zmyslom v danej chvíli, existuje zmysel celku v ktorom sa nachádza a ktorý nezávisí len na ňom. Je to zmysel filozofický a náboženský (zmysel stvoriteľa), ide o všetkozahŕňajúce tajomstvo, vieru - spirituály rozmer (Längle, 2007).

1.1 Nenáboženská spirituálna gramotnosť a je kontexty

Spiritualita je nerozlučne spätá s ontológiou. Každý človek sa od narodenia učí o tomto svete nové a nové poznatky, nevyhnutné pre svoje prežitie. Charakter jeho života sa však okrem poznania a životnej či spoločenskej (kultúrnej) situácie, do veľkej miery utvára na základe jeho špecifického vnímania a reagovania na tento svet, utvára sa tým jeho individualita realizuje sa jeho bytie. Charakter jeho bytia potom určuje spôsoby akými reaguje na podnety, ako sa správa a aké akcie uskutočňuje. Naše zmýšľanie a konanie je dané našim špecifickým vnímaním, „naším svetom", tým, čomu veríme a čo je pre každého z nás dôležité. Ovplyvňuje to náš spôsob s akým nahliadame na existenciálne otázky, k čomu inklinujeme a čo sa na základe našich presvedčení rozhodneme vykonať. Bez ohľadu na to, aký je charakter našej viery, či sa obraciame k vyšším princípom bytia alebo neveríme ničomu okrem toho, čo je možné si ohmatať, bez ohľadu k tomu aké je naše vierovyznanie, každý z nás špecificky utvára svoj priestor bytia, nadstavuje svoje nasmerovanie, čím vlastne kreuje sám seba, toho kým je a kým sa stane. V tom, čo človek robí a kam svojím konaním smeruje, nachádza svoj zmysel bytia, svoju cestu, svoj účel.

1.1.1 Zadefinovanie spirituálnej gramotnosti

Spirituálna gramotnosť nie je u nás ani vo svete ešte žiaden etablovaný odbor. Ide o slovné spojenie, ktoré poukazuje na závažný obsah, ktorému sa aktuálne venuje pozornosť, ktorý ale ešte len vzniká.

Spiritualita je komplexní a mnohovýznamový fenomén, jehož obsah se v současném diskurzu stále tvoří. Spiritualita představuje z pohledu nového paradigmatu důležitou, vrozenou dimenzi života a je nedílnou součástí lidské existence a univerzálního řádu věcí. Úzce souvisí s uvědoměním si konečnosti života a zejména s hledáním smyslu života. Nemečková (2015, s. 8)

Spiritualitu možno konceptualizovať ako osobné hľadanie hlbokého vnútorného porozumenia a účelu (Lin 2006), spojenie s tým, čo je väčšie (Palmer 1998) a múdrosti a súcitu (Miller 2006). Možno ju chápať ako transformačný posun smerom k humanistickému poznaniu a zmyslu pre identitu v rámci komunity a sveta (Miller 2007; White 1996). Hľadanie vlastného účelu sa potom odráža akoby v dvoch základných rovinách – introspektívne hlboké porozumenie samého seba a následne prepojenie s okolitým svetom či už v podobe úzkej komunity alebo celého stvoreného sveta.

Osobní, existenciální rovina, která je orientovaná na snahu o autenticky žitý život a cestu k nalezení vyrovnanosti a smysluplnosti vlastního života, se propojuje s potřebou překročit sama sebe a cítit spojení s ostatními a se světem. U nejpokročilejších stadiích mizí orientace na vlastní individualitu a kontemplativní cestou dochází ke kvalitativnímu skoku v prociťování reality. Život je žitý v úplném sjednocení. (Nemečková, 2015, s. 8)

Spirituálna gramotnosť je pojem, ktorý má tiež blízko k pojmom ako sebatranscendencia (Kitson a kol. 2020), „mindfulness“, „flow“, „peak experience“ (Yaden a kol. 2017a). Definícia spirituálnej gramotnosti podľa Fredericka a Mary Brussatových (1996) je: „*schopnosť čítať znaky napísané v textoch našich skúseností“*. Rozpoznanie týchto „znakov“ uskutočnené prostredníctvom pochopenia vnútorného ja a zverejňovania myšlienok zlepšuje prepojenie skúseností s vonkajším svetom. Spomenuté znaky skúseností Binder (2011) interpretuje ako texty identity, ktoré sa nám odhaľujú prostredníctvom rozprávania alebo kreslených či maľovaných obrazov, ktoré tiež ukazujú ako vzájomne súvisia a navzájom sa ovplyvňujú. Podľa Binder, ktorá pracuje s rozvíjaním spirituálnej gramotnosti detí, má každé dieťa má svoj vlastný jedinečný podpis, ktorý poskytuje učiteľom akúsi sociálne konštruovanú šošovku porozumenia, ale umožňuje aj reflexiu a potenciál pre transformáciu vzdelávacích postupov. Čítanie týchto znakov je proces zakotvený v akte pochopenia vnútorného života, ktorý vlastníme všetci (Binder 2011).
Spiritualita človeka je vyjadrená prostredníctvom hlbokého uvedomenia si osobného bytia, súcitu a autentickosti toho, ako sa toto prepája s ostatnými a so svetom (Palmer 1998). Brussat & Brussat (1996) upozorňujú na to, že k spirituálnej gramotnosti nie je nevyhnutná intelektuálna kapacita, ako ľudia sme disponovaní, tým, že sme ľudia, nevyžaduje žiadne školenie. Jej prvkami sú: pozornosť, prítomnosť, súcit, oddanosť, nadšenie, viera, odpustenie, milosť, vďačnosť, nádej, pohostinnosť, predstavivosť, láskavosť, počúvanie, láska, starostlivosť, otvorenosť, hravosť, hľadajúci postoj, úcta, ticho, vízia, zázrak, túžba, horlivosť. (Brussat & Brussat, 1996, s. 19–25).

1.1.2 Nenáboženská spirituálna gramotnosť

V súčasnosti sa diskurz okolo spirituálnej gramotnosti stáva veľmi aktuálnou otázkou, vzhľadom k tomu, že by sa rozvíjanie spirituality potencionálne mohlo stať ďalším aspektom, respektíve ďalšou súčasťou súboru gramotností, ktoré sú v pedagogickom snažení cieľovými métami, veľký význam získava nenáboženská spirituálna gramotnosť, ktorú vnímame ako všeobecnú potencialitu vlastnú každému subjektu bez ohľadu na jeho religiozitu (príslušnosť k určitej viere).
„Spiritualita, která byla z newtonovsko-karteziánského pohledu na svět vyřazena, prožívá renesanci, ale zároveň je potřeba říct, že ještě není mnoho koherentních teorií či výzkumných metodologií, které by konstrukt nenáboženské spirituality vysvětlovaly, a jednotná koncepce pojetí jejího studia zatím chybí“. (Nemečková, 2015, s. 3).
Jednoduché zadefinovanie nenáboženskej spirituálnej gramotnosti podáva Říčan (2006) keď ňou označuje zážitky, ktoré sú zažívané mimo náboženskú organizáciu a bez akéhokoľvek vzťahu k jej doktrínam. Viktor Frankl, ktorý v rámci svojej teórie logoterapie definoval ľudskú povahu ako trojdimenzionálnu, nazýva jej tretiu dimenziu duchovnou a znamená *vôľu ku zmyslu*. Pričom túto duchovnosť nepovažoval za nutné spájať s náboženstvom, podľa neho je vecou človeka do akej miery dá zmyslu svojho života náboženský význam (Drappela, 1997). „*Pro logoterapii může být náboženství jedine předmětem, nikoli dejištěm...Religiózní a ireligiózní existence jsou pro logoterapii v zásadě koexistující fenomény.“* (Frankl, 2016, s. 80).
Spiritualita a religiozita sú v kultúrnom kontexte veľmi intenzívne prepojené. Potreby napĺňania vlastného existenciálneho zmyslu väčšinu ľudí vedú k potrebe združovať sa s ďalšími ľuďmi, ktorých existenciálny zmysel sa orientuje na rovnaké ciele a hodnoty, tie sa stávajú spoločne zdieľanými, udržiavanými a rozvíjanými v špecifických rituáloch a tradíciách. Jednou z takýchto foriem je náboženstvo. Napriek tomu, že vzájomná podpora v spirituálnych cieľoch je významnou silou, ktorou religiozity disponujú, je individuálna spiritualita niečo, čo je vlastné každému človeku. Autentické hľadanie vlastného zmyslu a účelu je totiž naliehavou potrebou každého jedného indivídua.

1.2 Artefiletika – spritualita sebavyjadrenia

Skúsenosti s rozvíjaním spirituálnej gramotnosti ukazujú, že u detí zvlášť v mladšom veku je kresba alebo akákoľvek forma výtvarného stvárnenia výborným nástrojom k poznávaniu postojov a náhľadov detí na svet (Brussat a Brussat, 1996; Binder 2011). Výtvarný záznam je prirodzeným spôsobom ako dieťa zapisuje svoje vnímanie diania okolo neho, ale vyjadruje ním tiež svoje postoje – blízkosť, dôležitosť alebo naopak vzdielanosť, odťažitosť, obavy, strach a nedôveru.

„Skúmanie duchovnej gramotnosti vyplynulo z túžby prehĺbiť moju holistickú prax prostredníctvom vzdelávania založeného na umení v mestských triedach. Pozorovala som, že prostredníctvom poskytovania alternatívnych foriem vyjadrovania a zážitkov, ako je napríklad vizualizácia, kreslenie a maľovanie, malé deti nachádzali priestor, ktorý odhaľoval hlboké porozumenie ich vnútorného sveta a sveta okolo nich“ (Binder, 2011, s. 22).

V rámci edukácie výtvarného umenia je možné v súčasnosti v našom geografickom regióne sledovať viacero prúdov metodík výtvarného umenia. Ich rôznorodosť je daná tým, aký je ich hlavný zámer a akými inštrumentálnymi zložkami - pedagogickými teóriami a metódami sú zastrešené. Artefiletika má medzi nimi špecifické postavenie, zo všetkých aktuálnych metodík výtvarnej edukácie sa vo svojej výtvarnej tvorivej činnosti najviac orientuje na prežívanie a poznávanie sveta a seba samého. Kým v ostatných metodikách nachádzame vo väčšej alebo menšej miere inšpiráciu výtvarným umením, jeho osobnosťami alebo nejakým špecifickým poznaním, témou, či médiom a pod., artefiletika má cieľ vytýčený inak. Keďže vznikla ako prienik medzi expresívnymi terapiami a pedagogikou respektíve výchovou, stala sa expresívnu výchovu, ktorá má na zreteli špecifický cieľ – osobné skúsenosti žiakov. Prienik so spirituálnou gramotnosťou – čiže oblasťami určitej základnej spirituality je skutočne markantný.

Z metodického hľadiska je artefiletický prístup založený na psychodidaktickom využívaní dvoch navzájom prepojených zložiek: expresie a reflexie (Slavík 2001). Kým v expresii vytvárame podmienky pre tvorivý výrazový prejav dieťaťa, tak v reflexii uskutočňujeme dialóg – rozhovor ako spätný pohľad na to, čo bolo vytvorené. Artefiletické stretnutie sa tak skladá z dvoch na seba nadväzujúcich fáz. V prvej podnietime premýšľanie detí nad vhodnou témou, ktorú im priblížime v podobe nejakého príbehu, imaginácie, prípadne ju stimulujeme cez viaceré zmysly a následne ich necháme vzniknutú predstavu objavovať a výtvarne zaznamenávať najčastejšie voľným experimentovaním s výtvarným materiálom. Ide o spontánny záznam ich poznania, myšlienok, zážitkov, skúseností, túžob či emócií spojených s danou témou. Expresívna (vyjadrujúca, výrazová) fáza nemusí mať nutne charakter vizuálny, môže byť tiež spojená s dramatizáciou, hudobným alebo pohybovým stvárnením, väčšinou je však jej súčasťou aj výtvarný záznam[3]. V druhej časti nasleduje dialóg, v ktorom spoločne zisťujeme, čo ktoré dieťa vytvorilo, aké malo k tomu motívy, nad čím premýšľalo a ako celý proces tvorenia prebiehal z hľadiska jeho prežívania. Účastníci zvyčajne sedia v kruhu a každý dostane svoj priestor prerozprávať ako vznikalo jeho dielo, reflektuje jeho pôvodné myšlienky predstavy a napokon výsledok.

Ďalšie kontexty artefiletiky možno vyvodzovať tiež z etymológie slova. Pomenovanie artefiletika, je zložené z dvoch častí arte *(art, artis,)* - nás privádza k výtvarnému umeniu, *arte* však upriamuje pozornosť tiež na arteterapiu, s ktorou má (ako vysvetlíme) artefiletika veľa spoločného. Prípona filetika ako vysvetľuje Slavík (2001) odkazuje k Filétovi z Kou, čo bol helenistický učenec a básnik. Z tohoto základu vznikla prípona *filetický* (fil - mať rád), v zmysle prístupu vo výchove, čo možno chápať ako pozitívny citový vzťah v tomto prípade

[3] Ešte pred začatím tvorivej práce sa v úvode artefiletického stretnutia na uvoľnenie a naladenie skupiny používajú krátke cvičenia na prelomenie ľadu alebo zmenu/vyladenie atmosféry v skupine. Nazývajú sa ledolamky.

k umeniu. Avšak *filé* znamená tiež vlákno, čiže potenciál nejakého spájania, vytvárania sietí (Mathauser 1998, in Slavík 2001). Pojem artefiletika má svoj pôvod v Čechách. Od 50-tych rokov 20. storočia sa tu vyvíjala arteterapia, bez podpory štátu a publicity, napriek tomu sa mnohí výtvarní pedagógovia v tejto oblasti neoficiálne vzdelávali. Od 90-tych rokov vplyv arteterapie vo výtvarnej výchove ešte zosilnel. Skúsenosti však ukázali, že preberanie arteterapeutických metód a techník určených predovšetkým pre psychoterapiu, nie je pre školu vhodné. Toto poznanie výtvarných pedagógov zaoberajúcich sa arteterapiou prinútilo prehodnotiť ich pedagogickú prácu. Inšpirujúcim sa stal v tomto smere článok Liony Breslerovej (1994) popisujúci *filetické* poňatie výtvarnej výchovy, ktorá rozvíja paralelne intelektuálne, sociálne a emocionálne dispozície žiakov. Spojením predpony *arte* s termínom *filetický,* vznikol termín artefiletika, bol publikovaný samostatnou stať ou v roku 1994 a odvtedy a používa na označenie špecifického poňatia výtvarnej výchovy a výchovy umením (Slavík, 2003). Medzi hlavných priekopníkov a teoretikov artefiletiky patrí Jan Slavík. O artefiletike by bolo možné ešte veľa napísať, ale budeme rešpektovať limity tejto štúdie.

1.2.1 Artefiletika u budúcich pedagógov elementárneho stupňa

Inkluzívne tendencie vo vzdelávaní priniesli na jednej strane zmiešané triedy a možnosť kvalitnejšieho vzdelania a podnetného prostredia aj pre deti s určitými odlišnosťami, ktoré by inak neboli zaradené do bežných tried. Na druhej strane spôsobili že máme v triedach veľa „iných“ detí a okrem zvládnutia ich problémov so štúdiom či správaním, je často nevyhnutné podporovať kolektív a pracovať na vzájomnom rešpekte, znášanlivosti, spolupráci a zlepšovaní vzťahov. V našom pedagogickom štúdiu majú študenti možnosť zvoliť si ako nepovinný predmet základy z expresívnych terapií - arteterapie alebo muzikoterpaie a v rámci rozširovania podporných pedagogických metód a disciplín sme do ponuky s novou akreditáciou pridali predmet artefiletika. Predmet si hneď v prvý semester štúdia vybralo 103 študentov predškolskej elementárnej pedagogiky. Radosť a pozitívny prístup študentov bol nad naše očakávania. Keď sme boli v závere semestra nútení zhrnúť v krátkosti skúsenosť z výučby artefiletiky, ktorú sme u týchto študentov po prvý krát vyučovali, prekvapilo nás, že v našej evalvácii dominovalo spojenie – oni sa odblokovali. Toto odblokovanie malo hneď niekoľko perspektív. Na jednej strane sa odblokovali v rámci výtvarného vyjadrenia, ktoré po rokoch formálneho prístupu a snahy o dokonalosť nadobudlo hranice slobodného sebavyjadrenia toho kým študent je. Na strane druhej sa odblokovali vnútorne a dokázali prostredníctvom hodín nielen vizuálne vyjadriť svoje pocity, obavy, skúsenosti, či predstavy vo výtvarnom materiáli, ale tiež verbálne v rámci reflexie pomenovať, čo prežívajú a čo si myslia. Pre mnohých bola táto skúsenosť taká prevratná, že sme sa rozhodli tieto výpovede zaznamenať v podobe krátkej eseje na konci semestra, kde sa študenti mohli rozpísať o svojej skúsenosti. Výsledky výpovede 103 študentov tematicky analyzujeme a predostierame v nasledujúcej interpretácii.

2. SÚČASNÁ ŠTÚDIA

Cieľom nášho kvalitatívneho výskumu bolo zistiť, či artefiletická koncepcia výtvarnej edukácie dokáže u študentov rozvíjať dve základné oblasti, ktoré korelujú so spirituálnou gramotnosťou: poznanie samého seba a poznávanie tohoto sveta. Na základe cieľov sme si stanovili výskumné otázky:

1. Budú študenti vo svojich vyjadreniach uvádzať, že artefieletické stretnutia prispeli k ich sebapoznaniu?
2. Budú študenti vo svojich vyjadreniach uvádzať, že artefieletické stretnutia prispeli k poznávaniu sveta?
3. Budú študenti artefiletickú edukáciu považovať za efektívnu pre ich budúce pôsobenie a edukáciu žiakov?

Použili sme metódu induktívnej tematickej analýzy, prostredníctvom ktorej sme sa snažili odhaliť jednotlivé významové štruktúry a komplexnejšie témy v oblasti skúseností študentov. V rámci zberu dát sme využili esej. Esej je typická tým, že prechádza k téme in medias res, pričom študentovi umožňuje slobodne sa vyjadriť, zaujať vlastné stanovisko, rozvinúť tému, argumentovať a vysvetľovať prečo je práve takýto prístup dôležitý. Dáva priestor rozvinúť autentické názory, náhľady a postoje, dokonca umožňuje autorovi vložiť sa do nej svojím príbehom, byť aktérom zmien alebo činov, ktoré predostiera. K eseji dostali študenti nasledujúce okruhy:

- Ako vnímam artefiletiku.
- V čom vidím jej prínosy, prípadne mínusy.
- Ako si viem predstaviť artefiletiku vo svojej praxi.
- Aká je moja skúsenosť s artefiletikou. Reflexia vlastnej práce.

Kombináciou týchto okruhov bolo naším zámerom získať autentické dáta, ktoré by nám potvrdili hypotézy o tom, že artefiletika je pre oba spôsoby poznávania vhodná koncepcia, a je preto jej prostredníctvom možné rozvíjať dôležité oblasti spirituálnej gramotnosti. Zároveň študenti mali možnosť tiež reflektovať vlastné zážitky a skúsenosti z procesu tvorby a vyjadriť sa, či si takýmto spôsobom prajú v budúcnosti učiť.

2.1 Metodológia

V rámci nášho výskumu sme sa podujali zistiť aké významové štruktúry sa nachádzajú vo výpovediach študentov, ktorí sa po prvý krát stretli s artefiletickou výtvarnou edukáciou. Pre identifikáciu a analýzu významových vzorcov v súbore údajov je podľa Braun & Clarke (2006, 2013) vhodná tematická analýza, ktorá dokáže identifikovať a analyzovať významné témy v rámci skúmaného javu (Daly et al. 1997). Predpokladali sme, že v esejistických výpovediach nájdeme širšiu varietu tém, ktorým študenti budú venovať svoju pozornosť, pričom sa dá ale predpokladať, že sa budú témy zgrupovať do určitých tematických okruhov. Keďže štúdium predškolskej a elementárnej pedagogiky má pomerne široký predmetový rozsah a s artefiletickou koncepciou ani artefiletike podobnou koncepciou sa študenti ešte vo svojom štúdiu nestretli, tak nebolo úplne možné predpokladať, aké témy budú ich diskurzu dominovať. Vzhľadom k štruktúre artefiletickej jednotky je ale pravdepodobné, že sa budú témy zgrupovať v oblasti expresie (výrazového vyjadrenia) a reflexie, kde s prihliadnutím na využitie dialogickej metódy možno predpokladať príklon k témam artikulujúcim význam komunikácie a keďže osobné vyjadrenia v záverečnom reflexívnom dialógu sa uskutočňujú spoločne, dala sa predpokladať aj zmienka v oblasti sociálnych kompetencií.
Náš metodologický postup je zhodný s prístupom Swaina (2018), ktorý ponúka pomerne komplexný a systematický prístup v orientácii ako pracovať s tematickou analýzou. Ide o flexibilnejší nelineárny rámec skúmania. Autor sa špecificky venuje analýze dát, pričom využíva tak deduktívne ako aj induktívne postupy a v procese výskumu sa stáva nielen zberačom dát, ale zároveň aj ich objaviteľom. Výskumník podľa neho vystupuje ako sprostredkovateľ, ktorý ovplyvňuje údaje/zistenia tým, že neustále robí rozhodnutia a výbery, ako a čo kódovať a ako a prečo údaje/zistenia prezentovať a opätovne reprezentovať. Získané dáta boli veľmi bohaté a bolo by možné ich spracovať aj do väčšej hĺbky, rozsah tejto štúdie to však úplne neumožňuje.

2.2 Výskumná vzorka

Výskumnú vzorku tvorili študenti druhého a tretieho ročníka Pedagogickej fakulty Trnavskej univerzity. Ide o študentov denného štúdia študujúcich v odbore Predškolská a elementárna pedagogika. Výskumu sa celkovo zúčastnilo 103 študentov, z toho 102 žien a 1 muž.

2.3 Jednotlivé kroky analýzy

1. Oboznámenie sa s údajmi a počiatočné kódovanie: analýzou textov jednotlivých esejí v programe atlas.ti. sme získali samostatné významové vyjadrenia a témy. V našej výskumnej vzorke takto vzniklo 139 primárnych tém – vyjadrení o rôznych aspektoch, ktoré si študenti s artefiletikou spojili.
2. Tematické skupiny - jednotlivé samostatné primárne témy sme spájali do väčších zmysluplných celkov – tematických skupín, pričom sme pri niektorých témach využívali aj implicitné – latentné významy. Napríklad k téme Sloboda vo výtvarnom vyjadrovaní sme zaradili aj menej explicitné vyjadrenia : *dať im voľnú ruku pri tvorení, neriadi sa prísnymi pravidlami, téma bola otvorená* alebo *mohla som do témy vložiť niečo jedinečné.* Postupovali sme tak, aby téma zostala konzistentná, ak vyjadrenie v rámci skupinovej témy pri opakovaných kontrolách nesedelo, vyradili sme ho. Touto cestou vzniklo najskôr 19 tematických skupín.
3. Cizeláciou tematických skupín, ktorá prebiehala opakovanými kontrolami sme upravili pomenovania a obsahy jednotlivých tematických skupín tak, že niektoré sme vďaka veľkej podobnosti zlúčili, ale dbali sme na to, aby boli významovo jasné a obsahovo konzistentné. Tvrdenia, ktoré narušali obsahovú kompaktnosť tematických skupín sme vyradili. Výsledkom bolo 14 tematických skupín.
4. Tematické skupiny, ktoré boli významné svojou početnosťou alebo rozmanitosťou sme potom ešte skúmali a analyzovali podrobnejšie.
5. Výsledky sme následne voľne interpretovali (keďže išlo o induktívnu analýzu) a následne tabelovali.

2.5 Výsledky výskumu

Analýzou 103 esejí študentov s niekoľkostupňovým cizelovaním sme sa dopracovali ku 14 tematickým skupinám, ktoré v rámci vyjadrení študentov mali najväčšiu frekvenciu. V nasledujúcej tabuľke (Tab.1) uvádzame tematické skupiny vzostupne od tých s najväčším sýtením až po tie s nižším sýtením. Niektoré skupiny majú vysoké sýtenie výrokmi aj keď početnosť ich jednotlivých tém je nižšia ako v iných.

Tab.1: Tematické skupiny a príslušný počet tém v skupinách - kumulatívne

	Tematické skupiny	**Počet tém**	**Početnosť vyjadrení**
1.	Artefiletika je...	9	154
2.	Sebavyjadrenie	13	152
3.	Zlepšenie emočného stavu	10	151
4.	Rozvoj tvorivosti a predstavivosti	5	116
5.	Osobný rast a sebarealizácia	8	112
6.	Sloboda vo vyjadrení	6	95
7.	Rozvoj sociálnych kompetencií	11	73
8.	Rozvoj komunikačných kompetencií	8	70
9.	Navnímanie dieťaťa (Diagnostika)	5	60
10.	Využitie artefiletiky v budúcej praxi	1	58
11.	Liek, terapia, pomoc	7	53
12.	(Ne)Hodnotenie	3	27
13.	Pocit bezpečia.	3	26
14.	Pohľad na svet – aktuálne problémy	2	18

Sebapoznanie a poznávanie sveta

Efektívne využite artefiletických postupov predurčuje k tomu, že výtvarná tvorba prirodzene osciluje okolo tém, ktoré sú jej zámerom, a to je poznávanie samého seba a poznávanie tohoto sveta. Ide o dva základné vzťahy, ktoré sú tiež predmetom spirituálnej gramotnosti, ktorá je vyjadrená tým, že človek hľadá hlboké vnútorné porozumenie a účel (Lin 2006), pričom toto hľadanie vlastného účelu sa potom odráža v dvoch základných rovinách – introspektívne hlboké porozumenie samého seba a následne prepojenie s okolitým svetom či už v podobe úzkej komunity alebo celého stvoreného sveta (Miller 2007; Palmer 1998, White 1996). V artefiletickom poňatí sa zásadným stáva vytvoriť podmienky pre spontánny výrazový prejav človeka, expresia totiž predpokladá vnútorne skomponovaný produkt vznikajúci na základe autentickej skúsenosti bytia, obohatený o osobný vklad, ktorý autor následne manifestuje exteriorizáciou, najčastejšie v niektorom z umeleckých druhov (Guilluame, 2019). Fundamentálnym prvkom expresie je tvorivosť. Umelecká tvorivosť sa podľa Kusina a Sollárovej sa manifestuje prioritne emocionálnym určením, ktoré môžeme implicitne označiť ako dominantné aj pre umelecký výraz – expresiu (Kusin – Sollárová, 2002, s. 93). Na základe vyššie uvedeného teda možno predpokladať, že efektívne aplikovaná artefiletická edukácia by mala oscilovať okolo variety vyjadrení pertraktujúcich, sebapoznanie, poznanie sveta s prepojením na emocionálny svet jedinca. Keď sa pozrieme na tabuľku 2, zistíme, že v rámci najpočetnejších šestnástich tém, doslova dominujú témy spojené so sebapoznaním, sebavyjadrením, sebavnímaním, či vyjadrením a komunikovaním vlastných pocitov. Pre jasnejšiu predstavu sme tieto témy v Tabuľke 2 podfarbili oranžovou farbou. Päť pomerne výrazne saturovaných tém zahŕňa:

- Vyjadrenie vlastných citov, pocitov a emócií (59)
- Sebapoznanie a sebavnímanie cez výtvarnú tvorbu (56)
- Neohraničenosť (voľnosť) – je len na mne ako tú tému pojmem – otvorená téma (34)
- Sebaprejavenie – tvorba ako sebaobraz (25)
- Poznanie, Pomenovanie, komunikovanie vlastných pocitov (24)

Tab. 2 Najfrekventovanejšie témy bez ohľadu na výskyt v tematických skupinách

	Téma	**Početnosť vyjadrení**
1.	Vyjadrenie vlastných citov, pocitov a emócií	59
2.	Artefiletiku chcem a budem uplatniť v budúcej praxi	58
3.	Sebapoznanie cez výtvarnú tvorbu sebavnímanie	56
4.	Oddych, relax, vyventilovanie, vypnutie	44
5.	Rozvoj kreativity	38
6.	Neohraničenosť (voľnosť) - je len na mne ako tú tému pojmem – otvorená téma	34
7.	Artefiletiku je pozitívna, prínosná, užitočná	34
8.	Rozvoj fantázie	30
9.	Bavilo ma to, napĺňalo ma to, chodila som sem rada, užila som si to	29
10.	Uvoľnenie (napätia), zbavenie stresu	28
11.	Rozvoj spontaneity, originality, jedinečnosti	25
12.	Sebaprejavenie – tvorba ako sebaobraz	25
13.	Navnímať čo dieťa prežíva, porozumieť mu	25
14.	Uvoľnená atmosféra, príjemná, upokojujúca	25
15.	Poznanie, Pomenovanie, komunikovanie vlastných pocitov	24
16.	Vždy som sa na hodiny tešila	24

Analýzou ostatných najfrekventovanejších tém zisťujeme, že veľmi významným bol pre študentov pocit uvoľnenia, oddychu, upokojenia a vnútorného naplnenia (v tabuľke 2 sme ich podfarbili tyrkysovou farbou). Dve z tém petraktujú tiež potešenie, radosť a užívanie si takejto formy edukácie. Celkovo možno zhodnotiť, že artefiletika bola podľa študentov nielen obľúbená, ale považujú ju za zmysluplnú a veľmi vysoký počet študentov sa jednoznačne vyjadril, že takúto formu edukácie chce realizovať vo svojej budúcej praxi (fialové podfarbenie). Tretí tematický okruh, ktorý sa ocitol medzi najfrekventovanejšími vyjadreniami je rozvoj kreatívnych schopností – tvorivosti, fantázie originality a jedinečnosti. Za ďalšiu veľmi dôležitú oblasť študenti považujú tiež navnímanie toho, čo dieťa prežíva, tento početný súbor vyjadrení (25) obsahoval tak vizuálny prejav dieťaťa ako aj jeho potenciálnu verbalizáciu počas fáze reflexie.
Medzi najfrekventovanejšími témami sa teda výrazne podieľalo sebapoznanie, nie však poznávanie sveta. Tento aspekt artefiletickej edukácie i spirituálnej gramotnosti však nebol zanedbateľný vyskytol sa v počte 18. Nedosiahol však tak vysoko ako sebapoznanie, ktoré naopak bolo zastúpené skutočne širokým spektrom vyjadrení, čo poskytuje tabelárne vyjadrenie v tabuľke č. 3. Za zmienku ešte stojí zaujímavé zistenie, a síce hoci ako sme už uviedli poznávanie sveta nedosiahlo vysokého počtu vyjadrení, v celkovom sumáre vyjadrení až 73 vyjadrení predstavuje varietu sociálnych kompetencií, kam patria vyjadrenia:

- Vzájomné spoznávanie a prehlbovanie vzťahov v kolektíve (20)
- Nachádzať čo nás medzi sebou spája (11)
- Empatia, opora, navnímanie druhých (11)
- Rozvoj sociálnych/prosociálnych kompetencií (9)
- Rozvíjanie spolupráce (6)….atď.

Poznávanie sveta sa tak v našej výskumnej vzorke zúžilo skôr na poznávanie „sociálneho sveta“, čiže ľudského prostredia, ktoré ich obklopuje a obklopuje tiež deti, ktoré raz budú učiť.

Tab. 3. Sebapoznanie – kumulatívne všetky témy

Názov tematickej skupiny	**Téma**	243	**Citácie: konkrétne vyjadrenia študentov**
1. Sebavyjadrenie	Výtvarné sebavyjadrenie	15	
	Sebaprejavenie ako sebaobraz	25	*Vedela som, že môžem dať na papier to, aká som, ako sa naozaj cítim* *Vložiť kúsok seba, každý je v tvorení jedinečný* *Vyjadrovala som kto som*
	Vyjadrene svojich emócií, citov, pocitov	59	*Naučila som sa vyjadrovať svoje myšlienky, pocity, nálady kreatívnou formou*
	Vyjadrenie vlastných skúseností	10	*Vyjadrenie toho, čo v nás zanechalo nejakú stopu*
	Vyjadrenie vnútorných tém a motívov, túžob, želaní	9	*Ukázať cez tvorbu kto som*
	Vyjadrenie nálady, dojmov	4	
	Cez tvorbu prerozprávajú svoje zážitky	4	*Tvorenie je veľmi prepojené s vnútorným vnímaním*
	Ponorila som sa do každého diela, hlboké sústredenie na tému	4	*Preniesla som sa z reality do vlastného sveta, kde mi*

			je dobre *Počas tvorby som vstúpila hlboko do seba a zistila som, že sa sama sebe venujem málo*
	Vyjadrenie našich obáv a tráum	1	
	Vyjadrenie podvedomia	3	*Vyjadrujem aj to čo neviem - podvedomie*
2. Osobný rast a sebarealizáci	Sebapoznanie cez výtvarnú tvorbu sebavnímanie	56	*Výtvarný zážitok funguje ako jedinečné sebapoznanie* *Cesta do vnútra dieťaťa* *Prehĺbenie vzťahu so sebou samým* *Všimnúť si o sebe niečo, čo doteraz vôbec nevnímali* *Ponorila som sa sama do seba*
	Sebarefexia	14	*Zamyslieť sa a vyjadriť čo prežívam*
	Otvorenie sa - rozprávať o svojich dôvodoch, motívoch	8	*Super bolo, keď sme mohli porozprávať o tom, čo sme nakreslili a prečo – čo nás k tomu viedlo*
	Zorientovať sa sám v sebe, kto som sebaprijatie	8	*Byť sám sebou* *Umenie dokáže zmeniť náš pohľad na seba samých*
	Sebarozvoj, práca na sebe, sebapretváranie	12	*Sebaformovanie* *Rozvoj morálnych hodnôt*
	Sebahodnota	5	
	Sebavedomie, sebadôvera - podpora	6	
	Sebarealizácia	3	

Doposiaľ sme interpretovali výsledky v zmysle dvoch základných premís artefiletiky a spirituálnej gramotnosti: poznávanie samého seba a poznávanie sveta. V úvode výskumného projektu sme však tiež formulovali otázku o potenciálnom využití artefiletiky v budúcej praxi našich študentov – budúcich učiteľov v materských školách, školských kluboch a na elementárnom stupni. V esejách sa vyskytlo širšie spektrum vyjadrení ohľadom toho, ako celý predmet študenti navnímali – obraz o ňom poskytuje tabuľka č. 4.

Tab. 4 – Súbor tém hodnotiaci skúsenosti študentov s predmetom artefiletika

Artefiletike je...	Artefiletiku vnímam pozitívne, je prínosná, užitočná	3 4	*Má veľký prínos pre život ľudí* *Tieto hodiny si budem pamätať ešte veľmi dlho* *Artefiletika je super* *S artefiletikou mám veľmi dobrú skúsenosť* *Považujem ju za veľmi užitočnú (4)* *Môj celkový dojem z A. je skvelý*

	Bavilo ma to, chodila som sem rada, užila som si to, napĺňalo ma to	29	*Keď to bavilo mňa a bola pri tom sranda, bude to aj deti baviť* *Prirástla mi k srdcu* *Vrátila som sa do detstva (2)*
	Uvoľnená atmosféra, príjemná, upokojujúca	25	*Priaznivo pôsobí na psychickú pohodu (9)* *Veľa krát mi zlepšila náladu (5)* *Bol tu humor a smiech (6)*
	Vždy som sa na hodiny tešila	24	*Na nijaký predmet som sa tak netešila ako na tento.* *Boli to samé príjemné zážitky* *Bola som tu šťastná (10)*
	„Nové dvere“ pre prácu s deťmi, inšpirácia	15	*Vzbudila vo mne zvedavosť* *Je originálna* *Nový pohľad ako pracovať s deťmi*
	Artefiletika sa mi zapáčila, očarila ma	11	*Tento predmet ma neskutočne očaril* *Bolo to okrášlenie tohoto semestra*
	Obohacujúci predmet, zmysluplný	11	*Obzvláštnenie vyučovania* *Veľmi zaujímavý a zmysluplný odbor*
	Spočiatku som tomu nerozumela, ale „Chytilo ma to“	4	*Spočiatku som nebola nadšená, ale to sa zmenilo* *Veľmi mi to sadlo, našla som sa v tom*
	Vrátila sa mi láska k umeniu	1	
	Chcem a budem ju uplatniť v budúcej praxi	58	*Určite ju využijem v praxi* *Vidím v nej dôležitosť* *V budúcnosti plánujem jej hlbšie štúdium a aplikovanie do praxe* *Ako budúca učiteľka rozhodne chcem artefiletiku dať do povedomia*

Z výsledných dát by sa dalo interpretovať ešte veľa ďalších zaujímavých zistení, na ktoré ale nie je v tejto štúdii priestor. Snáď už len krátka zmienka o tom, že v kumulatívnom vyčíslení tém (pozri Tab.1) a treťou najpočetnejšou oblasťou stalo zlepšenie emočného stavu s celkovým počtom 151 tematických vyjadrení. Celá táto tematická skupina poukazuje ako doslova blahodarne tento spôsob výučby pôsobil na študentov. Oddych, uvoľnenie napätia, zbavenie sa stresu, odreagovanie od starostí i problémov, zážitkové prvky, zlepšenie nálady, upokojenie a zharmonizovanie – to všetko boli obsahy tejto tematickej skupiny. Možno by to ani nemuselo také prekvapivé, veď výtvarná výchova je dlhodobo považovaná za oddychový predmet. My sme však počas semestra nielen veľmi intenzívne pracovali na hodinách, ale bojovali sme tiež s časovým poddimenzovaním predmetu. Pozitívnu koreláciu nachádzame preto skôr v tematickej skupine sloboda vo vyjadrení, kde v 95 tematických vyjadreniach študenti akcentujú, že artefiletika má skutočne veľkú mieru slobodného tvorenia témy, ktorej sa študent môže zmocniť na základe vlastných skúseností, aktuálnych pocitov, či zážitkov, čo bolo kladené do ostrého kontrastu s tým, aké vyučovanie výtvarnej výchovy študenti doposiaľ poznali z vlastných skúseností. Pocit emočného uvoľnenia, teda spájame skôr so slobodou sprevádzajúcou jednotlivé výtvarné zadania ako s voľnosťou v zmysle nečinnosti.

3. ZÁVERY

V našej štúdii sme sa pokúsili ukázať možné prepojenia expresívnej výtvarnej edukácie (artefiletiky) a spirituality, respektíve toho, čo sa ukazuje byť potenciálnym obsahom spirituálnej gramotnosti, v čase keď ako sa tento koncept ešte len formuje. Otvorenosť, sloboda a autentickosť voľného expresívneho sebavyjadrenia poskytuje živnú pôdu pre mnohé sebareflektívne otázky a tým nás núti hlbšie sa zamýšľať nad významom zobrazeného. Núti nás nachádzať odpovede na otázky o nás samých, o dianí v nás i okolo nás a o tom, aký k tomu všetkému máme postoj, ako sa v tej ktorej situácii cítime, čo prežívame. Tým odkrývame to, čo je možné pomenovať duchovným odkazom našej tvorby. Funkcia umeleckej tvorby má podľa Kusina a Sollárovej (2002) v tých najširších a najvšeobecnejších súvislostiach cieľavedome (a komplexne) pôsobiť na duchovný potenciál osobnosti človeka.

Využitím induktívnej tematickej analýzy sme skúmali 103 esejí študentov, ktorí mali vyjadriť svoju skúsenosť s absolvovaním kurzu artefiletiky. Vo výsledkoch nášho skúmania sa ukázalo, že artefiletický koncept výtvarnej edukácie je vo vzťahu k dvom základným výskumným otázkam - poznávanie samého seba a poznávanie sveta, funkčný, pričom, ale oveľa významnejšie koreluje s poznávaním samého seba (sebaobraz, sebavnímanie, sebarozvoj, komunikácia o vlastných pocitoch...atď), s veľmi vysokým počtom tematických vyjadrení až 246. Z poznávania sveta študenti významnejšie uvádzali najmä súbor sociálnych kompetencií v zmysle spoznávania a prehlbovania vzájomných vzťahov v skupine, spolupráce, empatie, rešpektu a pod., čo tvorilo 73 tematických vyjadrení a poznávanie sveta všeobecne predstavovalo 18 vyjadrení. V okruhoch k vypracovaniu eseje bol tiež podnet k zamysleniu sa nad svojou budúcou praxou. Po absolvovaní kurzu študenti až v 58 tematických vyjadreniach zdôraznili, že určite chcú artefiletiku zavádzať do svojej budúcej praxe.

Na záver, ešte krátky osobný dovtetok. Hoci zámer nášho výskumu môže na prvý pohľad vyzerať trúfalo a prelínanie artefiletiky – koncepcie vizuálnej edukácie a spirituálnej gramotnosti môže vyznievať násilne, som veľmi šťastná, že to konečne môžem robiť takouto cestou. A nie je to preto, že v čase transdisciplinárneho boomu je možné prepájať všetko so všetkým, ani preto, že celý život k spirituálnym cieľom inklinujem, ten hlavný dôvod je ten, že po 24 rokoch praxe viem, že tieto dve oblasti sú veľmi úzko prepojené. Spiritualita zážitku z tvorby je niečo čo poznám úplne od svojich detských čias, len sa o tom nikdy nerozprávalo. Je to dôvod, prečo som šla študovať umenie a pedagogiku výtvarnej výchovy, prečo mám rada svoju prácu a prečo to všetko čo viem a čo sa neustále učím odovzdávam ďalej ďalším a ďalším študentom vo viere, že to budú pracovať s deťmi, tak aby boli šťastné.

Sebaexpresívne činnosti, disponujú doménou, že svojim aktérom umožňujú „byť“ v danej chvíli – v procese tvorenia, samým sebou a realizovať to k čomu sú ako bytosti určení. Proces sebauskutočnenia totiž vyžaduje nielen formálnu a pragmaticky úplne a dobre vykonanú činnosť, ale sústredené vedomie, preniknutie do podstaty svojej bytosti prebudenie tvorivých síl a následnú realizáciu v príslušnej oblasti, pre ktorú je bytosť najviac disponovaná. V rámci sebaexpresie teda hovoríme o ponorení sa do svojho vnútra, do jadra bytosti, či o dotknutí sa svojej duše, podľa Junga v tomto procese hrá tiež rolu miera schopnosti napojenia sa na nevedomie a zachytenie signálov, ktorými prostredníctvom obrazov, symbolov, slov, či zvukov komunikuje naša duša (Guillaume, 2019)

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STRATA BIODIVERZITY NA PRÍKLADE VČELY MEDONOSNEJ V SEKUNDÁRNOM VZDELÁVANÍ

LOSS OF BIODIVERSITY ON THE EXAMPLE OF THE HONEYBEE IN SECONDARY EDUCATION

Jozef Macko, Dana Blahútová, Mária Balážová, Gabriela Hrklová

Abstrakt

Biodiverzita *alebo* biologická rozmanitosť je dôležitou súčasťou ekológie a je využiteľná pre zisťovanie zmien jednotlivých zložiek ekosystémov. Na znižovaní diverzity hmyzu sa podieľajú najmä faktory prostredia ako sú nedostatok potravinových zdrojov, choroby, alebo negatívny vplyv pesticídov ako aj biologické interakcie najmä šírenie inváznych druhov. V práci prezentujeme vnímanie slov ktoré súvisia s aktuálnou environmentálnou krízou. Vybrané slová tvoria súčasť bežného slovníka avšak to neznamená že daným slovám rozumejú. Výskum prebehol formou dotazníkového šetrenia na druhom stupni ZŠ.

Klíčová slova: *biodiverzita, ekológia, opeľovače, environmentalistika, včela medonosná*

Abstract

Biodiversity or biological diversity is an important part of ecology and can be used to detect changes in individual components of ecosystems. Environmental factors such as the lack of food resources, diseases, or the negative impact of pesticides, as well as biological interactions, especially the spread of invasive species, contribute to the reduction of insect diversity. In the work, we present the perception of words related to the current environmental crisis. The selected words form part of the common vocabulary, but this does not mean that they understand the given words. The research was conducted in the form of a questionnaire survey at the second level of elementary school.

Key words: *biodiversity, ecology, pollinators, environmentalism, honey bee*

1 BIODIVERZITA

Biodiverzita (biologická rozmanitosť) sa definuje ako súbor všetkých žijúcich organizmov, ich genetickej informácie a všetkých ekosystémov suchozemských, sladkovodných i morských, ktoré umožňujú a podporujú život v jeho rozličných podobách. Poznáme biodiverzitu taxonomickú, genetickú a funkčnú, pričom funkčná biodiverzita ukazuje fyziologický stav skúmaného spoločenstva organizmov a je odrazom biologickej a ekologickej kvality daného prostredia. Biologická rozmanitosť sa posudzuje z dvoch strán. Ako druhová bohatosť (pestrosť), ktorá sa vyjadruje podielom medzi celkovým počtom druhov a celkovým počtom jedincov (index druhové bohatosti) a ako ekvitabilita (rovnomernosť) v pomernom zastúpení jedincov medzi zastúpenými druhmi navzájom.(Máchal a kol, 2001)

Počet druhov v spoločenstve je obvykle definovaný ako druhová bohatosť (species richness) alebo alfa-diverzita. Využíva sa pri porovnávaní počtu druhov v rôznych regiónoch alebo prírodných spoločenstvách. Naopak pod názvom beta-diverzita chápeme zmenu, ktorou prechádza druhové zloženie určitého spoločenstva v súvislosti so zmenami niektorého gradientu prostredia. Beta-diverzita bude vysoká pokiaľ sa spoločenstvá v rámci gradientu líšia a nízka ak sú podobné. Gama diverzita sa týka diverzity vo vnútri väčšinou väčšieho

územia. Rozumieme ním stupeň zmien, pri ktorom sa na určitom stanovisku (biotope), ale na rôznych lokalitách mení druhové zloženie. Vyjadruje teda stupeň obmeny druhov podľa vzdialenosti určitých miest v podobnom stanovišti (Whittaker 1960).

1.1 Biologická diverzita a opeľovače

Opeľovanie je veľmi dôležitým mechanizmom v celej rastlinnej ríši (Ollerton, 2017). Najmenej 87 % druhov všetkých krytosemenných rastlín je pri svojej reprodukcii závislých od opeľovačov alebo medzi nimi pri rozmnožovaní prebieha určitá dôležitá interakcia (Ollerton et al., 2011). Konktrétne v oblastiach mierneho pásma sa na opelení v najväčšej miere podieľa včela medonosná (Apis mellifera), čmeliaky (Bombus spp.), samotárske včely, osy na rozdiel od tropických oblastí, kde opelenie obstarávajú hlavne motýle, mory, a navyše aj vtáky a netopiere (Hanley et al., 2015).

Včela medonosná (Apis mellifera) je v prírode kľúčovým druhom a významným opeľovačom mnohých druhov ovocia, zeleniny a poľných plodín. Včely tiež opeľujú väčšinu divo rastúcich rastlín a pomáhajú udržiavať ekosystém ako celok. Jej chov má významné výhody pre celú spoločnosť, a to ako ekonomické, tak ekologické. Jej najväčším prínosom je opeľovanie rastlín, ďalej potom produkcia včelích produktov (med, propolis, vosk). Na rozdiel od väčšiny ostatných druhov včiel je včela medonosná vysoko eusociálna a má extrémne dlhoveké spoločenstvá (Westerkamp, 1991). O opeľovacích schopnostiach včely medonosnej a jej vplyve na ekosystém sa často diskutuje. Včele medonosnej sa často pripisujú opeľovacie služby, ktoré v skutočnosti vykonávajú iné aj druhy včiel (Paudel et al., 2015). Niektoré štúdie dokonca naznačujú, že intenzívne včelárstvo znižuje diverzitu ostatných opeľovačov a narúša interakčné väzby v opaľovacích sieťach. Chov včely medonosnej vo vysokej hustote v prírodných oblastiach môže mať trvalé, závažnejšie negatívne dopady na biodiverzitu (Valido et al., 2019).

1.2 Strata diverzity opeľovačov

Jedným z najväčších preukázateľných rizík pre existenciu hmyzu je intenzifikácia poľnohospodárstva (Raven and Wagner, 2020). Intenzifikácia poľnohospodárstva predstavuje vážnu hrozbu pre biodiverzitu kvôli zvýšenej intenzite využívania pôdy, zníženej heterogenite krajiny a zníženej rozmanitosti biotopov (Hendrickx et al., 2007). Tieto faktory vedú najmä k nedostatku potravy a vhodných stanovíšť vrátane vhodných úkrytov, poprípade miest na prezimovanie. Pokiaľ nie sú tieto kľúčové podmienky splnené sú najväčšiemu riziku vystavený hlavne špecialisti ako sú napríklad opeľovače. (Holý et al., 2020), ktorý sa horšie prispôsobujú zmenám podmienok prostredia.

Na všeobecnom znižovaní diverzity hmyzu sa podieľajú predovšetkým faktory prostredia (nedostatok potravinových zdrojov, rôzne ochorenia hmyzu alebo negatívny vplyv pesticídov), ďalej biologické interakcie (šírenie nových druhov a ich interakcie s druhmi pôvodnými) a v neposlednom rade je preukázaný aj negatívny vplyv globálneho otepľovania (Vanbergen and Initiative, 2013). Faktory ako rozvoj poľnohospodárstva, fragmentácia pôvodnej krajiny a ústup oblastí, ktoré podporovali prirodzenú vegetáciu, spôsobili u voľne žijúcich opeľovačov úbytok potravinových zdrojov, úbytok priestoru na prirodzené interakcie a úbytok vhodných stanovíšť na rozmnožovanie a zahniezdenie (Kearns and Inouye, 1997). Obzvlášť špecializovanejší opeľovači bývajú citlivejší na tieto zmeny a môžu ohroziť ich samotnú existenciu.

Okrem zmien v krajine má na diverzitu opeľovačov vplyv manažment trávnatých porastov (Bubová et al., 2015). Nevhodný manažment lúčnych ekosystémov spôsobuje najmä priame usmrtenie jedincov nachádzajúcich sa na vegetácii. Nezanedbateľné sú aj náhle štrukturálne zmeny lúčneho porastu. Kosenie má za následok odstránenie takmer všetkých kvetov v jednom momente, čím sa obmedzí dostupnosť peľu a nektáru, ktorá je dôležitá nielen pre

opeľovače. Z toho dôvodu by sa kosba nemala vykonávať jednorazovo na celej ploche (Black et al., 2011). Pre rozmanitú faunu opeľovačov je dôležité, aby bol peľ a nektár k dispozícii celé leto v priestorovo relevantných meradlách (Johansen et al., 2019). Polo prirodzené lúky na seno slúžia ako základ kvetinových zdrojov pre opeľovače). Tieto zdroje sú ale silne ovplyvnené načasovaním kosenia(Kohler et al., 2008
Spomínané zmeny vo využívaní pôdy, intenzifikácia poľnohospodárstva, úbytok prirodzených biotopov a upustenie od tradičných metód obhospodarovania viedlo k poklesu diverzity hmyzích spoločenstiev v Európe. Práve správny manažment trávnych porastov by mohol situáciu pomôcť zvrátiť (Bubová et al., 2015). Všeobecne sa ukazuje, že šetrné obhospodarovanie na lúkach je pre hmyz lepšie ako intenzívny manažment. Na šetrne obhospodarovaných lúkach sa vo väčšine prípadov zachováva druhovo bohatšie hmyzie spoločenstvo (Giulio et al., 2001). Veľmi vhodná je extenzívna pastva a rotačné kosenie, ktoré napodobňuje tradičný spôsob využívania lúk. Pastva aj kosenie by mali byť optimálne s nízkou intenzitou a mozaikovým dizajnom.

1.3 ŠVP a pojem biodiverzita

V školskom vzdelávacom programe sa biodiverzite venuje v 9 ročníku, v téme ekologické podmienky života. Výkonový štandard stanovuje že žiak na konci 9. ročníka základnej školy vie/dokáže analyzovať umelý a prírodný ekosystém z hľadiska druhovej rozmanitosti. V obsahovom štandarde sú uvedené pojmy ako spoločenstvo, druhová rozmanitosť, štruktúra spoločenstva .

2 MATERIÁL A METODIKA

V práci sa venujeme slovným asociáciám ako predmetu výskumu a ako jedinečnému prostriedku nahliadnutia hlbším významom, dojmom a vnímaniu určitého pojmu, témy či problematiky z pohľadu jednotlivca. Metóda slovných asociácií (WAT – word association test), sa radí medzi takzvané projektívne techniky výskumu (Clow & James, 2014). Od respondentov sa vyžaduje slovná odpoveď, a to bez ohľadu na to, v akej forme ich primárna asociácia po zaznení stimulujúceho slova je. Vo všeobecnej rovine možno výskum pomocou asociácií vykonať aj formou obrázkov, čo je metóda vhodná napríklad pri práci s mladšími deťmi, ktorých slovná zásoba ešte nie je taká široká (Tirpák and Uhrinová, 2021).
Výskum sme vykonali na druhom stupni ZŠ u žiakov 8 a 9 ročníka. Počet respondentov bol 72. Z toho dievčat 39 a chlapcov 33.

3 VÝSLEDKY

Z dotazníkového šetrenia sme jednotlivé slová porovnávali a vyhodnocovali. Zaznamenaná bola početnosť každého slova (prípadne synonymum) a následne graficky spracovaná pomocou takzvaných word clouds, (slovných mrakov). Čím väčšie je každé slovo v mraku, tým častejšie bolo uvedené respondentami.

3.1 Vnímanie pojmu biodiverzita

Biodiverzita, alebo prírodná rozmanitosť sa ukázala ako pojem s najvyššou zhodou v odpovediach žiakov (obr.1). Pravdepodobne kvôli tomu že pojem je uvedený aj v učebniciach biológie. Celkovo správne odpovedalo až 41% žiakov. Okrem odpovede rozmanitosť uvádzali aj odpoveď rôznorodosť čo tiež môžeme považovať za správnu odpoveď. Aj napriek tejto skutočnosti približne 35% žiakov uviedlo že pojem biodiverzita nepoznajú, prípadne nevedia čo znamená.

Obr. 1: Slovný mrak k pojmu biodiverzita

3.1 Vnímanie pojmu diverzita opeľovačov

V uvedenej otázke sme chceli zistiť či žiaci vnímajú aj iné druhy či skupiny živočíchov ktoré sa podieľajú na opeľovaní rastlín a tiež či si uvedomujú dôležitosť opeľovačov. Ako sme predpokladali najčastejšou odpoveďou bola včela až 57% respondentov (obr. 2). Celý názov druhu uviedlo o skoro 10%menej respondentov. Správnu odpoveď (rôznorodosť opeľovačov) uviedlo len 23% žiakov.

Obr. 2: Slovný mrak k pojmu diverzita opeľovačov

4 ZÁVER

Problematika straty diverzity a vnímanie súvislostí tohto problému je komplexná téma. Žiaci si uvedomujú čo je biodiverzita avšak si musia uvedomovať aj ako strata biodiverzity pôsobí na spoločnosť a čo ju spôsobuje. Napríklad že populácie včely medonosnej aj samotárskych včiel sa stále znižujú, čo môže byť spôsobené intenzifikáciou poľnohospodárstva, zmenou alebo fragmentáciou stanovíšť, patogénmi, nedostatkom potravy, pesticídmi a stratou genetickej. Zlepšeniu biodiverzity opeľovačov by pomohlo najmä zväčšenie plochy miest vhodných na kladenie vajec, maximalizácia kvality stanovíšť cieleným manažmentom, zlepšenie konektivity medzi lúčnymi ekosystémami. Vyššou spojitosťou stanovíšť vo fragmentovej krajine by sa zlepšila genetická variabilita hmyzu, nakoľko by bol umožnený lepší tok génov medzi populáciami.

Poďakovanie
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OVĚŘENÍ EFEKTIVITY ČTENÁŘSKY ORIENTOVANÉ INTERPRETACE UMĚLECKÉHO TEXTU V HODINÁCH ANGLICKÉHO JAZYKA NA TURECKÝCH STŘEDNÍCH ŠKOLÁCH

TESTING THE EFFECTIVENESS OF THE READER-RESPONSE APPROACH IN THE EFL CLASSROOM AT TURKISH HIGH SCHOOLS

Pavlína Vočková

Abstrakt

Cílem příspěvku je seznámit s kvalitativním šetřením sledujícím efektivitu čtenářsky orientované interpretace uměleckého textu v hodinách anglického jazyka na tureckých středních školách. Toto šetření navazuje na obdobné šetření realizované vloni v České republice. Turecko bylo vybráno na základě obsahové analýzy učebnice Sunshine English, která je zde závaznou součástí kurikula na všech státních středních školách. Převážná část této učebnice opomíjí žáka jakožto samostatně uvažujícího jedince a zároveň nedává podněty k dialogu. Cílem šetření bylo zjistit reakci žáků na aktivní práci s literárním textem, při které – na rozdíl od práce s učebnicí – dostanou možnost sdílet své prožitky, zkušenosti, názory a nápady. Zejména bylo sledováno, zda takový přístup dokáže žáky aktivizovat, vyvolat v nich zájem o dění v hodině a přimět je mluvit v cizím jazyce. Výzkumnou metodou bylo pozorování, a to jak ze strany výzkumnice, tak stálých angličtinářů zapojených tříd, kteří se hodin pasivně účastnili a s nimiž poté výzkumnice vedla jednotlivé rozhovory.

Klíčová slova: *čtenářsky orientovaná interpretace textu, předmět anglický jazyk, aktivizace žáka, střední škola, Turecko*

Abstract

The aim of the paper is to get the readers acquainted with qualitative research following the effectiveness of the reader-response approach to a literary text in the EFL class in Turkish high schools. This research follows from the one carried out last year in the Czech Republic. Türkiye was chosen based on the content analysis of the textbook book Sunshine English, which is a mandatory part of the curriculum in all public high schools there. This textbook's content predominantly neglects the student as an independent-thinking individual and also does not provide stimuli for dialogue. The aim of the research was to determine the students' reaction to active work with a literary text, during which-–unlike working with a textbook-– they get the opportunity to share their experiences, opinions, and ideas. In particular, it was monitored whether such an approach can engage the students, arouse their interest in what is happening in the class, and make them speak in a foreign language. The chosen research method was observation, both by the researcher and the original English teachers, who passively took part in the classes and with whom the researcher subsequently conducted individual interviews.

Keywords: *reader-response approach, EFL class, student engagement, high school, Türkiye*

1 ÚVOD

Na předchozí kvalitativní šetření v českých školách navazuji v akademickém roce 2022/2023 výzkumem zahraničním. Stejně jako v loňském příspěvku prezentovaném na konferenci

Quaere se věnuji práci s uměleckou literaturou v hodinách anglického jazyka. Konkrétně se zaměřuji na to, jaký přínos má pro rozvoj žáků interpretace uměleckého textu, která vychází z přístupu orientovaného na čtenáře, tzv. reader-response approach.
Dlouhodobě pracuji s hypotézou, že pokud se při práci s uměleckými texty zaměřujeme na čtenáře (jeho estetický prožitek, životní zkušenosti, názory apod.), vzbuzujeme v něm zájem o dané dílo, čímž můžeme podnítit či podpořit žákovo čtenářství. V případě využití čtenářsky orientovaného přístupu k textu v hodinách cizího jazyka jsou navíc pozitivně ovlivněny i žákovy jazykové dovednosti.
V loňském příspěvku uvádím, že žáci zařazení do výzkumu (celkem se jednalo o 79 středoškoláků) nebyli na aktivní práci s uměleckými texty zvyklí. Práce s lyrickou poezií, jak ji ve škole dosud zažili, pro ně byla nezajímavá a nebavila je. Po zapojení do výzkumného šetření, ve kterém si poprvé vyzkoušeli čtenářsky orientovanou práci s textem, změnilo názor na lyrickou poezii více než 60 %, což lze považovat za významný podnět k tomu, aby se způsobu práce s uměleckými texty věnovala větší pozornost, a to jak ze strany didaktiků teoretiků, tak učitelů z praxe.
Závěry loňského šetření mě přiměly k tomu, abych se zaměřila také na zahraničí, a to zejména na země, ve kterých jsou prožitky a názory žáků opomíjeny podobně či dokonce více než u nás. Mým cílem bylo zjistit, zda možnost svobodného vyjádření názorů či životních zkušeností a sdílení čtenářských zážitků může žáky aktivizovat, probudit v nich zájem o literaturu a podnítit jejich projev v cizím jazyce.
Při obsahové analýze národních učebnic angličtiny mě zaujala turecká učebnice Sunshine English pro 11. ročník. Strana 25 je věnována práci s uměleckou literaturou, konkrétně s básní Roberta Frosta *The Road Not Taken*. Báseň považuji za vhodně zvolenou, protože z celkového počtu 144 slov (bez titulu) je 87 % na úrovni A1, tedy začátečnické[1]. Estetický prožitek není tím pádem narušován neznámými slovy a o to snadněji se čtenář může ponořit do obsahu básně a nechat ji na sebe působit. Za vhodně zvolené lze také označit zaměření otázek, které dávají prostor čtenářsky orientované interpretaci textu a sdílení názorů (např. Co v básni symbolizují „dvě cesty“? Jak mohou rozhodnutí ovlivnit naše životní cesty?).
Všechny kladené otázky se však nevztahují přímo k básni, ale k odstavci, ve kterém tvůrci učebnice báseň interpretují. Žáci si tedy nejprve přečtou báseň, která jim je následně vyložena (až by se chtělo říci „přežvýkána“), a teprve pak odpovídají na otázky. Čtenář je tedy v rámci literární komunikace postaven do pasivní role a jeho estetický prožitek zůstává ležet ladem. Setkání s učebnicí Sunshine English mě přivedlo k rozhodnutí svůj výzkum zaměřit na turecké školy a zkoumat, jak tamní žáci přijmou naprosto odlišný způsob práce s uměleckými texty a jaký efekt tato práce bude mít na jejich aktivizaci a komunikaci v hodině.

2 TEORETICKÁ VÝCHODISKA

Umělecké texty, stejně jako další autentický materiál používaný ve výuce cizích jazyků, mají oproti textům vytvořeným primárně s didaktickým záměrem (nejčastěji jazykovým učebnicím) mnoho výhod. Podle Rogersové a Medleyho (1988) autentický materiál napomáhá tomu, aby komunikační dovednosti žáků obstály v reálném světě. Guariento a Morley (2001) poukazují na to, že je zdrojem silné motivace a zájmu o studium jazyků a vede ke zlepšení komunikativní kompetence. Podobně smýšlí i Kılıçkaya (2004), který zvýšenou motivaci vysvětluje tím, že studenti cítí, že se učí skutečný jazyk. V případě uměleckých textů je pak velkým přínosem, že literatura umožňuje čtenářům porovnat své zkušenosti se zkušenostmi fiktivních postav, jak podotýká Oster (1989). Její tvrzení je však podmíněno tím, že jsou

[1] Ke stanovení úrovně jednotlivých slovíček byl použit online nástroj Oxford Text Checker, který se řídí Společným evropským referenčním rámcem stanoveným Radou Evropy. Oxford Text Checker je dostupný na: https://www.oxfordlearnersdictionaries.com/text-checker/.

vybrány takové umělecké texty, s nimiž rezonuje vnitřní svět žáků a zároveň odpovídá jejich jazykové úrovni.
Vhodně zvolená próza, poezie i drama by tedy měly mít ve výuce cizího jazyka své místo. Nicméně je důležité (stejně jako v hodinách mateřského jazyka) věnovat pozornost i tomu, jak se s literárními texty pracuje. Hník (2014, s. 38) se domnívá, že při práci s uměleckým textem jde o to, aby se žáci mohli podílet na interpretaci díla, svobodně se k němu vyjádřit a bez obav sdělit, zda „se např. události a postavy v textu nějak vztahují k jejich vlastní osobnosti nebo předchozím čtenářským zážitkům a zkušenostem“. Pokud se učitel v hodině cizího jazyka zaměří na pouhý překlad a osvojení nových slovíček, je potenciál každého literárního textu nevyužit.
Existují ale metody a přístupy, které žákovi umožňují aktivní podíl na tvorbě smyslu díla. Patří sem např. čtenářsky orientovaná interpretace textu, která je v našem prostředí známější pod svým názvem v originále „reader-response approach“. Tento přístup považuje čtenáře za aktivního činitele, který dává čtenému dílu skutečnou existenci a který si uvědomuje jeho význam prostřednictvím své vlastní interpretace. (Chung a Lee, 2012) Tím přispívá k osobnímu rozvoji žáků, protože mohou na základě čtenářského prožitku reflektovat svůj dosavadní život a korigovat představy o své budoucnosti. Ačkoliv by se mohlo zdát, že se tento přínos míjí s cíli předmětu cizí jazyk, je nutné podotknout, že právě zaměření na sebe sama podněcuje žáky k spontánním projevům, ve kterých se soustředí víc na obsah svého sdělení než na uplatňování gramatických pravidel. Jednoduše by se dalo říci, že „reader-response approach“ pomáhá žáky rozmluvit.

3 METODOLOGIE VÝZKUMU

Měsíční kvalitativní šetření mělo být uskutečněno ve dvou termínech, a sice na přelomu října a listopadu 2022 (tři týdny) a v únoru 2023 (jeden týden). Celkem jsem měla naplánováno realizovat šetření se 21 třídami a 10 učiteli. Vzhledem k náhlému uzavření škol z důvodu přírodní katastrofy bezprostředně po mém příletu do Turecka v únoru 2023 jsem druhou část výzkumného šetření nemohla uskutečnit, proto v tomto příspěvku pracuji pouze s daty sebranými při prvním výzkumném pobytu. Šetření tedy zahrnuje sedmnáct tříd a sedm učitelů, z nichž však pouze pět vyplnilo online dotazník. V případě dalších dvou proto vycházím jen z osobních rozhovorů, uskutečněných jednotlivě s každým učitelem na konci týdne, kdy jsme společně reflektovali mnou odučené hodiny, ve kterých měl stálý učitel funkci pozorovatele.
Během šetření jsem použila pouze vlastní výukový materiál, který zohledňoval různou úroveň angličtiny. Jednalo se o pracovní listy s následujícími uměleckými texty: *I Raised My Hand in Class* Kenna Nesbitta, *Whatif* Shela Silversteina, *Sick* Shela Silversteina a anonymní příběh *Shopkeeper*. Při výběru uměleckých textů jsem dbala na to, aby byly krátké a aby neobsahovaly nadúrovňovou gramatiku či slovní zásobu. To vše by totiž mohlo bránit čtenářskému prožitku, který považuji při práci s uměleckým dílem za stěžejní. Dalším kritériem výběru vhodného textu bylo téma blízké dané věkové skupině a pointa s potenciálem podnítit diskusi. Všechny pracovní listy obsahovaly alespoň jeden úkol, jehož splnění nebylo podmíněno znalostí angličtiny, a to z důvodu motivace žáků, kteří za svými spolužáky v cizím jazyce zaostávají.
Obsah pracovních listů mohu přiblížit na příkladu básně *Whatif* Shela Silversteina. Báseň je výčtem různorodých (vážných i s nadsázkou pojatých) obav lyrického subjektu (teenagera), které se do jeho mysli vkrádají před usnutím (co když začne válka, co když mi na hrudi narostou zelené chlupy). Všechny úkoly na pracovním listě jsou zaměřeny na čtenáře: žáci vymýšlejí vlastní název básně, jsou vyzváni k tomu, aby vybrali nejvtipnější a naopak nejznepokojivější verš a aby svůj výběr zdůvodnili, dále báseň rozšiřují o verš s vlastními obavami, diskutují o tom, co jim pomáhá, když kvůli obavám nemohou usnout atd. Báseň a

její četba je tedy při uplatňování čtenářsky orientované interpretace jen výchozím bodem, na který navazují aktivity soustředěné na čtenáře.
Všechny lekce byly koncipované jako jednohodinové[2], a to z organizačních důvodů. Se třídou jsem se většinou viděla jen dvakrát – při seznamovací hodině a při samotném výzkumném šetření. Další setkání by s některými třídami nebylo možné (zejména z důvodu, že se poslední týden mého podzimního pobytu konaly zkoušky), proto jsem se s učiteli předem domluvila, že šetření proběhne v jedné vyučovací hodině, a pracovní listy jsem tomu přizpůsobila. Pokud jsem s některou třídou měla hodinu víckrát, pracovali jsme pokaždé s jiným pracovním listem.

4 VÝSLEDKY A JEJICH DISKUSE

Výzkumné šetření přináší výsledky ve dvou rovinách. První je moje vlastní reflexe realizovaných hodin, která se týká především porovnání efektivity jednotlivých aktivit a vychází z mých poznámek o průběhu hodin.
V tomto ohledu jsem došla k závěru, že žáky na práci s literárními texty zaujalo především to, že se staly jakýmsi odrazovým můstkem pro sdílení prožitků, názorů a zkušeností. Nejaktivnějšími byli žáci při kreativních úkolech, zejména při tvůrčím psaní, např. vytváření veršů. Zadání spočívalo v tom, že se žáci zamýšleli nad svými obavami (podobně jako lyrický subjekt v básni *Whatif*), které je tíží a trápí před usnutím. Každý mohl báseň rozšířit o svůj verš, svou obavu. Většina žáků k úkolu přistoupila s vážností (nejčastěji psali o strachu ze samoty, selhání a nemoci), ale našli se i tací, kteří se na své strachy podívali s humorem a nadsázkou (přeměna v jednorožce). Jejich zájem o sdílení svých nápadů byl v polovině tříd tak velký, že z časových důvodů nebylo možné dát prostor všem.
Dále jsem zaznamenala nečekaný úspěch aktivit, které daly možnost vyniknout těm, kteří jsou v anglickém jazyce prospěchově slabší (v případě básně *Whatif* byli žáci vyzváni k výtvarnému zpracování jednoho verše na tabuli s tím, že ostatní budou hádat, o který verš se jedná, v případě básně *I Raised My Hand in Class* šlo o soupis co nejvyššího počtu tureckých jmen začínajících na písmeno T a pak na písmeno R). Ve dvou třídách (v obou byli žáci s nižší úrovní angličtiny) se dokonce stalo, že žáci chtěli ve hře pokračovat i s jinými písmeny. Podle vyjádření učitelů pozorovatelů bylo důvodem to, že tito žáci zažili poprvé úspěch v hodině angličtiny, což může mít pozitivní vliv na jejich sebevědomí a motivaci k učení. Zároveň jsme se s učiteli shodli na tom, že to byl částečně i projev patriotismu: žákům bylo ctí předvést „hostu z cizí země“ rozmanitost a krásu tureckých jmen. Všichni učitelé v rozhovorech uvedli, že úkoly nevyžadující znalost jazyka měly význam pro aktivizaci žáků, kteří jsou ze svého slabého prospěchu frustrováni, což se obvykle projevuje jejich pasivním přístupem.
Nicméně je nutné přiznat, že jsem na státní škole zaznamenala ze strany některých žáků nezájem a neochotu spolupracovat. Jednalo se o žáky, jejichž znalosti angličtiny stěží dosahovala úrovně A1, ačkoliv se cizí jazyk – stejně jako naši žáci – učí od prvního stupně základní školy, konkrétně od druhé třídy. V osobních rozhovorech s učiteli jsem pátrala po příčinách, protože v českém prostředí jsem se s tak slabou úrovní angličtiny u více žáků v rámci jedné třídy nesetkala. Za hlavní problém učitelé označili nedostatek vnitřní motivace žáků k učení, protože pro turecké občany je vzhledem k potřebnému vízu těžké vycestovat do zahraničí, a žáci tedy nevidí důvod, proč by se cizí jazyk měli učit. V této souvislosti však musím podotknout, že žáci žijí ve městě Marmaris, které se nachází ve významné turistické oblasti, a cizí jazyk tak mohou v budoucnosti potřebovat pro své profesní uplatnění.
Na téma cestování jsem narazila i v rozhovoru s žákyní Buse, jejíž angličtina je na velmi dobré úrovni. Ve státní škole chodí do jazykové třídy, což znamená, že má 14 hodin angličtiny týdně, a navíc ve svém volném čase ještě navštěvuje jazykový kurz. Na otázku, proč do studia cizího jazyka investuje tolik času, úsilí a také peněz, odpověděla, že se chce stát letuškou,

[2] V Turecku vyučovací hodina trvá 40 minut.

„protože jinak by se do světa nepodívala“. Možnost či naopak nemožnost vycestovat do zahraničí lze považovat za jeden z faktorů ovlivňujících vnitřní motivaci žáků ke studiu cizího jazyka.
Dále šetření přináší výsledky na základě rozhovorů s pozorovateli v hodinách (stálými učiteli žáků) a také na základě jejich odpovědí v online dotazníku.
Předně je nutné poukázat na velký rozdíl mezi státními a soukromými školami. Na státní škole jsem se setkala se třemi učiteli a všichni byli velmi nespokojeni s učebnicí, kterou musejí používat. Na škále od jednoho do deseti bodů ji všichni ohodnotili nejnižším možným počtem. (Jedná se o učebnici Sunshine English, kterou jsem v úvodu uváděla jako příklad nevhodné práce s literárním textem.) Učitelé si nemohou učebnici vybrat, protože ji určuje ministerstvo školství, a dokonce nesmějí v hodinách používat jiný výukový materiál. Za hlavní nedostatky učebnice Sunhine English učitelé považují to, že neobsahuje moderní texty, které by teenagery tematicky zaujaly, a že nepodněcuje samostatné uvažování a komunikaci v hodině. Dále učitelé na státní škole poukazovali na velký počet žáků ve třídě, což odpovídá i mojí zkušenosti (během šetření jsem pracovala i se 30 žáky najednou). V online dotazníku dva učitelé uvedli, že jejich nejpočetnější třída má 35 žáků. Na soukromých školách jsou třídy poloviční, v některých případech dokonce třetinové.
Z jednotlivých reflexí hodin i online dotazníků vyplývá, že všichni zapojení učitelé aktivní práci s uměleckým textem a přístup orientovaný na čtenáře přijali kladně. Z hlediska zábavnosti hodnotili pozorované hodiny nejméně osmi body z deseti, zatímco přínos pro jazykový rozvoj ocenili ve čtyřech případech plným počtem bodů a jednou body devíti.
Součástí jejich pozorování byla také kritická reflexe výukového materiálu. Jediné dvě připomínky se týkaly práce se slovíčky. V jednom návrhu zaznělo, aby se pracovalo s nadúrovňovými slovíčky, která by mohla být uvedena a vysvětlena vedle básně, aby byla k dispozici těm, kteří je neznají. Během revize pracovních listů tento návrh zohledním, protože ho považuji za opodstatněný. Druhá připomínka poukazovala na zařazení více aktivit zaměřených na rozvoj a procvičení slovní zásoby.
Všichni zapojení učitelé se s přístupem „reader-response“ setkali poprvé a ocenili na něm především to, že aktivizoval i žáky, kteří jinak v hodinách bývají pasivní. *„Bylo patrné, že pro většinu mých žáků byl experiment s poezií v cizím jazyce skvělým zážitkem. Především mě překvapili ti, kteří se obvykle do hodin nezapojují.“ / „Egin Silin z 10. třídy byla při práci s poezií mnohem aktivnější, než bývá v mých hodinách.“ / „Jedna z mých žákyň mi řekla, že by chtěla, abych si připravil/a podobné hodiny, a dvakrát se mě zeptala, zda je možné, aby Pavlína přišla znovu.“*
V odpovědích učitelů se opakovalo také to, že výuka založená na sdílení čtenářských i životních zkušeností je pro žáky přitažlivější než ta, na kterou jsou žáci z důvodu příprav na zkoušky zvyklí. *„Tvoje aktivity a způsob výuky jazyka mé žáky zaujal. Stále se na tebe ptají. Udělala jsi týden výuky cizího jazyka nezapomenutelným.“ / „Abych byl/a upřímný/á, mnoho mých studentů mě překvapilo, protože hodně našich hodin se soustředí na přípravu na zkoušky a získání co nejvyššího počtu bodů a takové hodiny jsou pro ně nudné.“* V této souvislosti považuji za důležité vysvětlit, že v Turecku žáci nejsou zkoušeni průběžně (ať už ústně či písemně), ale v předem stanovené termíny píšou testy. Jedná se o „velké“ testy, které ověřují teoretickou znalost gramatiky, čemuž odpovídá i příprava. Ta nerozvíjí komunikační dovednosti žáka, ale pouze jeho teoretické uvažovaní o cizím jazyce. Nicméně pro žáky je důležité v testu uspět, proto takto pojaté hodiny vítají. (Motiv neúspěchu či selhání u zkoušky se jako jedna z obav objevoval ve verších, které žáci psali při práci s básní *Whatif*.)
Dále jsem v rozhovorech i online dotazníku zaměřila na poezii jakožto autentický materiál do výuky cizího jazyka. Všichni dotazovaní učitelé si na základě realizovaného šetření myslí, že by poezie měla být součástí učebnic angličtiny a všichni měli zájem o další výukový materiál s básněmi. *„Myslím, že tvoje hodiny s poezií a tvůj výzkum jsou velmi zajímavé a pro studenty*

zábavné. Všechny žáky to zaujalo. Je velmi užitečné tímto způsobem učit.“ / „Bylo to velmi zajímavé a je lepší učit jazyk prostřednictvím literárních textů než pouze používat učebnici.“ / „Myslím si, že by poezie měla být víc zařazena do hodin angličtiny.“

5 ZÁVĚR

Z kvalitativního šetření uskutečněného na třech tureckých středních školách vyplývá, že aktivní práce s uměleckým textem, konkrétně čtenářsky orientovaná intepretace (v originále „reader-response approach“), měla pozitivní vliv na aktivizaci žáků, probudila v nich zájem o dění v hodině a přiměla je ke komunikaci v cizím jazyce. Tato nová zkušenost byla pro žáky a jejich učitele angličtiny, kteří se hodin účastnili jako pozorovatelé, jak zábavná, tak obohacující, a to zejména z důvodu, že se výuka soustředila na sdílení čtenářských a životních zkušeností, což žáky zaujalo víc než obvyklá práce s učebnicí.

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ANTAGONISTICKÁ POSTAVA FALOŠNÉHO HRDINU V ARCINARATÍVOCH

ANTAGONISTIC FIGURE OF FALSE HERO IN ARCH-NARRATIVES

Bernadette Pažitná

Abstrakt

Príspevok sa výskumne zameriava na postavu/funkciu falošného hrdinu a škodcu (Propp) ako archetypálnu figúru v arcinaratívoch. Falošného hrdinu a škodcu analyzuje v rámci reprezentatívneho príbehu slovenského zberateľa Pavla Dobšinského *Lomidrevo alebo Valibuk,* v ktorom tieto archetypy stelesňujú dve postavy – hrdinovi spoločníci, Valivrch a Miesiželezo. Uvedené postavy slovenského príbehu štúdia komparuje s rôznymi inými postavami ďalších sujetových variantov tejto rozprávky, ktorá, podľa Aarneho-Thompsonovho-Utherovho medzinárodného katalógu rozprávkových typov spadá pod typ ATU 301 *Princezné v podzemí* (*The Three Stolen Princesses*). Z metodologického hľadiska sa výskum opiera primárne o literárnu vedu a vychádza predovšetkým z literárnoteoretickej subdicsciplíny, tzv. arcitextuálnej tematológie, ale k tomuto významnému fenoménu pristupuje i cez prizmu fokloristickú, religionistickú, kultúrnoantropologickú a psychologicko-symbolickú.

Kľúčové slová: *falošný hrdina, škodca, archetyp, rozprávka, arcinaratív*

Abstract

The paper focuses on the false hero and villain (Propp) character/function as archetypal figures in arch-narratives. The research analyses a false hero and villain archetype in the frame of a representative folktale from Slovak collector Pavol Dobšinský *Lomidrevo alebo Valibuk*, which iconizes this archetypes via the two characters – hero's companions, Valivrch and Miesiželezo. The study compares chosen characters with other characters of another sujet variant of this fairytale, which, according to Aarne-Thompson-Uther's catalog of tale types is of ATU 301 *The Three Stolen Princesses*. Research is from the methodological point of view hinged mainly on literary science and subliterary discipline arch-textual thematology, but explores the problematics via the folkloristic, religionistic, cultural anthropologic, and psychologic-symbolic prism.

Key words: *false hero, villain, archetype, fairytale, arch-narrative*

1 ZÁKLADNÉ VYMEDZENIA

V proponovanej štúdii sa zaoberáme tematologickým výskumom archetypálneho fenoménu falošného hrdinu a škodcu v podobe špecifických rozprávkových postáv zo slovenského čarovného príbehu *Lomidrevo alebo Valibuk* zo zbierky Pavla Dobšinského. Ide o postavy dvoch hrdinových spolucestovateľov, sprievodcov a spoločníkov – Valivrcha a Miesiželeza.

1.1 Škodca a falošný hrdina

Postava s funkciou antagonistu, škodcu (Propp), je jedným z ústredných činiteľov existenciálnej problémovej situácie, ktorá predstavuje generálnu tému tzv. sujetového umenia (Mukařovský). Je to hlavný protivník hrdinu, jeho negatívny protipól, súper a odporca. V rozprávkach (a mýtoch), ktoré sú materiálovou bázou nášho výskumu, sa snaží zapríčiniť škodu, ujmu, nešťastie (Propp, 2008, s. 37) a vystupuje ako prekážka hrdinu. Markantnejšie

než v akejkoľvek inej slovesnej tvorbe sa práve v čarovných naratívoch antagonistická postava podieľa na sujetotvornej opozícii dobro – zlo, ktorá buduje dej a modeluje jeho dramatickú štruktúru. Keďže ide o aktanta s jednoznačne negatívnym charakterom, v súlade s logikou a hodnotovo-morálnymi normatívmi klasických rozprávok musí byť hrdinom porazený a jeho ďalšie škodenie musí byť znemožnené.
Formy zápasu hrdinu a škodcu sú rozmanité, od pomerne neškodných až po snahu zabiť svojho súpera. Škodca na to často využíva lesť a niekedy ho hrdina považuje za darcu, priateľa, pomocníka a spoľahlivého spoločníka na ceste za dobrodružstvom. Neraz sa však zo zdanlivo verného druha vykľuje bezohľadný rival, ktorý si neprávom prisvojí hrdinské činy a pod rúškom priateľstva podvedie skutočného hrdinu.

1.2 Materiálová báza a metodologické postupy výskumu

Východiskový príbeh podľa Aarneho-Thompsonovho-Utherovho (skrátene ATU) katalógu rozprávkových typov zaraďujeme pod typ 301C *Princezné v podzemí* (*The Three Stolen Princesses*). Uvedená rozprávková látka je v rámci slovensko-českého kultúrneho areálu, ako aj v rámci európskych príbehov všeobecne, veľmi obľúbená a frekventovaná, preto v našom výskume komparačne usúvzťažňujeme kľúčové postavy s obdobnými postavami ďalších sujetových variantov.
Genologicky ohraničená platforma arcitextov výrazne determinuje perspektívu, z akej na skúmaný fenomén nahliadame. Pri analýze vybranej manifestácie rozprávkového antagonistu uplatňujeme postupy a pojmoslovie *arcitextuálnej tematológie*, literárnovednej subdisciplíny, ktorá sa vyprofilovala v Oddelení semiotických štúdií (OSŠ) Ústavu literárnej a umeleckej komunikácie Univerzity Konštantína Filozofa v Nitre pod vedením Mariany Čechovej a Ľubomíra Plesníka. Jej výskum sa ťažiskovo zacieľuje na kultúrotvorné prapríbehy (mýty, rozprávky, ustanovujúce náboženské texty, legendy atď.) a dotýka sa rôznych v nich zachytených tém, existenciálnych stratégií a hodnotových sústav či tematických algoritmov. K problematike budeme pristupovať predovšetkým cez prizmu literárnovednú, ale keďže sa zapodievame archetypom v jeho základnej mytologicko-rozprávkovej podobe, načrieme aj do iných relevantných disciplín, ktoré nášmu výkladu dodajú univerzálnosť a širšiu interpretačnú platnosť. Na mysli máme predovšetkým interdisciplinárne presahy k folkloristike, religionistike, kultúrnej antropológii či hlbinnej psychológii a symbolike.

2 Špecifiká ATU 301 a sujetová osnova rozprávky

Príbehy s motivickou látkou 301 sú typické zmnožením postáv plniacich funkciu antagonistu. Vo vybranom Dobšinského variante nevystupuje len jeden, ale až štyria protivníci hrdinu s jednotnou zápornou podstatou, ktorí ale disponujú nápadne odlišnými somaticko-substanciálnymi i charakterovými atribútmi. Hrdinovými protivníkmi sú spoločníci a falošní hrdinovia, Valivrch a Miesiželezo, ale aj piadimužík Laktibrada a drak. Hrdinovi spoločníci sa však (ako jediný typ škodcu) vyskytujú vo všetkých troch základných pasážach naratívu – v úvode, jadre i v závere –, a tak pomyselne rámcujú jeho štruktúru, i preto majú v príbehu nenahraditeľnú úlohu.
Tu uvádzame sujetovú osnovu rozprávky:

1. Deväťdesiatročná žena porodí neobyčajne silného syna Lomidreva.
2. Lomidrevo odchádza do sveta a cestou stretne Valivrcha a Miesiželeza.
3. Tí s Lomidrevom najskôr zápasia, potom sa spriatelia a spoločne sa vydajú do sveta.
4. Prídu do mesta, kde sa dozvedia, že kráľove tri dcéry uniesli draci, a rozhodnú sa ich nájsť a oslobodiť.
5. Prídu do domčeka na lúke, v ktorom sa usadia.
6. V domčeku býva Laktibrada, ktorý ľstivo napadne Valivrcha a Miesiželeza.

7. Lomidrevo nepodľahne Laktibradovi a pripraví ho o jeho dlhú bradu.
8. Laktibrada nevoľky ukáže Lomidrevovi cestu do podzemia, kde sa nachádzajú princezné.
9. Lomidrevo v podzemí zápasí s tromi drakmi a oslobodí princezé.
10. Valivrch a Miesiželezo zradia Lomidreva a vezmú mu princezné.
11. Lomidrevovi pomôže knochta-vták, ktorý ho vynesie z podzemia.
12. Lomidrevo sa vracia do kráľovstva za najmladšou princeznou, splní jej úlohu a ona ho spozná.
13. Lomidrevo odpustí Valivrchovi a Miesiželezovi.
14. Lomidrevo sa žení a stáva sa kráľom.

3 BIFUNKČNÁ PODSTATA VALIVRCHA A MIESIŽELEZA

Podľa ruského formalistu Vladimíra Proppa v rozprávkach vystupuje sedem invariantných typov postáv so stabilným funkčným vymedzením.[1] Ako sme predznačili, vo vybranej rozprávke dochádza k zmnoženiu počtu postáv plniacich tú istú funkciu. Okrem iných (tri hľadané osoby [princezné], dvaja darcovia [piadimužík, knochta-vták] apod.) sú to štyria škodcovia (Miesiželezo, Valivrch, Laktibrada, drak) a dvaja falošní hrdinovia (Miesiželezo a Valivrch). Akiste je to tak preto, že naratív má dobrodružno-výpravný charakter a jeden protivník by nestačil.

Na rozdiel od postavy draka, ktorá je jednoduchá či jednorozmerná (t.j. postava plniaca jedinú sujetovú úlohu), ako prevažná väčšina postáv v klasických rozprávkach, Miesiželeza a Valivrcha možno považovať za zložitejšie tvarované figúry. Podľa proppovskej morfológie rozprávky plnia v príbehu dve funkcie – najskôr hrdinovho spoločníka na ceste a neskôr škodcu, resp. falošného hrdinu. Ich účinkovanie v deji spôsobuje momenty zvratu a protikladnosti: falošný hrdina sa spočiatku tvári voči hrdinovi priateľsky: "*Ale za to sa nepohnevali, lež sa dali do kamarátstva*" (Dobšinský, 1990, s. 57), potom však zneužije jeho priazeň: *"... tí* [Valivrch a Miesiželezo] *by ma mohli zradiť!' Keď povraz dolu priletel,* [Lomidrevo] *nepriviazal naň seba, ale jednu veličiznú skalu, tú im dal hore ťahať ... Tí dvaja tú skalu dobre vyše polovice vytiahli a potom povraz odrezali"* (Dobšinský, 1990, s. 71).

Aj keď máme do činenia s postavami klasickej čarovnej rozprávky, a tie sú spravidla statické, naznačené premeny postáv v sujete môžu viesť k presvedčeniu, že sú výsledkom ich vývinu. Zvrat v konaní postáv však neodráža transformáciu ich charakteru, ale len poukazuje na dočasný rozpor medzi vonkajšími prejavmi postavy (priateľstvo, nepriateľstvo) a jej skutočnými kvalitami (zradnosť hrdinovho spoločníka/zákernosť falošného hrdinu). V rozprávke sa nenarúšajú zásady schematickej charakterizácie postáv, falošnosť Miesiželeza a Valivrcha je rozlišujúcou vlastnosťou proppovsky normatívne stanovenej funkcie falošného hrdinu voči skutočnému hrdinovi. Falošní hrdinovia tu slúžia ako prostriedok dramatizácie priamočiaro vedenej sujetovej línie. Kompozičným postupom, gradujúcim napätie a rozvíjajúcim rozprávanie, je znovuodobratie už získanej princeznej hrdinovými protihráčmi. Vďaka ich podrazu voči Lomidrevovi sa dej znovu zauzlí a oddiali konečné riešenie. Môžeme nadobudnúť pocit, že sujet sa rozširuje o „novú" postavu, ale v skutočnosti sa objavuje len nová motivácia bývalých spoločníkov – závisť voči hrdinovi.

3.1 Proppovské delenie funkcií

Podľa Proppa sa jeden okruh činností vzťahuje na viacero postáv – v prípade skúmanej postavy falošného hrdinu vo vybranej rozprávke je rozdelený medzi dve postavy – Valivrcha a Miesiželeza –, a postava škodcu medzi tri typy figúr: draka, piadimužíka a nepravých hrdinov. Druhým spôsobom proppovského delenia je taká situácia, v ktorej niektoré postavy

[1] K týmto typom postáv Propp radí hrdinu, škodcu, darcu, pomocníka, odosielateľa, hľadanú osobu a nepravého (falošného) hrdinu (Propp, 2008, s. 70).

plnia v rôznych dejových sledoch rôzne funkcie. Takýmito postavami sú aj Valivrch a Miesiželezo, ktoré zahŕňajú niekoľko okruhov činností. Včleňujeme ich do okruhu nepravého či falošného hrdinu (C↑ – začiatok protiakcie a odchod za účelom hľadania, L – neoprávnené nároky). Za falošných hrdinov ich považujeme pre ich závistlivosť, vypočítavosť, sebeckosť, zákernosť a zradu voči hrdinovi, keď ako domnelí pomocníci opustia Lomidreva a pred kráľom sa nepravdivo vydávajú za osloboditeľov princezien. Rozprávač nepravých hrdinov Valivrcha a Miesiželeza na začiatku vykresľuje ako hrdinových kamarátov: *„Ale zato sa nepohnevali, lež sa dali do kamarátstva“* (Dobšinský, 1990, s. 57). Ich povahu osvetlí až v priebehu deja: *„… tu sa tí (Valivrch a Miesiželezo) ešte horšie naňho nehnevali, ale ani teraz mu to znať nedali“* (Dobšinský, 1990, s. 64). Lomidrevo ich pravú identitu však odkrýva na konci: *„… tí by mňa mohli zradiť!“ Keď povraz dolu priletel, nepriviazal naň seba, ale jednu veličiznú skalu, tú im dal hore ťahať... Tí dvaja tú skalu dobre vyše polovice vytiahli a potom povraz odrezali“* (Dobšinský, 1990, s. 71). [2] Z tohto dôvodu patria aj do okruhu škodcu (A – škodcovstvo), aj keď s Lomidrevom nemajú priamy konflikt a nepodstupujú s ním žiadny boj.

4 HRDINOVI SPOLOČNÍCI A FALOŠNÍ HRDINOVIA

4.1 Identita a nomen omen

Falošní hrdinovia vstupujú do cesty pravému hrdinovi už na počiatku jeho dobrodružnej cesty: *„Ide, ide, kým ide; príde k jednému chlapovi, čo vrchy váľal a z jedného miesta na druhé prenášal. Ten Lomidrevovi hneď jeden vrch do cesty zavalil, aby nemohol prejsť“* (Dobšinský, 1990, s. 57). Lomidrevo sa s Valivrchom ihneď púšťa do fyzického zápasu, víťazí nad ním a spriatelí sa s ním. Rovnakým spôsobom sa zoznamuje s Miesiželezom: *„Idú, koľko idú, prídu k jednému človeku, čo vždy i vtedy železo v rukách miesil a z cesty sa im vystúpiť nechcel“* (Dobšinský, 1990, s. 57). Valivrch a Miesiželezo sa stávajú Lomidrevovými spoločníkmi a priateľmi. Rozprávač pomocou kompozitných mien postáv – Miesiželezo, Valivrch, Lomidrevo – vystihuje ich charakteristické schopnosti. Prvá plnovýznamová časť kompozita vo forme slovesných tvarov *miesi-, vali-, lomi-* vyjadruje fyzicky veľmi namáhavú a nepríjemnú činnosť (lámať – „násilným ohnutím deliť“, valiť – „zhadzovať niečo“, „rúcať“), ktorá sa s druhou, predmetovou časťou označenia postáv spája s nadprirodzeným ovládaním obrovských, ťažkých, nepoddajných prírodných zložiek zemského telesa (*-železo, -drevo, -vrch* ako vyvýšenina veľkých rozmerov). Rozprávač Valivrcha nazýva „chlapom, čo vrchy váľa“ a hoci jeho výzor bližšie nešpecifikuje, jasne naznačuje jeho podstatu. Podobne vykresľuje aj po- stavy Miesiželeza ako „človeka, čo železo v rukách miesi“ a Lomidreva ako „neobyčajného, veľkého a mocného“. Všetci traja sa prostredníctvom príznakovej staroepickej hyperbolizácie vyznačujú kolosálnou veľkosťou, gigantickou silou a vďaka tomu i nebezpečnou energiou, ktorá ich vyčleňuje z obyčajného človečenstva. V tomto zmysle sú si všetci rovnocenní. Ukrajinský Valihrach stretáva na ceste Valivrcha, Validuba a Vrtifúza, dánsky Hans zasa Kamenára a Drevorubača. V českých variantoch typu ATU 301 sa diapazón figurálneho typu hrdinových spoločníkov hojne vyskytuje pod rôzne modifikovanými menami: v rozprávke *Zhlinyjan* vystupujú Lamskala, Třiocel a Třasibuk, v rozprávke *Janek Medvědík* hrdinu oklamú Drobímsaz a Kopecnakopec a v príbehu *O Janovi Kobylím* hlavného protagonistu sprevádzajú Lamoles s Lamokamenem. Vo verzii *Valibuk*, spracovanej Boženou Němcovou, tieto postavy vystupujú pod menami Skalymej a Železomej, inde zas ako Méjskala, Méjželezo a Méjolovo. Všetky uvedené postavy, rovnako ako Lomidrevovi spoločníci, sú nositeľmi „tvrdých“ a „silných“ mien

[2] Vo verzii Samuela Reussa sú Lomidrevovi druhovia v celom príbehu organicky jeho priateľmi a pomocníkmi, lebo – ako píše sám Reuss – „svornosť a vernosť sú najvýraznejšou ozdobou tohto nerozlučného trojlístka“ (2018, s. 204).

príznakovo spätých s prírodou (les, skala, buk) alebo pevným materiálom (železo, kameň, drevo). Nomina propria sú v rozprávkovom svete zhustenou charakteristikou alebo opisom hlavných či inak dôležitých postáv. Ich meno vystihuje buď charakteristickú schopnosť (Lomidrevo, Valivrch, Miesiželezo, Nebojsa, ded Vševed atď.), alebo najvýraznejšiu vlastnosť zovňajška (Laktibrada, Červeňkráľ, Modrofúz, Zlatovláska, Dlháň atď.). Podľa českej literárnej teoretičky Daniely Hodrovej je meno postavy individualizujúci a zľudšťujúci prvok, ktorý sa podieľa na výrazovej zložke postavy ako znaku (2001, s. 558).
Postavu hrdinu často sprevádzajú takíto dvaja spolucestovatelia, ako je to napríklad aj v inej Dobšinského rozprávke *Matej veľký kráľ a Uliana veľká kráľovná,* kde traja bratia putujú svetom a dvaja starší sa rozhodnú najmladšieho brata zabiť. V nórskej rozprávke *Tri princezné z hory v modravej diaľke* (ATU 301*)* sa jednoduchý vojak vydá do podzemného sveta zachrániť princezné a keď sa vracia späť do ľudského sveta, jeho spoločníci, kapitán a poručík, ho podvedú a opustia. Podobne zradu vykresľuje aj rozprávač v írskom čarovnom príbehu *Kone kráľa Conala* (ATU 301), v ktorom majster spúšťa svojho spoločníka, učňa, do obrovej podzemnej ríše. Učeň sa však vyhovára, a tak sa s ním majster vymení a obra porazí v podzemí sám. Keď sa vracia naspäť a prosí učňa o pomoc, ten sa mu otočí chrbtom, utečie so zlatom a majstra nechá v podzemí. V biblickom príbehu sebeckí bratia podobne opustili najmladšieho Jozefa.

4.2 Premiestňovanie postáv fikčným univerzom

Hrdina so svojimi spoločníkmi putuje do mesta, kde dostane úlohu nájsť a oslobodiť tri princezné. Prechádzajú lesom a odtiaľ všetci traja prestúpia na lúku, kde ich čaká skúška v malom domčeku, u prefikáného piadimužíka Laktibradu. Laktibrada kruto zaútočí: *„A tu sa spustil Laktibrada dnu komínom, milého Valivrcha o zem pritisol, kašu mu takú vriacu na pupok vykydal a všetko požral. Potom hybaj, zase hore komínom zmizol“* (ibid, s. 62). Hoci obaja spoločníci pri jeho útoku pochybia, hrdinovi sa podarí piadimužíka poraziť a získať informáciu, že princezné sú uväznené v podzemí. Preto sa Lomidrevo, Valivrch a Miesiželezo vydávajú k podzemnej diere. Hrdina nikdy nedospeje k víťazstvu na prahu, ale nechá sa pohltiť neznámom (Campbell, 2000, s. 86). Zmyslom hrdinského dobrodružstva je zostúpiť k neľudskému, infrahumánnemu princípu. Iba tak sa spojí so škodcom a porazí ho (Lotman, 1990, s. 283).

4.3 Mobilita postáv

Ruský literárny teoretik Jurij Lotman rozdeľuje postavy na báze ich pohyblivosti a mobility, pričom pohyblivými nazýva tie postavy, ktoré sa voľne pohybujú v rámci celého geografického priestoru naratívu a menia svoju pozíciu, zatiaľ čo výskyt imobilných postáv je obmedzený a zväčša viazaný na jeden konštantný priestor (1990, s. 157). Statickými postavami sú Laktibrada a drak, ale postavy falošných hrdinov, Valivrcha a Miesiželeza, sú mobilné, pretože sa v deji neustále premiestňujú a spolu s hrdinom prechádzajú v horizontálnom i vertikálnom smere fikčného univerza.
Katabáza a anabáza hrdinu je základným mytologicko-rozprávkovým motívom, ktorý môže byť multiplikovaný rôznymi spôsobmi vstupu do uzavretého a výstupu do otvoreného prostredia (Lotman, 1990, s. 158). Valivrch a Miesiželezo, zostupujú do hlbín zeme ako prví. Spúšťajú sa po lane do hlbokej diery, avšak vlastná zbabelosť ich núti vzdať sa a vrátiť sa nahor: *„…a tu povstala medzi nimi otázka, kto sa bude dnu spúšťať. Najväčšiu chuť ukazoval Miesiželezo. (...) Ani ho na dobrých dvadsať siah dnu nespustili, už začal na ratu volať a ten povraz potrhávať, aby ho von vytiahli“* (Dobšinský, 1990, s. 64). Rozprávač prostredníctvom ich výpovede zachytáva charakterové rozdiely medzi ich bojazlivosťou a Lomidrevovou odvahou, a zároveň ich zážitky využíva na to, aby čitateľovi sprístupnil prvé informácie o tom, ako to v podsvetí vyzerá: *„Hja, čože by, tma ako na polnoc a zo všetkých strán začali na*

mňa žaby skákať a hady sipieť, nuž som sa bál, že ma zožerú" (Dobšinský, 1990, s. 65). Noc je tradičným metonymickým prostriedkom na vylíčenie temnoty. Prirovnaním „tma ako na polnoc" rozprávač predstavuje podsvetie ako tú najtemnejšiu tmu, pričom polnoc vyjadruje jej vrcholnú podobu. Následne dotvára obraz o podsvetí prostredníctvom zážitku Valivrcha: *„Jáj, ... veď čo len žaby a hady, to je nič! Ale smrad a plameň začal na mňa búchať, tak som sa bál, že ma tam zadusí"* (Dobšinský, 1990, s. 65). V tomto dramatickom dejovom obrate sa významne preukazuje protagonistova odvaha, statočnosť, odhodlanie a iné hrdinské atribúty, ktoré ostatným chýbajú. Miesiželezo s Valivrchom vychádzajú z podzemia preľaknutí, čo rozprávač zvýrazňuje citoslovcami ako „jáj" alebo „hja". Lomidrevo sa pre neprekonateľný strach svojich spoločníkov musí vybrať do podsvetia sám. V rovnakej situácii sa ocitne aj hrdina rumunskej rozprávky typu ATU 301 *Statočný benjamín a zlaté jablká*.

5 Zrada spoločníkov a konečné víťazstvo pravého hrdinu

Lomidrevo prenikne do podsvetia sám a zachráni tri princezné z područia ich väzniteľov – troch drakov. V momente jeho anabázy, kedy je už nebezepečie „zdola" zažehnané, dochádza k ďalšej peripetii, ktorá znemožní Lomidrevov návrat do ľudského sveta: *„Keď povraz dolu priletel,* [Lomidrevo] *nepriviazal naň seba, ale jednu veličiznú skalu, tú im dal hore ťahať ... Tí dvaja* [Valivrch a Miesiželezo] *tú skalu dobre vyše polovice vytiahli a potom povraz odrezali"* (Dobšinský, 1990, s. 71). Hrdina je nakoniec odkázaný sám na seba, avšak stretáva zvieracieho pomocníka, knochta-vtáka, a tak sa šťastne vymaní z podzemnej temnoty: *„'... len ma [knochta vták] odtiaľto na druhý svet vynes!' ,To sa ti* [Lomidrevo] *stane po vôli...'"* (Dobšinský, 1990, s. 71).

Škodcovský vplyv však ani hrdinovou anabázou nekončí. Lomidrevo príde do kráľovstva, kde sa konajú svadby princezien a ich zdanlivých záchrancov. Lomidrevo preukáže svoju pravú hrdinskú identitu a rozprávka končí jeho udobrením s Valivrchom a Miesiželezom a ich kráľovskými svadbami. Kráľ chce falošných hrdinov, Valivrcha a Miesiželeza, potrestať, ale hrdina im odpúšťa. V inej slovenskej verzii rozprávky *O Janku Palčekovi* kráľ nechá hrdinových zradcov za trest obesiť. V rumunskej rozprávke *Statočný benjamín a zlaté jablká* však hrdina dvom zbabelým bratom odpustí, rovnako ako Lomidrevo, ale tí sa napriek tomu dočkajú spravodlivého trestu, keď ich usmrtia vlastné šípy.

6 MIESIŽELEZO A VALIVRCH AKO ARCHETYP OSOBNÉHO TIEŇA HRDINU

Čarovné rozprávky tematizujú dobrodružný príbeh, v ktorom je implicitne, ale veľmi hutne a presne obsiahnutá archetypálna výpoveď (Franzová, 1998, s. 15). S dôležitosťou podotýkame, že práve arcinaratívy (prednostne mýty a čarovné rozprávky) poukazujú na odvekú ľudskú skúsenosť s rôznorodými prejavmi zla. Podľa zakladateľa analytickej psychológie a archetypológie, Carla Gustava Junga, je archetyp „bezčasový, stále existujúci a operatívny" praobraz, typická forma alebo vzorec správania (1997, s. 44 – 64). Podľa tejto Jungovej tézy sa postavy škodcov falošných hrdinov východiskovo viažu na archetyp tieňa. Atribúty archetypu tieňa sú pre falošných hrdinov (i ostatné antagonistické postavy rozprávky) typické. V ich správaní a konaní sa zachováva archetypálna podstata tieňa. Ich impulzy voči ostatným postavám sú ničivé (opustenie v snahe dočasne či navždy limitovať hrdinu a privlastniť si víťazstvo ako aj zachránené princezné).

6.1 Archetyp osobného tieňa

Môžeme s určitosťou tvrdiť, že archetyp tieňa a jeho rôznorodé personifikácie sú kontrastom hrdinu v rôznych aspektoch. Niektoré škodcovské postavy sú od hrdinu úplne odlišné (drak, Laktibrada) a niektoré s ním majú príbuzenský vzťah. Falošný hrdina sa pravému hrdinovi podobá najväčšmi. Miesiželezo a Valivrch sú primárne ľudské bytosti (na rozdiel od draka a piadimužíka) a prelínajú v sebe atribúty dobra i zla, priateľstva i nenávisti, pomoci i

záškodníctva, a práve balans medzi týmito aspektmi, kolísavosť medzi protikladnými hodnotami modeluje ich špecifický charakter. Spolupatričnosť Miesiželeza a Valivrcha k Lomidrevovi sa prejavuje na ceste za princeznami. Ochotne sprevádzajú hrdinu, zdolávajú s ním náročnú cestu a pomáhajú mu dostať sa do cieľa. Ich tienistá podstata sa prejavuje až pred hrdinovou najťažšou skúškou – vstupom do podsvetia. Valivrch a Miesiželezo sa zachovajú sebecky, kruto a nespravodlivo. Napriek tomu, že pri závažnom rozhodnutí falošných hrdinov víťazí ich tienistá stránka nad tou, povedzme, hrdinskou, Lomidrevo obom na záver odpúšťa, čím sa z psychologického hľadiska symbolicky vysporiada s vlastným tieňom.

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APPLYING COOPERATIVE LEARNING IN MATHEMATICS AND INFORMATIVE WORK IN PRIMARY SCHOOLS

Beáta Pošteková, Zuzana Semričová

Abstract

Based on the need to develop the social sphere of each student, cooperative teaching comes into awareness. We can conclude that the need for introducing cooperative teaching is high in the current situation. In our contribution, we will focus on theoretical starting points such as cooperation, cooperative teaching and cooperative teaching in mathematics classes. As part of the practical research, we focused on the opinions of teachers and their practical use of cooperative teaching in mathematics lessons based on a questionnaire we created. We summarized the results of our findings in the conclusion.

Keywords: *teacher, cooperative teaching, mathematics, primary education, Hejný's method*

1 INTRODUCTION

In today's modern era, high demands are placed on every person. Not only in the speed of the lifestyle, but also in the amount and expertise of knowledge that he must achieve, master and be able to apply. High demands are also placed on the acquisition of mathematical knowledge not only in primary schools, but also as part of lifelong education. However, the development of knowledge is not the only thing that a school should offer a student. Personal, social and psychomotor development is also important.

As part of his pedagogical practice, the teacher must be aware that he affects the student on two levels, namely pedagogical and social. The teacher consciously focuses on the pedagogical level of his work - on the student, but he must not forget the social level as well, which is manifested in the involvement of all students in work, their activation, etc. Currently, the individuality of each pupil is brought to the fore and social contexts have taken a backseat, but social learning is more effective than learning by doing in isolation (Jablonský, 2006a).

Also on the basis of this, teachers try to use elements of cooperative teaching, which help not only in the development of the cognitive level, but also help to develop the social level, active discussion and, last but not least, self-evaluation.

2 COOPERATION AND COOPERATIVE TEACHING

Cooperative teaching is based on criticism of classical teaching, which does not sufficiently respect the student's personality, his individuality, provides little space for communication, etc. (Petlák, 2012).

Many times we can see a tendency among teachers to classify cooperative learning as group teaching. Turek (2008) classifies group teaching as a part, or a certain subset of cooperative teaching, since cooperative teaching is very often implemented in groups. However, Kasíková (2010) is of the opinion that group teaching cannot be equal to cooperative teaching, because there is no real cooperation between students in group work. Based on various definitions, we can state that the difference between group and cooperative teaching is that group work can be simplified, focused on the use of a different organization of work, on the other hand, in cooperative teaching, the emphasis is placed on the mutual cooperation of pupils (Petlák, 2012).

The concept of cooperation and cooperative teaching are not completely clearly understood. There are various definitions, we will mention just one. Cooperation can be understood as the target structure of teaching. It exists precisely when each student realizes that he can achieve

his goal only if the other students with whom he is connected in the given task also achieve his goal (Johnson, Johnson, 1989).
Kasíková (2010) defines cooperative learning as optimal learning based on a specific arrangement of relationships in tasks, based on positive interdependence, i.e. cooperation. Positive interdependence, face-to-face interaction, personal responsibility - personal accounting, formation and use of interpersonal and group skills, reflection of group activity can be considered the basic features of cooperative teaching.
According to research by R.E. Slavin (1998) we can conclude that the cooperative teaching method has a positive effect compared to the competitive and individualized teaching method. This is primarily reflected in higher motivation to achieve high academic performance. Cooperative pedagogical strategies strengthen the student's social education, improve the quality of peer relationships and contacts, increase the level of personal responsibility, and make students socialize. Improving relationships can serve as a prevention of neuroticism, psychopathological phenomena and is one of the conditions for coping with life's stressful situations. Therefore, we can consider cooperative teaching as one of the most effective conditions for individual growth and personality education of a person (Jablonský, 2006b).

2.1 Cooperation in mathematics in primary education

Research resulting from the PISA study (2015) regarding team problem solving revealed the unsatisfactory results of Slovak students in the ability to work together. In the given category, Slovak pupils were placed last. Pupils are not encouraged to cooperate, to active discussion, etc. Above all, at the end of primary education, the pupil is greatly influenced by the degree of acceptance in the classroom, social relations, which help the pupil not only as motivation in performance, but also for self-evaluation, which has a great influence on future social behavior and social relations (Zastková, 2022).
A child acquires the basics of mathematical education from early childhood. Pre-mathematical competences are developed already in kindergarten by acquiring basic ideas about numbers, what is more, what is less, about geometric shapes, etc. All the concepts that the child encounters are developed during this period primarily in concrete activities (Partová, 2021). Mathematical education continues on these foundations at the primary level of education. Mathematics, according to the State Education Program for Primary Education (2015), falls into the field of Mathematics and Information Work. Its priority goal is building basic mathematical literacy, acquiring cognitive and application competences and, last but not least, being able to justify the use of the given solution and relationships. Mathematics at the secondary level of education builds on the acquired knowledge and develops it. Knowledge at this level should be acquired in a spiral manner with a strong representation of propaedeutics - creating simple hypotheses, investigating their truth, working with tables, diagrams, etc., developing the ability to orient in a plane but also in space, etc. (State educational programme: secondary education - 2. primary school level, 2015).
Within the subject of mathematics, we can see in many cases that it is possible to use elements of cooperative teaching as well as cooperative teaching itself. Since cooperative teaching focuses on cooperation between students, we can see these features in Hejný's method of teaching mathematics. One of the principles of Hejný's methods is Support for cooperation. Based on this, students should be able to cooperate better, develop their knowledge and also be able to explain to their classmates how they achieved the given result. Not only cooperation develops, but also active discussion, which is followed by another of the basic features of the Hejný's method, real motivation. When a student knows how to cooperate, he knows how to actively discuss, he develops his social behavior and relationships with peers (Hejný, Kuřina, 2009).

3 METHOD AND RESULTS

The research group consisted of a total of 305 respondents - primary school teachers, of which 274 were women (89.8%) and 31 were men (10.2%). 98 respondents (32.1%) taught at the 1st grade, 184 respondents (60.3) at the 2nd grade, the remaining 23 teachers taught at both the 1st and 2nd grade of elementary school. On the basis of education, the distribution of the respondents was as follows: 29 teachers had completed university education of the first degree (9.5%), 255 university education of the second degree. Degree (83.6%) and 21 teachers with higher education III. degree (6.9%). In terms of length of experience, the largest group was teachers with experience from 21-25 years (22.6%), followed by groups of teachers with experience of 31 years or more (19.0%), 16-20 years (14.8%) and the group office of the youngest teachers with experience up to 5 years (13.8%). The groups of teachers with experience from 11-15 years (11.8%), 26-30 years (10.8%) and 6-10 years (7.2%) were the least numerous. 265 teachers (86.9%) worked at state schools, 25 teachers (8.2%) at a church school and the remaining 15 teachers (4.9%) at a private school. Regarding the location of the school, urban schools were more represented (54.1%), the remaining 45.9% were schools located in villages.

We collected data through Google Forms in the months of January to March in the academic year 2022/2023 in all regions of Slovakia. The questionnaire focused on Cooperative teaching in mathematics classes. We evaluated the obtained questionnaire data using the Statistica version 10 statistical program.

In our research, we set two research questions and a hypothesis:

H01: We assume that teachers at the 1st and 2nd grade of elementary schools evaluate the importance and contribution of cooperative teaching in developing students' skills and abilities in mathematics in the same way.

H1: We assume that teachers in the 1st grade of elementary schools see a greater benefit of cooperative teaching in developing students' skills and abilities in mathematics than their colleagues in the 2nd grade. in our research, we set two research questions and a hypothesis:

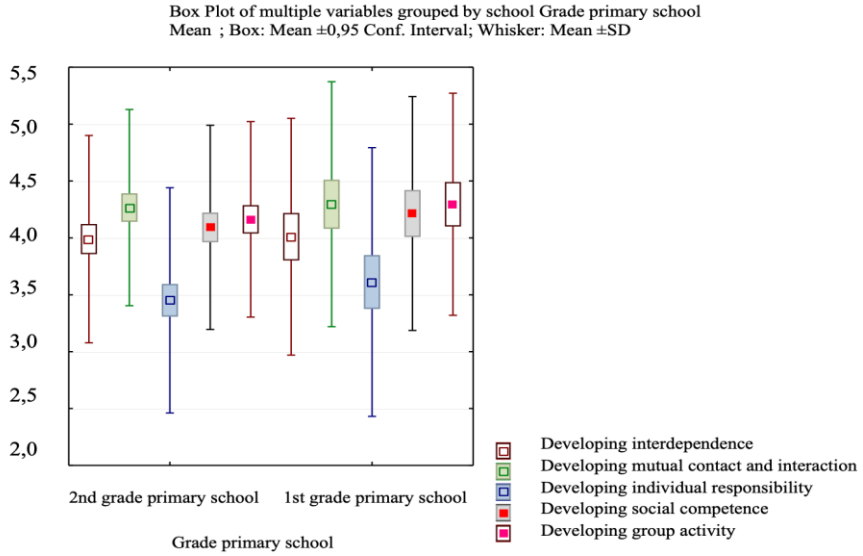
Table 1. U Test by variable primary school grade (Pošteková, Semričová, 2023)

	Mann-Whitney U Test By variable primary school grade Marked tests are significant at p‹0.05000				
	Rank Sum 2nd level of primary school	Rank Sum 1st level of primary school	U	Z	p-value
Developing interdependence	25,574.50	14,046.50	8554.500	-0.61251	0.540204
Developing mutual contact and interaction	25,070.50	14,550.50	8050.500	-1.48883	0136533
Developing individual responsibility	24,925.00	14,696.00	7905.000	-1.64301	0.100381
Developing social competences	24,767.50	14,853.50	7747.500	-1.96727	0.049153
Developing group activity	24,692.00	14,929.00	7672.000	-2.12885	0.033268

In the case of the hypothesis, which compared the opinions of teachers of the 1st and 2nd grade of primary schools on the development of pupils' skills and abilities in the subject of mathematics and in the five monitored areas - the so-called factors, the results of the statistical analysis confirmed that in the case of three factors - Positive interdependence, Stimulating interaction and Individual responsibility in the assessment of the contribution of cooperative teaching to the development of mutual dependence, mutual contact and interaction as well as individual responsibility, statistically significant differences between the observed groups of teachers were not confirmed (p [Equation] 0.05). However, teachers evaluated differently the

benefit of cooperative teaching in the subject of mathematics in two factors – Group processing (U = - 1.97; p = 0.049153 [Equation] 0.05) and Social skills (U = - 2.13; p = 0 .033268 [Equation]0.05), while teachers at the 1st grade of primary schools declared a significantly greater benefit of cooperative teaching related to the development of pupils' social abilities and group activities.

Graph 1. Box Plot of multiple variables grouped by school



Variable codes: 1- I completely disagree, 2- I disagree, 3- I have no strong opinion, 4 - I agree, 5- I completely agree

Conclusion: We accepted H1.

RQ01: In which area do teachers at different levels of elementary schools see the greatest and least benefit of cooperative teaching for the development of students' skills and abilities?

Table 2. Elementary school level – Primary education ANOVA (Pošteková, Semričová, 2023)

	Elementary school level - Primary education Friedman ANOVA ANOVA Chi Sqr. (N = 98, df = 4) = 72.55982; p = 0.00000			
	Average Rank	Sum of Ranks	Mean	Std. Dev.
Developing interdependence	2.785714	273.0000	4.010204	1.040370
Developing mutual contact and interaction	3.377551	331.0000	4.295918	1.076546
Developing individual responsibility	2.295918	225.0000	3.612245	1.180884
Developing social competences	3.214286	315.0000	4.214286	1.027960
Developing group activity	3.326531	326.0000	4.295918	0.976098

Table 3. Elementary school level – Sekundary education ANOVA (Pošteková, Semričová, 2023)

	Elementary school level - Secundary education Friedman ANOVA ANOVA Chi Sqr. (N = 184, df = 4) = 148.8327; p =0.00000			
	Average Rank	Sum of Ranks	Mean	Std. Dev.
Developing interdependence	3.032609	558.0000	3.989130	0.911308
Developing mutual contact and interaction	3.478261	640.0000	4.266304	0.861918
Developing individual responsibility	2.116848	389.5000	3.451087	0.990556
Developing social competences	3.111413	572.5000	4.092391	0.897566
Developing group activity	3.260870	600.0000	4.163043	0.859243

Despite the fact that teachers at the first level of primary schools rate the contribution of cooperative teaching to the development of pupils' social abilities and group activities higher than their colleagues at the second level, the "ranking" of the contribution of cooperative teaching to the development of individual skills and abilities of pupils is identical for both groups of teachers. Teachers, regardless of the level at which they teach, hold the opinion that cooperative teaching significantly develops social interaction the most and individual responsibility the least. Thus, the Stimulating Interaction factor took first place in their "ranking", followed by the Group Processing, Social Skills and Positive Interdependence factors, and at the end of the "ranking" the Individual Responsibility factor.

RQ02: Do selected factors such as the type of school, the location of the school, the length of experience of teachers and the highest level of education achieved by teachers have an impact on the evaluation of the contribution of cooperative teaching in mathematics classes to the development of student skills and abilities?

The second research question investigated whether the selected factors - location of the school, type of school, length of experience and the highest level of education achieved by teachers are related to how teachers perceive and evaluate the benefits of cooperative teaching in the subject of mathematics.

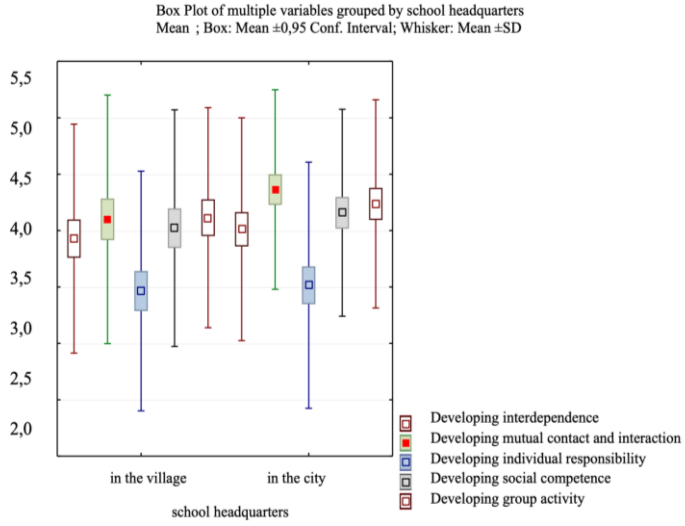
Table 4. U Test by variable The seat of the school (Pošteková, Semričová, 2023)

	Mann-Whitney U Test By variable The seat of the school Marked tests are significant at p <0.05000				
	Rank Sum in the village	Rank Sum in the town	U	Z	P-value.
Developing interdependence	20,855.50	25,809.50	10,985.50	-0.78812	0.430630
Developing mutual contact and interaction	19,990.50	26,674.50	10,120.50	-2.04717	0.040642
Developing individual responsibility	21,145.50	25,519.50	11,275.50	-0.37268	0.709386
Developing social competences	20,787.00	25,878.00	10,917.00	-0.88959	0.373689
Developing group activity	20,529.00	26,136.00	10,659.00	-1.27134	0.203607

The results of the Mann-Whitney U-test in this case showed that teachers in cities and villages evaluate differently only the influence of cooperative teaching on the development of mutual contact and interaction of pupils (U = -2.05; p = 0.040642 [Equation]0.05), while teachers

teaching in cities attribute a significantly greater benefit in this direction to cooperative teaching.

Graph 2. Box Plot of multiple variables groupes by school headquarters



Variable codes: 1- I completely disagree, 2- I disagree, 3- I have no strong opinion, 4 - I agree, 5- I completely agree

In the case of other factors (type of school, length of practice and teacher education), the results of the non-parametric Kruskal-Wallis ANOVA did not confirm statistically significant differences in the assessment of the contribution of cooperative teaching to the development of student skills and abilities in individual areas between groups of teachers (p [Equation]0.05) .

4 CONCLUSION

Cooperative learning is a teaching approach that has been shown to be very effective in promoting active learning, improving social skills and increasing academic achievement, including in mathematics. Through a questionnaire, we found out whether teachers in the 1st grade of elementary schools see a greater benefit of cooperative teaching in developing the skills and abilities of students in the subject of mathematics than their colleagues in the 2nd grade, the result was that the teachers evaluated the benefit of cooperative teaching in the subject of mathematics differently in two factors cooperative teaching, group processing and social skills. Furthermore, we observed in which area the teachers at different levels of elementary schools see the greatest and, conversely, the least benefit of cooperative teaching for the development of students' skills and abilities. The benefit of cooperative teaching for the development of individual skills and abilities of students is identical for both groups of teachers, it develops social interaction the most and individual responsibility the least. The last part of the research was to find out whether the selected factors - location of the school, type of school, length of experience and highest education of the teachers are related to how teachers perceive and evaluate the benefit of cooperative teaching in the subject of mathematics. The results show that teachers in cities and villages evaluate differently only the impact of cooperative teaching on the development of mutual contact and interaction of pupils, while a significantly greater benefit is attributed to teachers teaching in cities. Teachers see the benefit of cooperative teaching in the subject of mathematics at both levels of elementary school. It is necessary to develop more individual responsibility in the group among students. The advantages of cooperative teaching are that the teacher can encourage equal participation and provide clear instructions for effective group work. Regular reflection

and evaluation of group dynamics and individual contributions can also help ensure the success of cooperative learning activities in mathematics classes.

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FORMATION OF DIGITAL COMPETENCE OF LECTURERS AND FUTURE TEACHERS AT A REGIONAL UNIVERSITY

Dastan Kabdualiyev, Aigul Aldabergenova, Miloš Ulman, Věra Motyčková

Abstract

The study examines the digital competence of lecturers at the regional level in Kazakhstan, focusing on the Higher School of Natural Sciences at Zhetysu University. A questionnaire was disseminated to 20 lecturers and 100 students to assess their attitudes, skills, and use of ICT in teaching. The results indicate that while most lecturers consider ICT competence important, their self-assessment is average, with varying levels of competence across basic, technological, and practical aspects. Students generally perceive ICT as enhancing the educational process, however, improvements are needed in utilizing ICT for creativity and critical thinking. The study highlights the need for lecturer training and the effective integration of ICT in higher education.

Keywords: *information and communication technologies, information and communication competence, ICT tools, lecturers, future teachers, education.*

1 Introduction

According to the EU's Digital Competence (DigComp) Framework, digital competence is a combination of knowledge, attitudes, and skills that allow confident, critical, and responsible use of digital technologies for learning, at work and for participation in society [1]. The DigComp Framework comprises five areas of digital competencies: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving [2].

The concept of digital teaching competence (DTC) originated from digital competence established by the DigComp Framework [3]. DTC has been receiving growing interest as lecturers need to integrate technology into their professional practices [3, 4], which has been accelerated by the covid-19 pandemic [5]. Digital teaching competence has a narrower meaning as a set of skills for working with technology, didactic digital competence, and lifelong learning strategies. In short, the lecturer can master technology and didactic choices [3, 6]. Teachers' digital competencies enable them to develop their students' competencies to meet the new challenges of today's digital society. This applies to all levels of education. Although most lecturers have a similar level of digital competencies, their pedagogical use of technologies is different, having lower use of ICT in their teaching development [4]. In contrast, giving tasks based on technology does not necessarily result in meaningful learning [3].

Digital competence frameworks often focus on the pre-university level paying attention to the didactic abilities of lecturers more than at the university level, where the publication of scientific results is often valued higher than teaching [4]. Most of the research on the impact of digital competence on lecturer professional development is devoted to primary and secondary education [7]. The studies focused on the secondary level of education highlight the need to adapt ICT training programs for lecturers to their needs, the didactic use of technologies in the method of instruction, and the role of management in adopting technologies at schools [7].

Like in many other Global South countries, lecturers' digital competencies at high schools and vocational schools in Kazakhstan suffer from weaknesses and low competence in applying digital technologies in the instruction process [8, 9]. Some authors have proposed a digital

competence framework for lecturers in Kazakhstan [10], however, this has not yet been implemented in practice [9]. Improving the quality and efficiency of training at regional universities is a key aspect of improving the regional market of educational services, increasing the attractiveness of higher education, and competitiveness of regional universities in Kazakhstan and Russia [11]. This paper focuses on the analysis of the digital competence of lecturers at the regional level in Kazakhstan.

The paper continues as follows: We describe the survey and sample in the next section and present the results. We discuss and compare our results in the Discussion section, draw conclusions, and propose future research.

2 Materials and methods

We conducted the study at the Higher School of Natural Sciences of Zhetysu University named after I.Zhansugurov in February 2023. Also, in parallel, to study the opinion of future teachers about the effectiveness of the use of ICT at the university, a survey was conducted among future teachers of the higher school of Zhetysu University named after I.Zhansugurov. One hundred students of different specialties and ages who study at the Higher School of Natural Sciences answered the questionnaire.

The Questionnaire "The use of ICT by a university teacher" has five blocks of questions. The first block focuses on the lecturers' attitudes towards the use of ICT in teaching: whether they consider it necessary to use ICT at the university, whether they like to use ICT at work, in what ways do they improve their qualifications in the field of ICT. The second part of the questionnaire asks about the respondent's ICT equipment, interest in learning particular ICT skills, considerations of students' individual characteristics influencing selection and use of ICT, self-evaluation of ICT competencies and the effectiveness of the ICT use in teaching. The third, fourth, and fifth blocks contain questions about the ownership of various ICT equipment, which allows us to determine the degree of formation of basic, technological, and practical (professional) levels of ICT competence. The total of 4 to 5 points indicates the formation of this level, from 2 to 3.5 indicates partial formation, and from 0 to 1.5 indicates non-formation of this level. The total of points for the third, fourth, and fifth blocks characterizes the lecturer's overall level of ICT competence.

Thus, the questionnaire helps the lecturer to determine the level of formation of ICT competence, analyze the effectiveness of the use of ICT, the specifics of motivation to use ICT, identify problem areas, and outline possible ways to improve their ICT competence.

The Questionnaire "The use of ICT through students' eyes in the educational process" consists of 5 questions to identify students' opinions on the effectiveness and practicality of using ICT in the educational process.

3 Results

To determine the level of formation of ICT competence of university teachers, a survey was conducted with 20 lecturers taking part (average age 40 years) and having a scientific and pedagogical work experience of 10 years on average. According to the study results, almost half (46.9%) of the lecturers respondents consider ICT competence to be an important component of the pedagogical skills of a university teacher (Table 1).

Table 1. The use of ICT by university lecturers

Attitudes towards ICT Usage in Teaching	Percentage of Respondents	Gender		Pedagogical experience	
		Male	Female	Up to 10 years	More than 10 years
First block. Attitude toward the ICT competence					
Successful pedagogical activity is impossible without ICT competence	30.9%	50%	50%	70%	30%
ICT competence is an important component of the professional training of future teachers	46.9%	45%	55%	60%	40%
The level of ICT competence does not affect the quality of a lecturer's work	11.1%	0%	100%	0%	100%
ICT competence is a secondary auxiliary component of the professional competence of future teachers	11.1%	50%	50%	30%	70%
Second block. Preference to use ICT in teaching					
Surveyed like to use ICT in teaching	63.8%	50%	50%	60%	40%
Chose the answer "sometimes"	32.4%	40%	60%	60%	40%
Do not want to use ICT in their work	3.8%	80%	20%	65%	35%
Third block. Effectiveness of using ICT					
ICTs significantly increase the effectiveness of their teaching activities	75%	50%	50%	50%	50%
Using ICT does not affect the effectiveness of the educational process	11.5%	60%	40%	50%	50%
The efficiency of using ICT technologies is low	2%	100%	0%	0%	100%
Using ICT has both positive aspects and disadvantages	11.5%	25%	75%	0%	100%
Fourth block. Ownership of various ICT equipment					
Knows how to create electronic textbooks and virtual laboratory work	26%	50%	50%	75%	25%
Do not know how to develop electronic textbooks and teaching aids	32.5%	60%	40%	70%	30%
Need help creating electronic textbooks	27.3%	75%	25%	60%	40%
Do not need to develop electronic textbooks, but they have the necessary skills to do so	14.2%	40%	60%	50%	50%
Fifth block. Practical (professional) levels of ICT competence					

Attitudes towards ICT Usage in Teaching	Percentage of Respondents	Gender		Pedagogical experience	
		Male	Female	Up to 10 years	More than 10 years
Can create websites and post information on the Internet	25.3%	60%	40%	50%	50%
Surveyed sometimes need help developing websites	39.8%	60%	40%	60%	40%
Have never been involved in creating a website	30.1%	30%	70%	40%	60%
Had not faced such a task	4.8%	30%	70%	40%	60%

The overall level of ICT competence, which includes basic, technological, and practical (professional) levels, was 12.3 points with an average value of the 15 maximum possible for the sample. However, the main contribution to this result is the basic and technological levels formed by all respondents. In many models, the level of practicality is only partially formed.

This information is related to self-assessment of their level of ICT competence, which is average for most participants. Perhaps teachers understand the inadequacy of considering ICT as computer literacy and the important role of lecturers' pedagogical skills in using ICT.

Only 26% of the lecturers surveyed know how to create electronic textbooks and virtual laboratory work. 32.5% of respondents do not know how to develop electronic textbooks and teaching aids, and 27.3% need help creating electronic textbooks. 14.2% of respondents noted that they do not need to develop electronic textbooks, but they have the necessary skills to do so.

25.3% of respondents can create websites and post information on the Internet. 39.8% of the lecturers surveyed sometimes need help developing websites. About a third of the respondents (30.1%) have never been involved in creating a website, and 4.8% noted that they had not faced such a task. To the question "Can you use ICT as a means of forming students' ability to acquire new knowledge, develop critical thinking and creativity", 57% of respondents answered "Yes", 29% "Need help", 8.9% "No", 5.1% "another option" ("this is not within the scope of my professional competencies", "not always").

In the range of ICTs used by lecturers, there are two sections: general and specific, which include ICTs characteristic of all respondents and corresponding to the subjects taught. The general section contains the skills of a personal computer user (primarily MS Office suite programs), searching for information on the Internet, using multimedia equipment, and exchanging information with students via social networks and email. Some lecturers replied that Skype, Google Documents, and Google Forms are used to exchange information and organize collaboration. 100% of lecturers said they organize work with students using the educational platform "SmartZhetysu". The platform's purpose is digitalization, automation, and optimization of the main processes of the university. Despite the university's access to many scientific resources, only some respondents showed they use electronic libraries and databases in the educational process.

Thus, the lecturers have the skills of a personal computer user, can search for information on the Internet, use email and social networks, use ready-made electronic textbooks, develop presentation software for subjects, and use multimedia equipment and the SmartZhetysu platform. This will make it possible to build the learning process more effectively and

increase the volume and quality of learning information received by students. However, most respondents (77.8%) consider ICT primarily as a technical means of transmitting information. The possibilities of ICT as a resource for a qualitative change in the learning process through the creation of the author's electronic resources and online courses that consider students' individual characteristics, and the development of their thinking and creativity, are still insufficiently appreciated.

Analysis of the student survey

For an objective assessment of the effectiveness of the use of ICT in the educational process, students received feedback through the questionnaire "The use of ICT by lecturers through the eyes of students".

The students mostly enjoyed the use of ICT in teaching (63.8%), and agreed that ICT competence is an important component of the professional competence of future teachers (46.9%). However, more than a third of students reported that their lecturers use ICT only sometimes (Table 2).

Table 2: Students' attitudes towards ICT usage in teaching

Perception of ICT Usage in Teaching	**Percentage of Respondents**	**Year of study**					
		2nd		**3rd**		**4th**	
		Gender		**Gender**		**Gender**	
		M	**F**	**M**	**F**	**M**	**F**
First block							
Most lecturers use ICT in the educational process	45.2%	18%	22%	18%	15%	13%	14%
Almost all lecturers use ICT in the educational process	37.7%	15%	15%	18%	17%	20%	15%
Less than half of lecturers use ICT when working with students	17.1%	16%	14%	14%	16%	20%	20%
Second block							
ICTs significantly increase the efficiency of the educational process	54.9%	17%	16%	17%	17%	15%	18%
Completely satisfied with using ICT in the educational process	45.1%	20%	20%	20%	15%	18%	17%
Third block							
Surveyed would like lecturers to use a visual representation of information	30.3%	15%	30%	15%	15%	15%	10%
ICTs slightly increase the efficiency of using ICTs in education	5%	25%	15%	17%	13%	15%	15%
Using ICT does not affect the effectiveness of the educational process	19.1%	18%	20%	10%	12%	20%	20%
Use of ICT in some cases reduces the effectiveness of the	4.5%	20%	10%	18%	12%	22%	18%

Perception of ICT Usage in Teaching	Percentage of Respondents	Year of study					
		2nd		3rd		4th	
educational process							
Consider the use of ICT in the educational process unnecessary	4%	25%	20%	20%	10%	15%	10%
ICT helps to better assimilate educational information	5.1%	18%	20%	14%	11%	21%	16%
ICT helps to make classes more interesting	32%	15%	15%	18%	17%	20%	15%
Fourth block							
ICT should be included in training by default	41.1%	18%	22%	18%	15%	13%	14%
Using ICT in the educational process sometimes irritates them	11.9%	17%	16%	17%	17%	15%	18%
ICTs can distract from the content of the lesson	13.7%	20%	20%	20%	15%	18%	17%
Teachers always strive to take into account their capabilities and wishes when using ICT	33.3%	25%	15%	17%	13%	15%	15%

The opinion of many teachers and students coincides because they consider the use of ICT in the university's educational process effective and necessary. More than half of the teachers surveyed said that they try to consider students' wishes and individual characteristics as much as possible. Accordingly, half part of the students notes that teachers always strive to take into account their capabilities and wishes when using ICT, and the other half sometimes take them into account. This fact testifies to the desire of teachers to improve the quality of education and create conditions for the disclosure of the potential of students in the educational process.

The results of the study of approaches to improving the ICT competence of teachers

According to the survey results, 75% of the surveyed teachers improve their ICT competence mainly voluntarily, 22.5% independently, and some on behalf of the administration. The responses to "only on the administration's recommendation" are in the number of a few individuals only (2.5% of respondents).

59.7% of the teachers surveyed want to learn how to independently use new software products and tools. They formulated which Act is necessary to improve their teaching activities. First, the teacher respondents teachers need to improve their skills in working with educational platforms and other distance learning tools, programs for developing electronic textbooks, master graphic editors, and programs for processing video materials. Several teachers noted that it is necessary to consolidate the skills of working with interactive whiteboards and multimedia projectors to work without assistance. More than a third of respondents (38.3%) believe the available knowledge and skills are sufficient. Only 2% of respondents cannot say which ICT they want to master. These results allow us to conclude that the teachers conduct a constant inventory of their level of ICT competence and determine whether there is a need to improve ICT competence. When there is a need for advanced training in the field of ICT, respondents can independently determine what knowledge and skills they need and formulate a specific request.

According to the results, the main forms of improving ICT competence among the respondents are independent acquisition of necessary information using Internet resources, specialized literature (46% of respondents), training at advanced training courses, and additional education programs (29%). Lecturers often seek help from specialists and colleagues in the field of ICT (9%), attend webinars and online courses on the relevant topic (9%), study new software (2%), receive instruction on working with multimedia equipment and organizational equipment (2%), work with special programs, participate in modern ICT courses (1%).

The majority of lecturers surveyed (66.7%) do not have a plan to improve their competence in the field of ICT and sometimes do it on their own. 22.2% say that they act as necessary when it is necessary to solve the problem that has arisen. Only 11.1% of respondents have a clear plan of action to improve their competence in the field of ICT.

4 Discussion

According to this study's results, most lecturers have at least partially (53.1%) developed basic and technological levels of ICT competence. Thus, not all the lecturers could create author electronic educational resources and online courses and use ICT technologies to develop students' thinking, creativity, and creative abilities. This result is consistent with the study among 2 840 lecturers in the Turkestan region in 2020 [8].

The results of student reviews show that students generally appreciate ICT competence of lecturers and are satisfied with the ICT that the university provides them with. In addition, the students noted the role of the lecturers' pedagogical skills and their ability to use ICT creatively and flexibly, depending on the state and characteristics of the student audience. Good technical equipment and availability of the most modern equipment in an educational institution is not a guarantee for successful use of ICT without the appropriate level of development of the lecturer's ICT competence .

This study showed that additional educational programs prevail among the methods of professional development, independent development of new ICTs with the help of Internet resources, specialized literature, and the passage of advanced training courses. At the same time, most lecturers do not plan to improve their competence in the field of ICT specifically. Training courses organized for a group of lecturers is the most traditional way to improve skills in the field of ICT. However, in the modern world, ICTs are changing so fast that the knowledge and skills acquired in such courses are rapidly losing relevance. Also, the needs of lecturers in the study of ICT may vary significantly depending on their level of ICT competence and the specifics of the subjects taught. In this case, an alternative can be called "accompanying" training, carried out "in connection" with advanced training in their subject. As a result of the accompanying training, an attitude towards ICT is formed to improve one's professional skills. For the implementation of accompanying training, a certain educational environment is required, which provides for the presence of tutors who can advise lecturers on the use of ICT. Even experienced colleagues who effectively use ICT in their professional activities can become mentors for novice lecturers.

According to the results of this study, only a small part of the surveyed lecturers consulted with colleagues and specialists in the field of ICT. Accompanying education is still used rarely at the university, and the potential of this option has not yet been fully explored. Although the university is interested in improving future teachers' qualifications in the ICT field, it has poorly regulated activities for achieving that. These findings account for university management's lack of interest in ICT competence of lecturers and absence of a digital competence framework and its implementation in practice [9].

In the course of the study, the following ways of developing the ICT competence of future teachers and university teachers were identified: (i) improving the lecturer's attitude to ICT as

a way of increasing the quality of teaching, developing the thinking and creative abilities of future teachers, changing the limited view of ICT as an auxiliary technical tool only; (ii) considering the individual characteristics of future teachers and students' opinions when using ICT in teaching; to receive regular feedback from students on the use of ICT at universities; (iii) in the context of the accelerated development of ICT, one of the most effective ways to increase digital competence is accompanying training, which involves the creation of a learning environment for teachers at the university and the presence of consultants and mentors.

5 Conclusion

It is necessary to use ICT for teaching certain subjects by using ICT as a means of transmitting information and communicating with students in the educational process. However, most of the study participants have not yet fully used ICT to improve the effectiveness of learning and develop students' thinking, creativity, and ingenuity. Students' feedback indicates a positive assessment of the use of ICT by lecturers in the educational process. Most of the students surveyed believe that ICTs increase their efficiency. Additionally, students need to consider characteristics of ICT and the optimal balance between virtual and "live" communication.

Based on the objectives of our study, the following conclusions were made:

Firstly, lecturers master basic computer skills, they can work with multimedia equipment, use ICT necessary for teaching specific disciplines, and use ICT to transmit information and communicate with students in the educational process. However, most of the study participants have not yet formed an author's position when using ICT; not all lecturers can create electronic courses or virtual laboratory work. Accordingly, a resource for the development of ICT competence and improving the effectiveness of the educational process would bring a change in the lecturers' attitude to ICT as an auxiliary technical tool only, improving the quality of teaching ICT and enabling using ICT as a source for the development of thinking and creative abilities of the students. The lecturers' high ICT competence makes it possible to achieve high results in delivering training, even without having financial resources and technical capabilities to purchase new equipment and software. Thus, the main factor in the effective use of ICT is the lecturers' willingness to use ICT and their desire to create such conditions that would enable the comprehensive development and self-development of students studying in a digital environment.

Secondly, in general, students positively evaluate the experience of using ICT by lecturers in the educational process and believe that ICTs increase the effectiveness of teaching. The study showed that it is important for students to consider ICT's characteristics and the optimal balance between virtual and "live" communication. The lecturer's interest in the opinion of the student audience about the use of ICT in teaching contributes to improving the interaction between the lecturer and students, which has a positive effect on the quality of teaching in general. In this regard, it is useful to regularly get acquainted with the students' opinions about the use of ICT and, if necessary, adjust the use of ICT.

Given that this was a pilot study of a PhD research, only a sample from one university was used which is not a representative sample, thus the findings cannot be generalized. We plan to collect a larger sample from several institutions in the country to draw more conclusive findings.

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EVALUATION OF PSYCHOMETRIC PROPERTIES OF THE COVID STRESS SCALES SLOVAK VERSION

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Abstract

The research plan is concerned in evaluating of factor structure and reliability of the measuring scale Covid Stress Scales, which directly indicates presence of COVID stress syndrome. The aim of research is factor model verification of measuring scale CSS in Slovak sample for execution of further psychometric evaluating in upcoming researches such as rating of validity, reliability, or items themselves. Research was made up of N=1095 respondents and using statistical analysis 6-factor model of a measuring scale CSS was found, while individual factors slightly or strongly correlated with each other. Further finding of a research plan was sufficient reliability rate of individual subscales of a measuring scale CSS.

Keywords: *COVID-19, stress, reliability, factor model*

1 INTRODUCTION

The global pandemic has impacted the everyday functioning and mental health of most of us. Considering the current unprecedented situation, it is important to take a stance also from a psychological perspective. Pandemic situation triggers fear and concern for people's own lives and therefore fear is the most common reaction associated with COVID-19 [7]. Fear associated with the pandemic is often compounded by the inconsistency of information spread about the illness as well as the constant reminder of the virus through social media and the regular spread of negative news. From the biological nature of the emotion fear serves as a defence mechanism for survival [5]. Even during a pandemic, it has a protective role and is one of the significant predictors of positive behavioural changes during the pandemic [9]. People who experience greater fear are more likely to comply with anti-pandemic measures, frequently use disinfectants and pay more attention to their hygiene. They voluntarily avoid social contact and wear respirators even when it´s not strictly necessary [11, 19]. Reactions to COVID-19 are also influenced by how people perceive the threat. Significant but often neglected factor is the relative absence of fear and anxiety towards COVID-19. Individuals with low levels of concern about infection are less likely to adhere to recommendations and government regulations such as wearing masks or maintaining safe distances [13]. These regulations are also ignored by those who believe in their vitality and invincibility. Beliefs about the danger of COVID-19 directly reflect the anxiety experienced by people. Individuals with excessive anxiety reactions pose a risk to themselves and this excessive anxiety is a significant predictor of excessive avoidance behaviour [16]. Another significant psychological aspect is the long-term impact of the pandemic. It is expected that new measures such as isolating infected individuals and quarantine have affected people's daily activities, routines and livelihoods which can lead to increased loneliness, anxiety, depression, insomnia, harmful alcohol and drug use, self-harm, or suicidal behaviour [13]. Lockdowns worldwide have led to an increase in domestic violence cases where women and children living with domestic violence have no escape from their abusers during quarantine (APA, 2020). The closure of alcohol-selling stores has also led to withdrawal symptoms and suicides reported in alcohol-dependent states like Kerala, India [1].

Given the facts presented it is essential to address the pandemic situation from different perspectives. One of the key positions for this "grasp" is the measurement of psychological

aspects, such as stress, anxiety or fear, especially linked to the COVID 19 illness. As well as the evaluation of the psychometric properties of tools it is important for more precise and targeted setting of various interventions. This article focuses on the verification of the factor structure of the Covid Stress Scales (CSS) [14] measurement tool in Slovak population. It´s factor structure varies in different validation studies worldwide. In countries such as Canada or Turkey a 5-factor model was found to be appropriate [6, 14], while in countries such as Greece, Palestine, or Poland a 6-factor model was found to be suitable [2, 8, 10]. Secondary aim of the research is to verificate various psychometric properties of the CSS.

2 METHODOLOGY

During the research, respondents were administered the CSS questionnaire. The questionnaire was administered online, and data were collected using Google Forms between November 21-28, 2020, when the third nationwide testing for COVID-19 was taking place in Slovakia.

2.1 Research sample

The research sample consisted of N=1095 respondents, of which n=808 were women and n=287 were men. The sample was stratified by age and regions of the Slovak Republic. Out of the total number of respondents, the largest representation was in the Trenčín region (n=265), followed by the Nitra region (n=180), Bratislava region (n=144), Banská Bystrica region (n=119), Žilina region (n=118), Prešov region (n=115), Trnava region (n=77), and Košice region (n=77). The largest age group was the group in the range of early adulthood (22-30 years) (n=515), followed by the range of adolescence (14-21 years) (n=312), middle adulthood (31-45 years) (n=119), older adulthood (46-60 years) (n=92), and old age (61-87 years) (n=57).

2.2 Covid Stress Scales

Initial validation in USA resulted in 36 items scale, from the original 53 items, and consists of six subscales with the option to respond on a Likert scale (not at all, slightly, moderately, very, extremely). Each subscale has 6 items, and it should have an excellent balance between brevity and reliability. The measuring tool CSS was used to map reactions to the COVID-19 illness and subsequently defined the COVID stress syndrome. The COVID Stress Scales were derived from previous findings that indicate five or six domains of pandemic-related anxiety: COVID danger fear (D), COVID fears about economic consequences (SE), COVID xenophobia (X), COVID contamination fears (C), COVID traumatic stress symptoms (T) and COVID compulsive checking and reassurance seeking (CH). It is possible, that subscale D and C load the same factor. The domains of the CSS measuring tool and examples of questions measuring each domain are listed in Table 1.

Table 1 Domains of CSS

Subscale	*Question example*
(D)	I am worried about catching the virus
(SE)	I am worried about grocery stores running out of food
(X)	If I was in an elevator with a group of foreigners, I'd be worried that they're infected with the virus
(C)	I am worried about taking change in cash transactions
(T)	I had bad dreams about the virus
(CH)	I searched the Internet for treatments for COVID-19

2.3 Statistical processing

The data were verified in the statistical programs JASP 0.14.1 (Jeffrey's Amazing Statistics Program ver. 14) and IBM SPSS 25 (Statistical Package for the Social Sciences, ver. 25). For the purpose of verifying the factor structure, an exploratory factor analysis with promax oblique rotation was used, which is more useful for large samples and allows correlations between individual factors. EFA was used with the WLS method due to data heteroskedasticity. The analysis included the verification of the Bartlett's test of sphericity, the Kaiser-Meyer-Olkin sampling adequacy index, and fit indices such as chi-square and RMSEA. The JASP program module was used to correlate individual factors, and Cronbach's alpha was used to verify reliability.

3 RESULTS

3.1 Construct validity

The Bartlett's test of sphericity was found to be significant ($p < 0.001$), and Kaiser-Meyer-Olkin adequacy was extremely satisfying (KMO > 0.92). The model fit value (x2) was statistically significant ($p < 0.001$) and the RMSEA value was acceptable (RMSEA = 0.070). The results are recorded in Table 2.

Table 2 Fit indices of the 6-factor model of CSS

Chi-squared Test		
x^2	df	p
2591.470	429	< .001
Bartlett's test		
X^2	df	p
22506.554	630.000	< .001
Kaiser-Meyer-Olkin test		
MSA		
0.920		
RMSEA		*RMSEA 90% confidence*
0.070		0.065 - 0.08

In Table 3, we present the factor loadings of individual items of the CSS. The 6-factor model was the most suitable for the data measured on the Slovak sample, with the highest factor loading observed for item X4 (1.025) and X3 (1.024). Item C3 had stronger loading on Factor IV (0.377) than on Factor V (0.350), but this factor loading is relatively unstable. Similarly unstable factor loading was also observed for item C2 (0.349).

Table 3 Factor loadings of the CSS items.

	I	***II***	***III***	***IV***	***V***	***VI***
D1	0.017	0.010	0.122	**0.472**	0.258	0.146
D2	0.067	0.069	0.110	**0.634**	0.139	0.181
D3	0.096	0.044	0.066	**0.883**	0.121	0.028
D4	0.041	0.017	0.084	**0.846**	0.090	0.136
D5	0.069	0.141	0.129	**0.598**	0.038	0.160
D6	0.075	0.131	0.202	**0.572**	0.053	0.216
SE1	0.023	0.014	**0.776**	0.001	0.079	0.007
SE2	0.022	0.047	**0.583**	0.003	0.051	0.032
SE3	0.005	0.070	**0.699**	0.080	0.108	0.098
SE4	0.031	0.092	**0.667**	0.200	0.030	0.152

SE5	0.002	0.053	**0.751**	0.052	0.128	0.019
SE6	0.021	0.054	**0.727**	0.112	0.028	0.146
X1	**0.745**	0.030	0.136	0.008	0.112	0.016
X2	**0.454**	0.078	0.117	0.134	0.244	0.064
X3	**1.024**	0.049	0.101	0.029	0.121	0.030
X4	**1.025**	0.065	0.095	0.013	0.127	0.069
X5	**0.944**	0.050	0.085	0.044	0.063	0.051
X6	**0.603**	0.067	0.109	0.148	0.135	0.153
C1	0.141	0.051	0.107	0.177	**0.490**	0.156
C2	0.195	0.069	0.105	0.224	**0.349**	0.235
C3	0.143	0.075	0.145	**0.377**	**0.350**	0.217
C4	0.078	0.053	0.065	0.069	**0.827**	0.078
C5	0.124	0.057	0.038	0.026	**0.877**	0.028
C6	0.004	0.109	0.114	0.127	**0.662**	0.121
T1	0.055	**0.693**	0.048	0.024	0.021	0.144
T2	0.037	**0.734**	0.019	0.005	0.012	0.111
T3	0.043	**0.833**	0.017	0.002	0.003	0.004
T4	0.052	**0.711**	0.053	0.093	0.036	0.128
T5	0.012	**0.704**	0.041	0.015	0.002	0.053
T6	0.049	**0.674**	0.011	0.011	0.111	0.100
CH1	0.030	0.007	0.005	0.119	0.010	**0.686**
CH2	0.062	0.046	0.063	0.004	0.008	**0.521**
CH3	0.085	0.013	0.139	0.148	0.049	**0.558**
CH4	0.006	0.086	0.034	0.122	0.015	**0.585**
CH5	0.044	0.193	0.066	0.074	0.032	**0.540**
CH6	0.085	0.062	0.040	0.010	0.189	**0.561**

In Table 4 we interpret results of correlation between the individual factors (dimensions of CSS), the strongest correlation was between dimension X and dimension C (r = 0.652). Another strong correlation was between dimension D and dimension C (r = 0.614), CH and dimension C (r = 0.603) and dimensions T and CH (r = 0.574).

Table 4 CSS subscales correlations

	X	*T*	*SE*	*D*	*C*	*CH*
X	1.000	0.380	0.414	0.574	0.652	0.400
T	0.380	1.000	0.342	0.419	0.440	0.563
SE	0.414	0.342	1.000	0.339	0.315	0.240
D	0.574	0.419	0.339	1.000	0.614	0.603
C	0.652	0.440	0.315	0.614	1.000	0.560
CH	0.400	0.563	0.240	0.603	0.560	1.000

3.2 Reliability

Reliability was evaluated by the Cronbach's alpha coefficient with an acceptable value of $\alpha > 0.7$. The results are shown in Table 5 where they are compared to the results of the validation study, while in the validation study the D (COVID danger) and C (COVID contamination) subscales saturate a common factor. The highest measured reliability was found in the X subscale with a value of $\alpha = 0.9$. The lowest measured reliability value was $\alpha = 0.76$ in the CH subscale.

Table 5 CSS subscales reliability

Subscale	*Canada*	*USA*	*Slovakia*
(D)	0.94	0.95	**0.83**
(C)			**0.84**
(SE)	0.90	0.91	**0.87**
(X)	0.92	0.93	**0.9**
(T)	0.93	0.93	**0.88**
(CH)	0.83	0.86	**0.76**

4 DISCUSSION

The results were consistent with previous studies that presented the 6-factor model of the CSS measuring tool [2, 8, 10]. The reason for inconsistency in the number of factors in some studies [6, 14, 11] is that the validation study itself was constructed from the original six domains and authors themselves acknowledged that the COVID danger and contamination domain could vary on one or two factors because these dimensions are very similar and measured by similar questions [14]. We explain the two-factor representation of this domain by the fact that the data were collected during the second and third nationwide testing for COVID-19 and there was a high emphasis on disinfecting surfaces and the threat of infection was very high which increased the level of anxiety and stress from the possible threat of contamination from surfaces or infection from other people. We explain the high correlation between COVID threat and COVID xenophobia by the relatively high level of racism in Slovakia where only 60% of young people support diversity. Therefore, we assume that the fear of getting infected by foreigners may be stronger among xenophobic individuals than the fear of getting infected by people of the same nationality or skin color. The dimension of COVID xenophobia was the most influential variable of the COVID stress syndrome so we consider this scale to be a suitable tool for measuring xenophobia related to COVID-19 in Slovak population. A strong correlation was also found between the dimensions of COVID danger and COVID contamination as we expected although to a greater extent, as in many studies, these subscales share the same factor. Measuring the relationship between COVID compulsive checking and COVID threat we assumed that these domains would be closely related, and the results confirmed this assumption. These aspects are related because the subscale of compulsive checking indicates symptoms of obsessive-compulsive disorder and people with OCD symptoms tend to be more afraid of getting infected than people without OCD symptoms [18]. The worsening of compulsive control and fear of getting infected with COVID indicates symptoms of traumatic stress [17] and the most vulnerable people are healthcare providers [4]. Traumatic symptoms and compulsive checking were also closely related as we expected partly because the COVID stress syndrome is characterized by experienced traumatic stress [15] and people with OCD symptoms experienced worsening of their symptoms and stress during the pandemic [3]. The reliability of the CSS met the requirements for reliability but compared to the validation study the reliability values were lower. We assume that cross-cultural differences or possible translation errors in the measurement tool may have contributed to the reduced reliability.

5 CONCLUSION

Slovak version of CSS corresponds to a 6-factor model of subscales and the tool meets the criteria for reliability with its subscales correlating well with each other. As further research aim, we recommend providing more evidence on the validity of the Slovak version of CSS as well as creating possible modifications to the phrasing of items using item analysis.

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WALKING AS AN ACTIVITY APPLIED BY USING DIDACTIC TASKS (GAMES) IN THE PEDAGOGICAL PROCES OF PRIMARY EDUCATION

Erika Miklóšová

Abstract

The author of the article believes to introduce the reader the basic activity within experiential pedagogy, which is the activity of walking. In the article, we define what experiential (outdoor) pedagogy is and under what circumstances it takes place within the teaching process. Subsequently, we will define the different types and forms of walking that are practised in the exterior and offer didactic tasks for students who will learn new information through experiential (outdoor) education, which they can then convey in the context of natural science and geography subjects. Furthermore, students and teachers can use the acquired experience in physical and creative subjects (physical education, art education, literature (learning through a story), music education (learning through singing or different sounds - creating). The author finds the tutorials within the exhibition *Slow (life).*

Keywords: *experiential pedagogy, drawing, painting, visual art, student, primary education, walking, slow (life)*

1 INTRODUCTION

The works that are part of the text, inspire students to various outdoor activities that can be used as part of experiential pedagogy during a walk in the forest or the countryside. These works - interactive „stops“ (created by the author of the article) are connected to each other by walking. The works were Supported using public funding by Slovak Arts Council in the form of a scholarship. Within the three chapters, we introduce the potential recipients for which these activities are intended (parents and teachers), the definition of "experiential pedagogy", the activity of walking and its types.

Furthermore, authors for whom walking is part of their artistic process are unconditionally connected to it during the creative process or it is part of their output (video, sketch, photography, painting or performative walk, etc...).

Most artists deal with ecological themes treating carefully the environment. Final outputs of artists are very fragile, non-invasive, sometimes they may not even have a material character, they may only produce a memory or an experience of the activity. The author therefore focused on the *Slow (life)* exhibition, which took place during the pandemic and was open to the public with little breaks.

The last chapter will present the author's artistic and educational project itself, under the name *"Walking"*, which the author presented in Svidník as part of the exhibition named *„Walking“*.

All works depend on a specific time and space, the key to their perception and working in space is *"here and now"*.

1.1 Walking for a purpose

Within the purpose, walking is divided into: touristic, strolling (recreational - one), therapeutic, pilgrimage walk, purposeful (where we move from point A to point B for a purpose), sports and now rarely used, but still existing from the history of literature, a wandering walk.

We distinguish walking depending from the space in which it takes place: rural (in nature) or urban walking. We are interested in walking, which does not always have to make sense.

During the pandemic, we could witness that aimless walking or movement gave the human body mental and physical relief.
Starting the pandemic time, during the spring 2020, author of the article experienced this walking personally and started to think detailed about the walking (as an activity) and about the purpose of this activity.

1.1.2 Definition of experiential (outdoor) pedagogy and its development

Among the basic concepts of experiential learning, we recommend: experience and experience by doing. All these concepts are closely related and have an important role in the process of experiential learning. Experiencing, experience (one's own experiences, inner life of a person) is a term that we could define as a point of view that is indirectly accessible to other people. It is also a psychological phenomenon characterized by the stream of consciousness of each more or less conscious mental content. Every person experiences situations and events in a unique way. We rank experience as one of the basic concepts of experiential learning. Brestovanský (2013) claims that an experience is *"experiencing an activity or an event that, due to its exceptionality, is suitable for remembering and separating from the sum of ordinary routine activities.*" According to Hartl and Hartlova (2010), an experience:

- is every mental phenomenon that an individual experiences
- it comes from the essence of a person and is personal, individual, emotionally influenced
- has its origin in personal experience, and a person will create extraordinary spiritual wealth through the collection of experiences.

The educational effect also contributes to the experience and they recognize that the individual can develop through its influence. The individual keeps it in his memory and an experience can arise from it. The quality of the experience depends on the relationship between this action and undergoing (Valachová, 2021, p. 55).
Jirásek (2019, p. 17) summarized the essence of survival, experience and experience by doing and their interrelationships. *"If I experience something in the given present moment and moment, I express the given activity with the word experience, because the prefix pre - indicates the meaning of internality, thoroughness of the activity. If we return to the lived event in the memory, or in the rational analysis of the activity carried out, we have every right to speak of the experience, as the prefix behind its meaning indicates an overlap and a whole, the achievement of the goal, the completion of the plot. The term experience is already the third time dimension - the future, which points to a more permanent form of that experience. If experience is the activity itself, experience is a methodical mean (in the process of conscious reflection), then experience is the goal of the holistic education."* (Valachová, 2021, p. 55)

1.1.3 Experiential (outdoor) pedagogy in practical use

The use of experiential (outdoor) pedagogy is achieved by the ability to abstract and generalize. Experiential pedagogy is based on learning in nature, when nature serves as the closest and most appropriate source of knowledge. At the same time, it is most closely related to free time pedagogy. Due to its very broad focus, experiential pedagogy offers the use of a wide range of organizational forms and teaching methods and finds inspiration in the Waldorf School, in global and economic pedagogy. Its sources are classical education, artistic activities, tourist camps and sports (Klváčková, 2014, p. 34).
Experiential (outdoor) pedagogy differs from traditional pedagogy in that the entire process which is based on democratic collaboration, compared to traditional pedagogy that emphasizes command to fulfill basically the pedagogical process. Experiential pedagogy

supports learning with one's own experience and one's own will. He creates his own image of the world and opinions. Instead of competition, he prefers cooperation (Klváčková, 2014, p. 33).
Up to 80% of human knowledge stems from one's own authentic experiences. Experiential learning is a natural way of learning, like how young children learn to speak, for example. The experience itself is purely personal, emotionally stripped, intangible and non-transferable. Only through rational processing and generalization (reflection) of the experience does a usable experience occur (Klváčková, 2014, p. 33).

Tab.1: (According to Svatoš - 2005), source: Klváčková, 2014

Knowledge gained			
after three weeks a person remembers	*with sharing*	*sharing with an example*	*sharing with an experiential example*
	70%	72%	85%
after three months a person remembers	10%	32%	65%

Experiential learning is recommended primarily where personality development, self-knowledge, influencing people's attitudes, knowledge of team roles, uncovering strengths and weaknesses of teamwork, and leadership of people are to occur (Klváčková, 2014, p. 33).

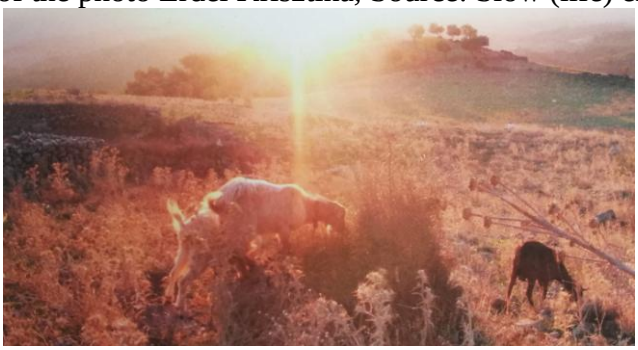
2 *SLOW (LIFE)* - INTRODUCTION THE AUTHORS

The *Slow (life)* exhibition in Budapest was one of the many exhibitions that were closed due to the pandemic, but in the end the exhibition managed to open for several months in the summer of 2021.
The exhibition received new conceptual dimensions during the pandemic. The time when the exhibition took place was divided according to the first, second and third covid waves.
The exhibited works of individual authors did not present the world of effective performances, but small worlds, rather instructions on how to live ecologically, economically and sustainably (Csizek, P. Elantkowski, J. Készman, J. Petró,...Uveges, K., 2021, p. 17).
According to the authors of the publication, "museum institutions moved their activities to the place of virtual reality, while stories about clean air metropolises and regenerating nature appeared in the news - these circumstances suddenly made the topics of our project even more relevant. Through this presentation, we dealt with topics that became immediately close and urgent to us as a result of the global crisis caused by the corona virus" (authors, 2021, p. 17).
Suddenly, "slow life" became an everyday reality, a forced way of life in the global world.

Other works, the process of which is characterized by the slow process, is a project by the author Erdei Krisztina, entitled *Victory of the Sun*, which she implemented during her artistic residency in Turkey. Project was about agriculture, and about breading animals, namely accompaning goats for grazing in the distance theritory. As she was part of a community where daily chores were divided and sensitively perceived as vital to the community. The first time she came into contact with this artistic community, its members, professional shepherds, helped her to take care of these animals. After a while she walked with these animals alone, every morning at dawn and every evening at dusk, leading them back to the place where the community lived. The author got used to this activity, seemingly monotonous, but responsible, as she did not know this area before and did not engage in such non-traditional, but very important life-giving activity in depopulated areas. She took the

experience with her. Back in Budapest, in the studio where she created, she arrived at dawn and left at dusk. This lifestyle, rhythm, also passed into her creative program and became a part of her everyday life. After returning from the residency, nothing changed mentally for the author, she only physically changed the space.

Obr.1: Author of the photo Erdei Krisztina, Source: Slow (life) exhibition, 2021



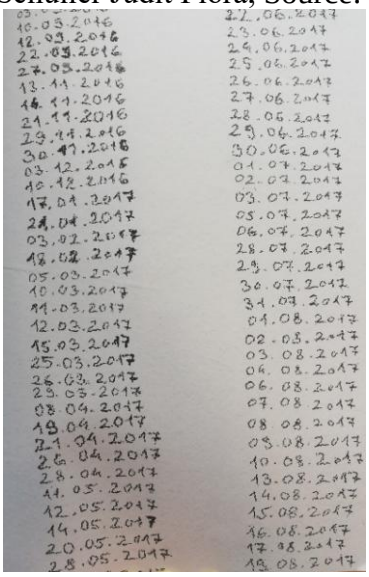
The object by the artist Péter Mátyási under the name *Pine needle Carpet* was created after the death of the artists' father, when he inherited a garden that he "couldn't take care of". In his own words, the garden "outgrew" him and became a independed organism....Finally the artist find his own way to this garden place thanks to the long-lasting pine tree that grew from the neighbor's garden. Its needles were uncontrollably pricked and the author decided to make a carpet out of these needles. He weaved them into a mosquito nets, through which he passed each of these needles. The carpet even changed its color over time, depending on the time interval in which it was relaid (it took a very long time). The reason, of the so-called "ombré look" appearing on the carpet, as the author himself called it, was because the long-used needles in the network lost their green appearance, and the just-used needles still maintained it. It was a natural transformation from beige to green shades. The process of the project naturally ended when the pine tree was removed from the neighbor ´s garden.

Obr.2: Author of the photo Péter Mátyási, Source: Slow (life) exhibition, 2021

The last fascinating selection from the creative process (from the many authors of the *Slow* exhibition) is the project of author Schuller Judit Flóra called *Towards to Nothingness (Walks)*. As she herself described, the project is based on her family's traumatic experiences, but also draws on memories of her grandfather, with whom she and her brother went on hikes around Budapest, as children. During these walks, the grandfather told them stories, which

she now remembers as stories with realistic and fantasy undertones. Her project *Walks* (128 in number) had a rather meditative character and were accomplished between years 2015 (28.8) and 2019 (16.5). The most important itineraries of walks for the author were at that time when the walk led to the shore of the sea, because the horizon of these walks was shaped by the sea. According to the author, walking has no material purpose (compared to building an archive - a collection of these walks), it is a repetitive act arising around "nothing". In recent years, the author has been using walks for a meditative purpose, as she says they have become for her a passive and active presence in time, which is the opposite of memories, which, according to her, can lead to "forgetting" and to form new beginnings.

Obr.3: Author of the photo Schuller Judit Flóra, Source: Slow (life) exhibition, 2021



3 ARTISTIC- EDUCATIONAL PROJECT WALKING

The project *Walking* is intended for the forest in the village of Kostolná pri Dunaji (Slovakia). The artistic and educational project *Walking* maps the space of the forest, where elementary school students are involved in the teaching process with the help of interactive games. The author introduces the project called *Walking* with the help of illustrations (her own).

At the same time, the art works are part of interactive games, which were created for public spaces and presented by the author who received an artistic scholarship (Supported using public fund by Slovak Arts Council, 2023).

Walking is an activity that connects all objects together. It is possible to reach individual objects by walking. The objects (sub-projects) that were created here as part of the project *Walking*, depend of the forest space, or the river space of Little Danube, are as follows: large-format paintings under the name *Fragments of the Future*. The author repaints found ceramic fragments (waste material), such as glass or ceramic fragments, shards from the surrounding country.

Obr. 4 a 5: *Fragments of the Future*, Source: Miklóšová, 2022 - 2023

Another output is the ceramic object *Hommage a l'arbres (Tribute to trees)*, which the author placed in the forest area, where part of the trees were cut down as part of the revitalization of the forest.

Obr. 6: *Hommage a l ´arbres,* Source: Miklóšová, 2022 - 2023

Another output *Food Feeder for animals, Food feeder for the soul* is represented by images that were leaning against this feeder and covering it, as the author tried to use these images to disguise the source of sustenance for forest animals, mainly deer and hares. The meaning of this work was that the author decided to provide a refuge place for these animals and at the same time a cultural experience for the inhabitants of the forest and foresters who go to feed the animals. It's an unusual idea, but this object would work as a designer object that could have several functions at once. The cozy function - a refuge (also) for humans, as the hay that local hunters put in the feeders is very soft and comfortable. At the same time, it also forms the function of a gallery, where the paintings would form a shelter (the connected A-shaped paintings have the form of a gable roof), and at the same time they would offer a temporary "roof over the head" and the feeder would act as a temporary place to sleep for humans and a place for feeding forest animals.

Obr. 7: *Food Feeder for animals, Food feeder for the soul*, Source: Miklóšová, , 2022 - 2023

Obr. 8: *Food Feeder for animals, Food feeder for the soul*, Source: Miklóšová, , 2022 - 2023

Predposledný výstup je *„Útulňa*“ - už riadne vybudovaný priestor pre náhodného okoloidúceho, avšak tento priestor spĺňa aj funkciu altánku/galérie pre školy, kde sa žiaci ZŠ v rámci rôznych predmetov môžu vzdelávať. Útulňa ponúka krátkodobý, ale funkčný priestor s ambíciami vzdelávania sa pre školy (Materská škola v Kostolnej pri Dunaji alebo Základná škola v Kráľovej pri Senci).

The next output, called *Cottage* is already a properly built space for a random passer-by, but this space also fulfills the function of a gazebo/gallery for schools, where elementary school students can study various subjects about nature, prefered. The shelter offers a short-term but functional space with educational ambitions for schools.

Obr. 9:*Cottage*, Source: Miklóšová, 2022 - 2023

The last project is *Pier,* which is located at the banks of the river Little Danube, near the village Kostolná pri Dunaji (Slovakia). It fulfills the function of a pier, from where it is possible to observe the surrounding landscape, or to record these changes in the form of drawings, paintings and photographs.

Obr. 10: *Pier,* Miklóšová, 2022 - 2023

4 CONCLUSION

Here are some tutorials how to work in the nature, how to co - operate, how to work with the nature. Basically this platforms provide space for different co - operations. All works depend on a specific time and space, the key to their perception and working in space is *"here and now"*.

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TECHNOLOGIE, STROJÍRENSTVÍ A STAVEBNICTVÍ

TECHNOLOGIES, ENGINEERING, BUILDING INDUSTRY

ANALÝZA SOFTVÉROVEJ PODPORY NA PREDIKCIU ÚNAVOVEJ ŽIVOTNOSTI KONŠTRUKČNÝCH PRVKOV

ANALYSIS OF SOFTWARE SUPPORT FOR CONSTRUCTION ELEMENTS FATIGUE LIFE PREDICTION

Jozef Bango, Jozef Rédl

Abstract

V príspevku sa venujeme analýze využitia metódy Rainflow a metódy Palmgren-Minner pri stanovení únavovej životnosti rámu orbovej súpravy. Súčasne sme sa venovali analýze využiteľných vývojových prostredí na spracovanie údajov a tvorbe algoritmov. Experimentálne údaje boli získané na orbovej súprave, ktorá vykonávala strednú orbu. Technické funkcie boli získané zo snímača zrýchlenia a tieto boli transformované na hodnoty mechanického napätia. Na vyhodnotenie sme použili Visual Studio .NET 2022 Community Edition a open-source produkt GNU Octave. Analýzu metódou Rainflow sme realizovali v programe Matlab a Palmgren-Miner sme realizovali v programe Mathcad Prime 9.0.

Keywords: *rám pluhu, matematické modelovanie, porušenie materiálu, životnosť, bezpečnosť*

Abstract

In this paper, we analyse the suitable software's for using the rainflow cycle counting method and the Palmgren-Minner method in prediction the fatigue life of the plow frame. We also analysed the suitable IDEs (Integrated Development Environments) for data processing and algorithms design. Experimental data were obtained from a medium ploughing process. Technical functions were obtained from the acceleration sensor, and these were transformed into mechanical stress values. For the evaluation, we used the open-source products GNU Octave and codes we wrote in the Visual C# .NET language in the Visual Studio .NET 2022 Community version. The rainflow method we used in Matlab software and Palmgren-Miner method were performed in the Mathcad Prime 9.0 program.

Keywords: *plow frame, mathematical modelling, material damage, operating life, safety*

1 INTRODUCTION

The aim of this article is to analyse the best combinations between the open source and commercial solutions for determination of fatigue life of constructions. Life fatigue assessments is nowadays a very important part of the design of various mechanical part of agricultural machines and tools. The application of the presented methods was published by Rédl and Páleš (2018), and Rédl and Kučera (2019), where the authors show, how the rainflow method working in the Mathcad Prime environment. The Bango (2020), published the final master thesis where he created a simple model of loaded plough with bending moment and realised the rainflow analysis and obtained the rainflow histogram matrix. Also realised the research about the stress data counting methods and showed how the software Mathcad should be utilised in research work. The conventional way for assessing and providing fatigue data is the use of S-N curves, also known as Woehler curves, established, and introduced by August Woehler, which shows the relation between the applied load amplitude and the respected number of cycles to failure. The generation and provision of S-N

curves require a high amount of specimens and is therefore a very cost- and time-consuming process, Weber et.al. (2023). To design the S-N diagram is suitable to know the Paris law constant. Paris law constants,C and m, are two vital parameters of the Paris law for fatigue crack propagation of steel structures. Traditionally, the constants are determined through a linear regression of experimental crack growth curve under tension-to-tension cyclic loading. However, the direct linear regression would provide the value of C with larger error under negative stress ratios (tension-to-compression cyclic loading) probably caused by prestress, Ye et.al. (2022). Souto et.al. (2019), developed software regarding to fatigue damage prediction, where fatigue design of steel structures is based on double S-N curves and the estimation of fatigue damage caused by load cycles. This estimation is calculated by cycle counting methods combined with the Palmgren-Miner rule. The presented software, Fatigue Damage Tool (FDT), is based on the design assumptions of the Eurocode 3 EN1993-1-9 standard. The cycle counting method implemented in FDT is the rainflow counting algorithm according to the ASTM E1049-85 standard, and it uses the Palmgren-Miner rule to calculate the fatigue damage for a critical detail. The authors did not mention the programming language. To avoid wasting time with writing code for GUI, the most researcher looking for alternatives where the emphasis is aimed on effectiveness. Very good options are using GNU Octave, or commercial product Matlab. For example, the utilization of Matlab software and its implementation and computer simulation of the Simultaneous Localization and Mapping method, namely Fast-SLAM for orientation of mobile robot in a confined space was presented by Zakiev et.al. (2019).

2 MATERIAL AND METHODS

2.1 Physical model

For experimental measurement we used the plough type Khun Vari-Master 180 which was implemented with tractor John Deere. The agrotechnical operation was the middle plowing. The acceleration of the plow in z-axis direction has been measured by ADXL 345Z-DB device.

Figure 1 Tractor-plough combination

Measured data was recorded into the MiniSD card. The relevant direction for us was the accelerations in Z axis direction. The average velocity of the plowing was 1,82 km.h^{-1} and the maximal velocity reached 12,774 km.h^{-1}. In the velocity vector are also included the components of decelerating of tractor and turning to the next furrow.

2.2 Mathematical model

For the mathematical model we consider the initial conditions as follows:

- the plough frame construction is substituted with simple rectangular tubed steel beam, which dimensions correspond with real plough frame,
- the total weight of plough was substituted with uniform loading, which load the beam on full length of beam,
- the shape dimensions irregularity of the plough was substituted with effective length of beam L_b ,

- the distance between acceleration sensor and flotation wheel is neglected,
- during the maneuver, no obstacles occur hidden in the soil.

The model parameters are in table 1.

Table 1. Model parameters (Khun company web site)

Parameter	Value	Description	Unit
L_b	5,76	Beam length	m
W_t	3	Plough tillage width	m
n	6	Number of furrows	pcs
m	2660	Plough mass	kg
q_{bz}	$4{,}53.10^{3}$	Distributed loading	$N.m^{-1}$
Beam	S355J2H	Steel type	--------
$a \times a \times t$	180x180x10	Beam tube dimensions	m
I_{xx}	$2{,}096.10^{-5}$	Profile moment of inertia	m^4
W_{xx}	$2{,}73.10^{-4}$	Plastic modulus	m^3
U_z	$2.17.10^{-4}$	Static moment of profile area (cross-section)	m^3

According to the initial condition mentioned above, and model defined below (fig.4), we defined parameters in table 1. At our model we accepted that the vibrating mass of plough is represented by the main weight of plough actuated by vertical acceleration.

2.3 Software background

Basic data processing was realized with software Data handler which was written in Visual C# and compiled in Visual studio NET 2022 Community edition. Our choice was forced by the amount of processed data and its format and how it's been saved. The total time of experiment length was 2370 seconds and holds 952500 raw data in five columns. The MS Excel software been not able to process this large dataset. For this reason, we wrote our own program in Visual C# .NET language. The program environment is depicted in figure 2. The ADXL acceleration gauge generates the real time measured data. This fact causes occurrence more identical value of time with different value of accelerations expressed in LSB. For this reason, we made a simple filter which eliminate this duplicity in the form:

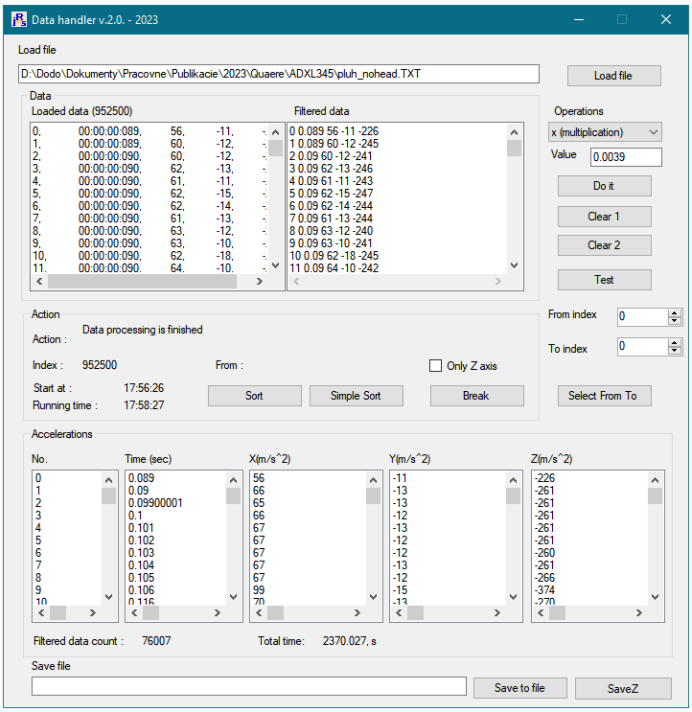

Figure 2 Data handler software environment

$$a_{x,y,z,(k)} = \frac{1}{n}\sum_{i=1}^{n} a_{x,y,z,(i)},$$

where n is a count of the identical time records, i- index in the identical count cycle, k-is the counting cycle with unique (average) time value for each index. After processing the accelerations, the dataset holds 76007 records in four columns. For the few necessary statistical operations, we used the GNU Octave software. For rainflow cycle counting method we used the Matlab software which is available through the Slovak Centre of Scientific and Technical Information (https://iss-services.cvtisr.sk/portal/web/iss/matlab). For Palmgren-Miner method we used the PTC Mathcad Prime 9.0 software.

3 RESULTS AND DISCUSSION

3.1 Data processing and stress generating

To process the measured dataset, we utilize the Visual Studio .NET 2022 Community edition, where we wrote and compile a simple sorting program in language C# which is depicted in figure 2. The environment of VS .NET 2022 is very convenient and user friendly and environment offers to users a new intellisense function which improves a work effectiveness and help programmers avoid of code discrepancies. For our purpose, we processed accelerations of *z* axis directions. We imported data set to the GNU Octave environment. Octave IDE requires more experience from programmers because the environment contains only basic code control.

To utilize the built-in functions, we needed to load relevant packages before using it. The basic data filtering and data fitting functions were used. The Butterworth filtering routine were used as follows:

```
sf=32; %Sampling frequency
Wn=32/1000;
n=10 % filter order
%building the filter
[b,a] = butter(n,Wn); % building the filter
az_f = filter(b,a,az_norm); % filtered accelerations.
```

As defined in Hetenyi (2018), the normal stress should be obtained from acceleration by the next formula:

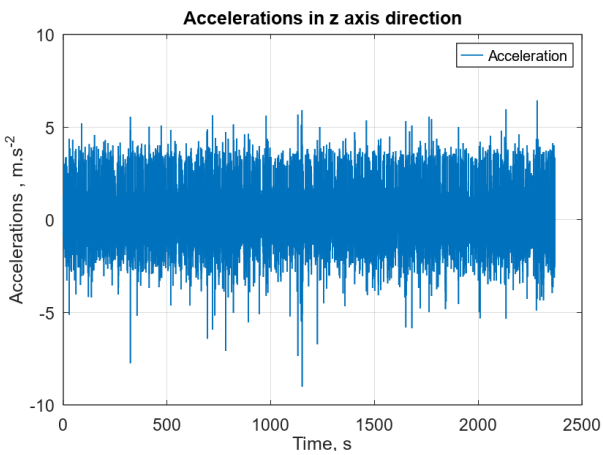

Figure 3 Z axis accelerations (normalized, filtered)

$$\sigma_z = \frac{n_x}{I_{xx}} \int_0^{L_{(i)}} \int_0^{L_{(i)}} \frac{q_{bz}.a_z}{g} dxdx + T_y.L_{(i)} + M, \text{ where:} \quad (1)$$

σ_z – normal stress, Pa; n_x- neutral axis dislocation, m; I_{xx}- profile cross section moment of inertial, m^3; $L_{(i)}$-beam length array,m ; q_{bz}-distributed loading,N/m ; a_z-measured acceleration,$m.s^{-2}$; g-gravity, $m.s^{-2}$; T_y-shear force,N ; M-moment, $N.m$.

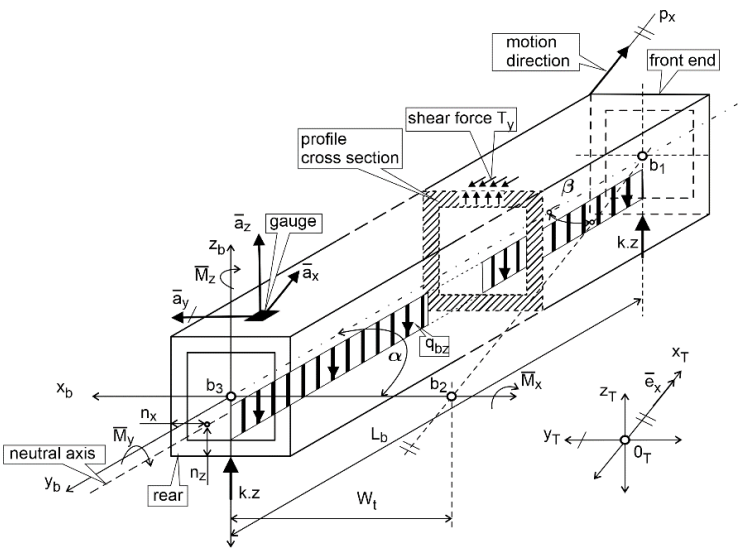

Figure 4 Beam model

The normalized and filtered acceleration function is depicted in figure 3. In figure 4, we are showing the simple beam model with loading, which is represented by distribute loading q_{bz}. The coordinate system of tractor is labeled as $0_T xyz_T$, where the moving direction is represented by directional vector e_x. The beam movement direction is represented by line p_x. The beam coordinate system is represented by system $b_3 xyz_b$. The angular disposition

of both coordinate systems is defined by angles α, β. For the known parameters (tab.1) we could easily derive all necessary parameters. By applying the Eq.1 we obtain the normal stress functions as depicted in figure 5.

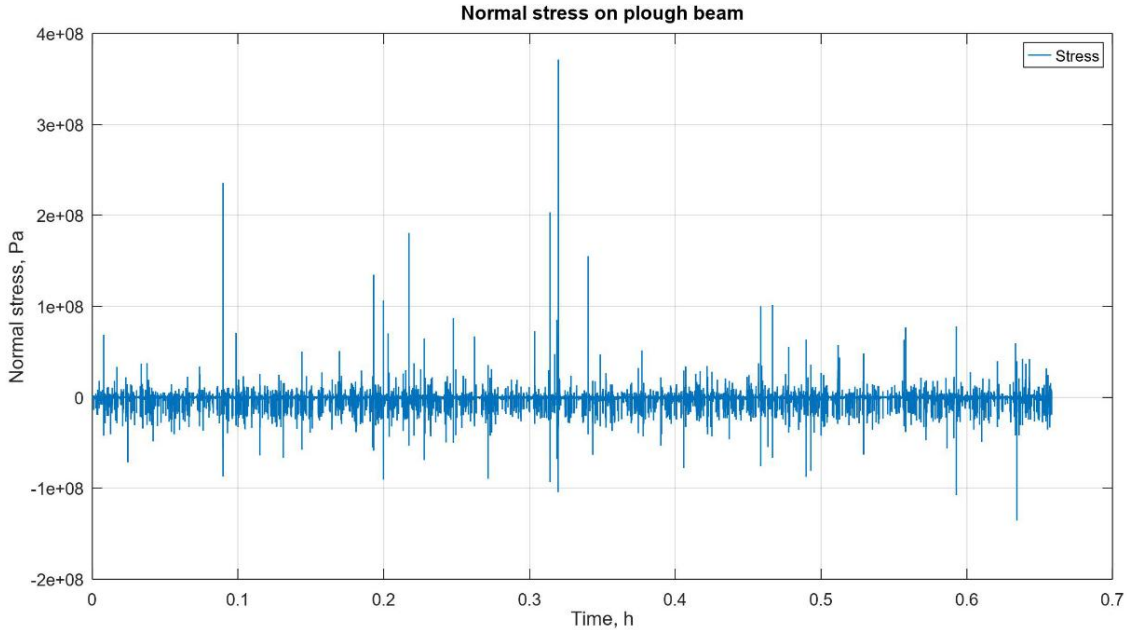

Figure 5 Normal stress on beam

The solved function of normal stress from GNU Octave we exported into the Matlab software environment. We utilize the function *rainflow* and we get the matrix of cycle ranges, cycle average and number of cycles which are depicted in figure 6.

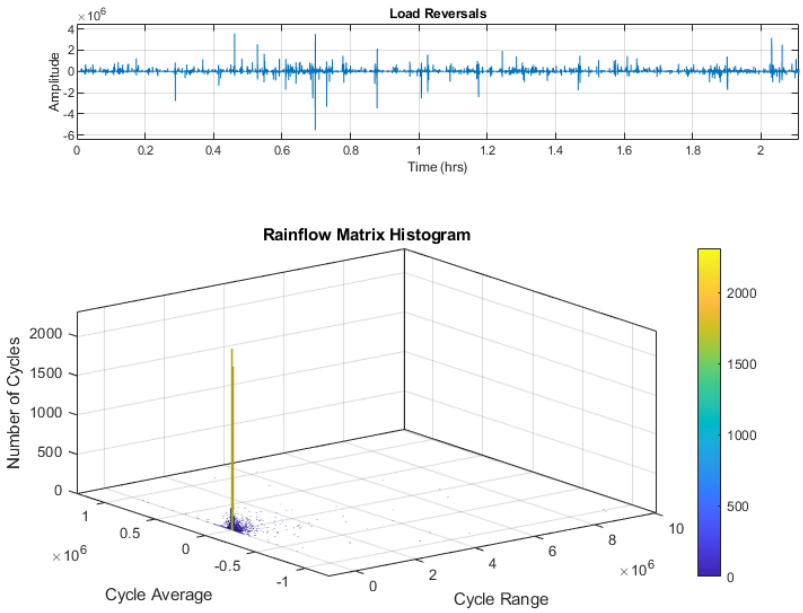

Figure 6 Rainflow histogram

To create the S-N curve we used the stress range and number of cycles to failure as defined in equation 2.

$N = \frac{A}{S^m}$, where: (2)

N- number of cycles to failure, S-stress range, A, m-constants. As defined by Hobbacher (1996), for rolled and extruded steel products the value $m = 3$, $A = 6{,}26.10^{17} MPa$. Applying the equation (2) we got the S-N diagram as depicted in figure 7, directly from Mathcad environment.

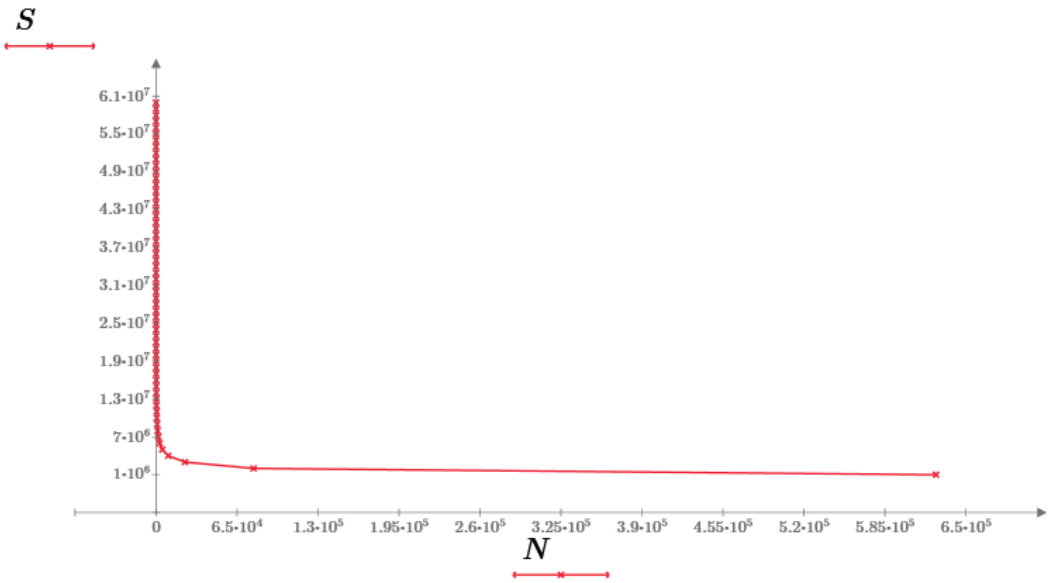

Figure 7 S-N diagram

The Miner's rule has the next form:

$$\sum_{i=1}^{n} \frac{n_i}{N_i} = 1 \tag{3}$$

and the cumulative damage ratio has the form:

$$D = \sum_{i=1}^{n} \frac{n_i}{N_i} \tag{4}$$

The predicted life without damage is $Y = 37.037$ years if we consider the minimal value cumulative damage ratio $D = 0{,}027$ and nonstop cyclic loading.

4 CONCLUSION

In this article we presented the utilization of various software tools for estimation the fatigue damage of steel construction. We used commercial products as well as open-source products. The selection of used software depends on the user skills of coding and understanding the philosophy of each software. The GNU Octave is open-source software, and we strongly recommend using it, but on the other hand the tool is without warranty. This tool contains a lot of powerful and fast solving tools. The major commands are very similar to Matlab software commands, but Matlab is commercial software and covers all areas of science. For our purpose is too expensive and slow and consumes a large memory and CPU. But its advantage is a lot of useful functions. The last tool we used was Mathcad Prime 9.0. The software is useful for solving differential equations and contains a very convenient environment for writing and solving various types of equations. The product is cheap and powerful. The problem is the backward compatibility. With combinations of used software, we tried to find a good balance between the software functions and expected results. The GNU Octave is suitable for cycling operations like matrix elements handling, curve filtering and fitting. We used it for converting accelerations record from LSB to $\boldsymbol{g}$, normalizing to zero mean value, detrending and Butterworh filtering and estimating the optimal sampling

frequency. For numerical integrating we used the Runge-Kutta 4th method. For the rainflow counting method we used the Matlab built-in function. It saves a lot of time and prevents us from coding and debugging an algorithm. On final stage of our analysis, we used the Mathcad Prime where we build the S-N curve and solved the cumulative damage ratio for analyzed stress ranges. The coding was very simple and finally we could predict that the used beam with weldings could operate on duty without damage 37,037 years, but cyclic loading persisted non-stop. We must emphasize that some technical properties of the analyzed plough we must estimate because the manufacturer did not publish these. For this reason, our result is more hypothetical than relevant. Finally, we could recommend GNU Octave as a cheap and fast solution for students and needy researchers, and Matlab and Mathcad for professionals. The coding in Visual Studio 2022 with C# requires a serious knowledge of coding with longer time of experiences.

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ECODISTRICTS AND GREEN PLACES: OUTCOME OF ANALYSIS OF GREEN PLACES AND AMENITIES IN THREE CENTRAL EUROPEAN ECODISTRICT CASE STUDIES

Bard Rama

Abstract

It is almost impossible to imagine attributing the term 'sustainable' or 'green' to a city district or another smaller scale city component without carefully considering and evaluating the open and green places that belong to that component. Not because of the association of the term 'green', but because of the role of those spaces in multiple aspects. This research highlighted the importance of the green places in a city and its components, in our case, an ecodistrict. The paper has demonstrated that green places are one of the ecodistrict categories that all of the case studies have most of the aspects in common with. This paper identified two options of green gardening, within the district space or in a farm nearby. Finally, the three case studies show that early-stage planning should include climate change adaptation measures, as well as prevent water table depletion and biodiversity loss.

Keywords*: ecodistricts, green places, climate change adaptation, sustainable cities,*

1 INTRODUCTION

It is almost impossible to imagine attributing the term 'sustainable' or 'green' to a city district or another smaller scale city component without carefully considering and evaluating the open and green spaces that belong to that component. Not because of the association of the term 'green', but because of the role of those spaces in multiple aspects. Such as the quality of life, quality of air, reduction of heat islands effect, increase of biodiversity and many other values that the green spaces offer. As we know the land area is scarce and the tendency is always to increase the built up surface versus the open spaces, however all the cities that truly want to achieve sustainable districts, do take this very seriously and allocate ample amount of green spaces.

One advantage is that green spaces extend beyond dedicated zones, encompassing the areas between buildings. These spaces often serve as green corridors, connecting larger adjacent areas within the boundaries of an ecodistrict. Even better, they can also connect the ecodistrict to a much larger green park or open fields.

It is argued that open spaces can significantly impact the social qualities of a district. They provide valuable places where people can spend time together, fostering social interactions while enjoying the natural environment near their homes (Kilnarová & Wittmann, 2017).

In some cases, as mentioned by Trojanowska (2019), buildings are constructed within a city quarter only after a public park is established. Furthermore, whenever feasible, each apartment is designed to have at least one window offering a view of greenery.

Once again, this emphasizes the significance of the connection between indoor and outdoor environments and the role of greenery in enhancing the quality of the built environment and overall quality of life within an ecodistrict. Consequently, green spaces are rightfully esteemed when assessing the sustainability of a city component.

According to the Intergovernmental Panel on Climate Change (IPCC, 2022b), green infrastructure refers to a strategically planned and interconnected system of natural and constructed ecological elements, including green spaces and landscape features. Its purpose is to provide various functions and services such as air and water purification, temperature

regulation, floodwater management, and coastal defense, often with additional benefits for human and ecological well-being.

While green infrastructure has been adopted by various planning and design disciplines at different levels, there is no universally agreed-upon definition. It can be viewed as a tool to promote sustainability in cities and their components in a cost-effective manner. It offers numerous services such as rainwater collection and management, integration of greenery into urban areas, temperature reduction, improved air quality, and the enhancement and diversification of local habitats and ecosystems. Moreover, it directly influences the health and well-being of residents while facilitating increased social interactions.

Given the multitude of advantages associated with green infrastructure, two concepts based on scale have been proposed: urban scale and landscape scale. Additionally, it is argued that green infrastructure involves connecting and enhancing ecosystems and their services, including improving landscape permeability. By adopting ecosystem-based approaches to flood protection measures, green infrastructure helps mitigate natural disaster risks. It also contributes to the sustainable provision of ecosystem benefits and services while strengthening the resilience of ecosystems (EEA, 2011). Furthermore, according to the Intergovernmental Panel on Climate Change (IPCC, 2019a), there is a growing global trend towards the adoption of 'ecosystem-based and hybrid approaches' that combine both natural ecosystems and built infrastructure. Moreover, the recent IPCC report (IPCC, 2022a) highlights an increase in the application of ecosystem-based adaptation in urban areas.

The integration of green space, ecosystem goods and services, and the built environment creates opportunities for enhancing urban adaptation (Puppim de Oliveira et al., 2013). One such option is the cooling effect provided by urban greening, which involves the strategic use of trees and vegetation to mitigate heat (IPCC, 2022a).

The ecosystem services offered by green infrastructure, along with other practical benefits, can support cities in their efforts to plan, coordinate, and implement climate change adaptation strategies, while building resilience and improving disaster response measures. Incorporating green infrastructure elements such as trees, vegetation, green parks and corridors, woodlands, green facades and rooftops, as well as water retention and collection systems, not only enhances city biodiversity but also significantly improves the quality of life.

While there is no universally agreed-upon definition, several suggestions align with similar goals. The European Commission (EC, 2013) defines green infrastructure as a strategically planned network comprising high-quality natural and semi-natural areas, along with other environmental features. Its purpose is to safeguard biodiversity and provide various ecosystem services. (Benedict and McMahon, 2006) describe it as a network of natural areas and open spaces that preserve the values of natural ecosystems, benefiting both humans and wildlife. The United States Environmental Protection Agency (US EPA, 2008) further expands the definition to include a wet weather management approach that incorporates greenery and soils to enhance natural hydrological infiltration and reuse.

In summary, the concept of green infrastructure helps us comprehend the benefits that ecosystems can offer and how to effectively utilize and manage those benefits. It is evident that incorporating green infrastructure into city planning brings numerous advantages. However, it is crucial to strive for a balanced integration of green urban infrastructure elements. This integration should not only cater to human benefits derived from the ecosystem but also ensure the preservation of the ecosystem's integrity in the face of human activities.

2 CASE STUDY ANALYSES

2.1 Ecodistrict Case Study 1: Kronsberg – Hanover

Green spaces and playgrounds

Abundant green spaces and playgrounds have been thoughtfully distributed throughout the ecodistrict. Many of the children's playgrounds are located either within the courtyards of apartment blocks or in close proximity to them. This convenient arrangement allows parents to easily supervise their children while enjoying their own leisure activities in nearby areas. The courtyards offer diverse playing areas, allowing children to move freely between different spaces and explore various recreational options.

Open spaces, playgrounds, green parks, and other recreational areas are interconnected by a network of pedestrian pathways. These pathways form a cohesive system that provides residents with a daily opportunity to experience the diverse landscapes within the ecodistrict. Moreover, the perimeter tree avenues not only offer additional spaces for play and leisure but also provide pleasant walking routes where residents can immerse themselves in the scenic views of the surrounding grassland. In addition, these avenues serve as a hiking path leading to a viewpoint, offering a heightened sense of exploration and adventure.

Green gardening

In contrast to many other housing developments, Kronsberg enjoys a unique advantage when it comes to green gardening initiatives. The ecodistrict is fortunate to have an organic farm situated within a short and convenient walking distance. This farm provides Kronsberg residents with access to fresh, locally produced organic food in a highly sustainable manner. Not only can residents visit the farm, but they also have the opportunity to participate in organized workshops. These workshops offer a firsthand learning experience, allowing residents to discover the intricacies, wonders, and challenges associated with producing organic food.

Rainwater

In conventional settlements, rainwater from buildings and paved areas is typically directed into collection systems. However, this practice can lead to groundwater shortages and hinder the natural replenishment of the water table. Given the increasing scarcity of drinking water in many places, this is a significant concern. Additionally, during storm seasons, the excess water from roofs and paved areas can overwhelm the collection systems, resulting in clogging and flooding of cities or specific areas. As a result, many cities are exploring innovative approaches to address these pressing issues.

In simplified terms, an alternative approach involves collecting rainwater from building roofs, terraces, and ground surfaces, and gradually draining and discharging it into open ponds or waterways located within the green areas of the ecodistrict. This method allows for the sustainable management of rainwater, minimizing strain on collection systems and mitigating the risk of flooding.

2.2 Ecodistrict Case Study 2: Bahnstadt – Heidelberg

Green spaces and playgrounds

Bahnstadt, situated on the site of an old railway freight area, placed significant emphasis on the integration of green spaces, landscapes, and vegetation. During the planning phase, great attention was given to developing a distinctive identity for the concept of green open spaces. The thoughtfully designed and executed open space concept incorporates a variety of green areas, playgrounds, sports facilities, and open spaces, encouraging residents and visitors to engage in outdoor activities.

An iconic landscape feature, the promenade, pays homage to the site's railway history while now serving as a green structure that connects the ecodistrict with the expansive natural greenery. This multifunctional promenade serves as a pedestrian pathway and bike lane, providing a park-like atmosphere that welcomes individuals to bike, walk, play, skate, or simply enjoy their free time. The City of Heidelberg (2019) highlights the inviting nature of the promenade and its contribution to the overall appeal of the ecodistrict.
In addition to providing areas for leisure, play, and recreation, the ecodistrict includes "compensatory areas" designed to serve as habitats for plants and wildlife. The introduction of diverse trees, shrubs, and other greenery within the ecodistrict has not only enhanced the microclimate but also created a more favorable habitat for local flora and fauna. Various green "pockets" can be found throughout the ecodistrict, including spaces along the water lagoons, green inner courtyards, gardens, and similar areas.
Spanning over seven thousand square meters in a prominent part of the ecodistrict, the Zollhofgarten park offers a pleasant environment for various leisure activities. Whether enjoying the climbing wall, beach volleyball court, or other green features, visitors can make the most of their free time. Sports enthusiasts have access to facilities such as tennis courts, a small soccer field, and well-planned calisthenics areas for street workouts.
The Pfaffengrunder Terrasse features a range of amenities, including playground equipment, trampolines, uneven lawn spaces, graffiti walls, water fountains, raised beds for vegetation, numerous seating areas, trees, and open lawn playgrounds.
Within the Bahnstadt's promenade, three distinctive playgrounds are hosted. Each playground is designed and constructed based on a unique idea or theme, such as railways, farms, and fire brigades. The railway playground features red-colored train structures, while the fire brigade playground, located near Schwetzinger Terrasse, also incorporates red elements. The farm playground provides a specific experience by including a play shack, wooden carved animals, and a tractor with a hay cart, allowing children to connect with the nearby open green fields. All three playgrounds offer diverse play experiences with elements such as climbing ropes, nets, slides, and other engaging features (City of Heidelberg, 2019).

Green gardening

Urban gardening has gained popularity as an appealing aspect of ecodistricts and cities in recent years. While initially lacking a dedicated space for such activities, Bahnstadt has responded to this growing trend by establishing a designated area in Pfaffengrund Terrace. This corner has been set up specifically for urban gardening, providing residents with an opportunity to engage in this sustainable practice.
The urban gardening area features several raised beds, thoughtfully filled with soil and arranged for easy access. These beds serve as convenient spaces where residents can cultivate their own plants and vegetables. Positioned in a well-suited location on the platform, in close proximity to the Promenade, the gardening area visually connects with the nearby green fields. This integration enhances the overall experience of urban gardening, creating a harmonious blend between the cultivated environment and the surrounding natural elements.

Rainwater

Recognizing the significance of rainwater for local vegetation and the water table, Bahnstadt has implemented an innovative solution to address this issue. The ecodistrict boasts a remarkable feature known as the water lagoons complex, stretching nearly a kilometer along the Langen Angers. These lagoons not only serve as design elements that enhance the overall aesthetic appeal of the area but also fulfill a vital role in rainwater collection and storage.

Beyond their functional purpose, the water lagoons complex provides a pleasant environment for leisure activities, allowing residents to enjoy recreational pursuits. Moreover, it plays a crucial role in replenishing the local water table, ensuring a sustainable water supply for the ecodistrict. Additionally, during heavy storms, the lagoons assist in alleviating pressure on the sewage system and treatment plant by serving as a natural drainage system.
To enhance the resident's experience, numerous trees have been strategically planted along the ponds, contributing to the ecological balance and providing a visually pleasing landscape. The lagoons also feature aquatic vegetation and are home to various types of fish, further enriching the biodiversity and creating a harmonious ecosystem within the ecodistrict.
The lagoon system in Bahnstadt serves as a means of collecting surface water, either through filter basins or designated pipes. As the ponds fill up, any excess water is directed to nearby green areas via trenches. Prior to being released, the surface water undergoes filtration within the lagoon system, ensuring its cleanliness and quality. An additional benefit of the lagoons is the cooling effect they provide through water evaporation, offering relief during hot temperature days.
However, based on valuable experience and observation, the city of Heidelberg has decided to renovate the lagoon system to address certain issues and enhance its functionality. The renovation aims to streamline maintenance procedures and improve water quality. One aspect of the renovation involves implementing measures to filter and regulate the rainwater before it reaches the water ponds, reducing the likelihood of algae growth. Additionally, the lagoons will have flat floor surfaces, simplifying maintenance tasks compared to the current gravel substrate. These efforts will contribute to the long-term effectiveness and sustainability of the lagoon system in Bahnstadt. (City of Heidelberg, 2019)

2.3 Ecodistrict Case Study 3: Vauban – Freiburg

Green spaces and playgrounds

Vauban's green spaces are integral to the ecodistrict, greatly contributing to the overall quality of life for its residents. These green spaces serve as inviting places where people can enjoy nature and engage in recreational activities. Their importance is particularly evident for elderly individuals and children, providing them with attractive areas to spend quality time outdoors.
Preserving the existing ecosystems, including the presence of old trees and vegetation, was a key goal during the original urban planning competition for Vauban. This emphasis on greenery has resulted in the district benefiting from fresh air that permeates deep into the neighborhood. The main open green spaces, often referred to as green corridors, are complemented by smaller-scale green spaces, creating a seamless transition to the wider expanses of greenery located in the southern part of the district.
According to Hofmeister et al. (2014), the green areas between the building blocks in Vauban play a significant role in enhancing the local climate, contributing to a more pleasant and favorable environment. Furthermore, the district boasts numerous children's playgrounds strategically positioned for quick and easy access, providing convenient spaces for kids to play and families to enjoy the open air during their leisure time.

Green gardening

Urban gardening, as a modern approach to green gardening, has gained popularity worldwide, offering citizens a favored way to engage with nature. In contrast to traditional gardening methods, urban gardening provides individuals with their own dedicated gardening spaces that can be personalized and tailored to their specific needs. This proximity to their living spaces allows occupants to immerse themselves in nature and cultivate their own vegetables.

Within the ecodistrict, the inclusion of green gardening has been a source of pride, successfully integrating these gardening areas on-site. Residents can be observed enthusiastically tending to their small gardens, taking joy in the process of nurturing plants and experiencing the rewards of their efforts firsthand. The availability of such green spaces enhances the overall well-being of the community and fosters a deeper connection between residents and the natural environment.

Rainwater

The ecodistrict's eco-friendly approach to rainwater management brings numerous benefits to the vegetation and natural environment. Instead of relying on a centralized rainwater collection system, the district allows rainwater to be discharged into the open. Through the presence of two primary drainage ditches, the rainwater naturally infiltrates the ground, resulting in a significant portion of the rainfall staying on-site. This approach reduces the burden on water collection infrastructure during heavy rainfall events and contributes to the replenishment of the groundwater table.

In addition to the district-level measures, many residents actively participate in rainwater harvesting by collecting rainwater in individual tanks. This collected rainwater can then be used for various purposes, such as gardening or other household services. By incorporating such practices, the ecodistrict promotes water conservation and sustainable usage, further enhancing its eco-friendly initiatives.

3 DISCUSSION

The following table (Table 1), provides a comprehensive overview of the key indicators related to green places and amenities in the three case studies. It highlights the significant factors associated with the planning and implementation of ecodistricts' green spaces.

Green spaces and other functions in green spaces

Access to and proximity of green spaces are fundamental characteristics of energy-efficient and livable cities (ESMAP, 2014). These green spaces, along with their supportive functions, were integral to the planning competitions organized by the respective city planning offices in the ecodistricts.

In the case studies, it is evident that the interconnection between surrounding green areas, district green parks, and semi-public/private green spaces within urban blocks plays a crucial role. For instance, Kronsberg and Bahnstadt exhibit this interconnection, while Vauban features smaller usable green spaces connected by three wide green corridors leading to a larger green area in the south. This green concept not only provides leisure and recreational spaces but also facilitates fresh air circulation throughout the ecodistrict.

A notable example from the Kronsberg case study is the perimeter tree alley, serving as a border between the district and the grassland while being popular for recreational walking and biking.

The case studies emphasize the importance of distributing children's playgrounds throughout the ecodistrict to ensure easy accessibility for all children. While main playgrounds are located in public areas, additional ones are found in kindergarten yards and apartment block courtyards, enabling children to access them at any time.

Playground equipment can vary in colors, shapes, and functions, including sandboxes for creativity, swings, see-saws, merry-go-rounds, climbers, boulders, ropes, slides, and more. It is crucial to incorporate universal design principles to ensure inclusivity for children with disabilities.

The ecodistricts also provide sitting areas with fixed chairs, benches, and picnic tables for residents to relax. Sports areas and equipment, such as table tennis and basketball courts, are

also available. Bahnstadt goes a step further by offering a calisthenics facility for street workouts.
Kronsberg offers a noteworthy feature where excavated soil from the construction phase was repurposed for onsite landscape design elements. This approach not only enhanced the landscape but also reduced costs and carbon emissions associated with soil transportation. It serves as a valuable lesson for future ecodistricts, highlighting the importance of minimizing soil movement and utilizing onsite resources to enrich the landscape and urban elements.

Vegetation

(Carne, 1994) refers to urban vegetation as the various plants and greenery found within and around cities, encompassing a diverse range of plant species and habitats.
In ecodistricts, vegetation and urban greenery play a crucial role in enhancing community engagement and enriching recreational areas. They contribute to the aesthetics of the environment (Drillet, 2020) and have a positive impact on the well-being and quality of life of residents. Moreover, vegetation helps in mitigating the urban heat island effect (UHI) in the area, reducing energy consumption in nearby buildings, and mitigating carbon emissions. It also helps lower air temperatures and create refreshing breezes, thereby facilitating the circulation of fresh air within the neighborhood. As emphasized by the Intergovernmental Panel on Climate Change (IPCC, 2022) and Dodman et al. (2022), the urban heat island effect leads to higher temperatures within cities compared to their surroundings.
The strategic planting of trees, shrubs, grass, and other plants in various areas of the ecodistrict, such as open spaces, green parks, courtyards, streets, sidewalks, and playgrounds, not only has a positive impact on the well-being of residents but also contributes to the enhancement of local wildlife. This approach aligns with the findings of Harris et al. (2018), which emphasize that areas with dense vegetation provide valuable habitats for wildlife.
The significance of planning and designing landscapes and vegetation throughout the city, particularly in ecodistricts, cannot be overstated. It is crucial to prioritize the integration of vegetation to create spaces that benefit both people and nature.
In order to determine which ecosystem services are most valued, urban planners should strive to understand how residents perceive and appreciate these services (Lis, 2019).
The three case studies highlighted the importance of vegetation. Vauban, for instance, made it a requirement to preserve existing trees while also planting numerous additional ones within the ecodistrict. Kronsberg ensured that trees were incorporated into inner parks and along the perimeter green avenue. Although Bahnstadt has planted a substantial number of trees, it may appear less visually prominent in comparison to the other case studies due to its relatively recent development.

Green roofs

Green roofs play a vital role in ecodistricts for several compelling reasons. Apart from their primary function of protecting buildings from weather elements, they offer numerous additional benefits. One of their key advantages is their ability to reduce roof surface temperatures and provide a cooling effect on the surrounding air. In urban areas, green roofs with appropriate vegetation can help mitigate the urban heat island effect, while also contributing to energy savings, improved human health, enhanced quality of life, effective rainwater management, and better air and water quality (EPA, 2019).
Studies have shown that green roofs have lower daytime surface temperatures compared to conventional roofs, thereby helping to combat the heat island effect (Li et al., 2014). Another indirect effect of green roof strategies is the increase in humidity levels in urban areas. The urban heat island effect refers to the phenomenon where cities or urban areas experience higher temperatures and are significantly warmer than nearby rural areas.

Proper design strategies, including the use of different materials and colors, can offer solutions for reducing the urban heat island effects and improving the overall urban quality of life. Highly reflective, emissive, and cool-colored materials, as emphasized by (Santamouris et al., 2011), can contribute to mitigating the urban heat island effect.
In addition to their functional benefits, green roofs also enhance the visual appeal of building exteriors, making them a preferred architectural choice. All three case studies (Vauban, Kronsberg, and Bahnstadt) have successfully incorporated green roofs in many buildings, showcasing their practical benefits such as energy efficiency, rainwater collection, reduced building heat, and improved air quality. Consequently, green roofs are considered a significant element in the design of ecodistricts.

Rainwater

The rainwater collection approaches implemented in the ecodistricts are carefully planned and executed to address concerns of water table depletion. Environmental studies conducted during the development planning phase highlighted the need for innovative solutions. Although different methods were applied, the three case studies employed a similar approach: rainwater from building roofs, terraces, and ground surface pavements is collected in specially designed drainage ditches and gradually drained into open ponds or waterways in green areas.
Kronsberg district adopted a sustainable approach to maintain the balance of on-site water absorption and groundwater table recharge, referred to as a "semi-natural drainage concept" (Rumming K. et al., 2004a). This concept not only helps prevent water table depletion but also reduces the release of excess stormwater from roofs and paved areas into water collection systems, preventing clogging.
Residents in many cases collect and store rainwater from green roofs in individual tanks (Hofmeister et al., 2014). While Vauban and Kronsberg took a more natural approach, Bahnstadt implemented the concept of open water lagoons, which not only serves as a water collection and retention system but also enhances the quality of life by providing leisure activities and a cooling effect in residential areas.
These case studies highlight the importance of addressing biodiversity loss and water table depletion early in the planning process. Environmental studies can be used or generated specifically for ecodistrict planning purposes. On-site construction is equally crucial and falls under the responsibility of the city to ensure proper execution based on the development plans.
In Vauban, residents have their own small gardening areas, providing year-round access for gardening activities. Kronsberg benefits from its proximity to an organic farm, offering residents fresh locally grown organic food and workshops on organic food production. The farm is recognized for its visionary and environmentally-friendly agricultural practices using modern technology (Schottkowski-Bähre, 2000). In Bahnstadt, as part of the urban gardening project, the city has provided raised beds (boxes) in public spaces, specifically the Pfaffengrund Terrasse.

4 CONCLUSION

The case studies reveal several common elements in the category of green places within the ecodistricts. These elements include interlinkages between surrounding green fields, district green parks, and semi-public and private green spaces within urban blocks. Not only do these green spaces provide walking pathways, leisure areas, and recreational spaces, but they also contribute to the circulation of fresh air deep into the ecodistrict.

One notable element highlighted in one of the case studies is the presence of a perimeter tree alley between the district and the grassland. This tree-lined pathway serves as a popular recreational route for bikers and pedestrians, enhancing the connectivity between different areas of the ecodistrict. Another interesting landscape feature observed in one of the case studies is the creation of an artificial observation hill and other urban elements using the excavated soil during the construction phase. This innovative approach minimizes soil movement and transportation while adding unique and attractive landscape elements to the ecodistrict.

The thesis also identifies green gardening as an important aspect of the ecodistricts. Residents are provided with the option to engage in urban gardening within the district space or at a nearby farm. This offers occupants the opportunity to experience and participate in sustainable gardening practices. Additionally, the incorporation of green roofs is emphasized as a significant feature of the ecodistrict design. The practical benefits of green roofs include rainwater collection, cooling effects, improved air quality, and more.

Overall, these case studies provide valuable lessons and recommendations for future ecodistricts, emphasizing the importance of green spaces, innovative landscape features, gardening opportunities, and the incorporation of green roofs as integral elements of sustainable urban design.

The collected data and on-site observations emphasize the significance of rainwater management within the ecodistricts. This management approach involves the collection of rainwater from various surfaces such as roofs, terraces, and paved areas, which is then directed into specially designed drainage ditches. The rainwater is gradually discharged on-site, allowing for effective water management. Notably, the inclusion of water lagoons in the ecodistricts serves a dual purpose. These lagoons not only add a distinctive water feature to the urban design but also provide recreational spaces with a cooling effect, enhancing the overall quality of life for residents.

Furthermore, the case studies underscore the importance of incorporating climate change adaptation measures and addressing issues such as water table depletion and biodiversity loss at the early stages of planning. By considering these factors from the outset, ecodistricts can proactively address the challenges posed by climate change and ensure the sustainable management of water resources while preserving biodiversity.

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METÓDA AUTOMATICKEJ KALIBRÁCIE ROBOTICKÉHO ZARIADENIA A KAMEROVÉHO SYSTÉMU PRE SPRACOVANIE OBRAZU POMOCOU VYBRANÝCH MODULOV KAMEROVEJ DETEKCIE

AUTOMATIC CALIBRATION METHOD OF ROBOTIC DEVICE AND CAMERA SYSTEM FOR IMAGE PROCESSING USING SELECTED CAMERA DETECTION MODULES

Jaroslav Romančík, Róbert Rákay, Marek Vagaš, Alena Galajdová

Abstrakt

Tento článok sa upriamuje na experimentálne overenie presnosti „Hand-Eye“ kalibrácie kamerového systému a robotického zariadenia pomocou kvantitatívnych nástrojov vyhodnotenia presnosti. Experiment pozostáva z opakovaného a opakovateľného uchopovania rôzne orientovaného a v zornom poli rôzne umiestneného objektu - kocka (úspešnosť správneho úchopu meraní 98%). Výsledky výskumu sa opierajú o využitie externej vyhodnocovacej jednotky 2D kamerového systému, o jej dostupné vstavané funkcie a o komunikáciu na báze Ethernet - Non – procedural s robotickým zariadením.

Kľúčové slová: *kalibrácia, 2D kamerový systém, spracovanie obrazu*

Abstract

This paper aims to experimentally verify the accuracy of "Hand-Eye" calibration of a camera system and a robotic device using quantitative accuracy evaluation tools. The experiment consists of repeated and repeatable grasping of a differently oriented and differently positioned object in the field of vision - a cube (success rate of correct grasping of measurements 98%). The research results are based on the use of an external evaluation unit of the 2D camera system, its available built-in functions and communication based on Ethernet - Non-procedural with the robotic device.

Key words: *calibration, 2D camera system, image processing*

1 ÚVOD

Kamerová inšpekcia je dôležitým nástrojom na zvyšovanie technologickej úrovne v automatizovaných a robotizovaných pracoviskách. V týchto oblastiach sa osvedčilo strojové videnie, ktoré využíva pokročilú obrazovú detekciu pre vykonávanie rýchlych a presných vyhodnotení obrazu. Tento systém poskytuje možnosti rozlíšenia čo i najmenších farebných rozdielov medzi výrobkami. V súčasnosti prebieha neustále zdokonaľovanie systémov strojového videnia, pričom sú z cenového hľadiska stále dostupnejšie. Okrem toho, tieto systémy ponúkajú väčšiu flexibilitu a stabilitu pre riešenie aj zložitejších aplikácií a technologických úkonov [1].

V minulosti sa však inšpekcia produktov uspokojila len s akousi výstupnou kontrolou hotových výrobkov, čoho dôsledkom bol celý rad nepodarkov či strata požadovanej kvality. Navyše, potrebné nastavenia, úpravy či údržbu vedel vykonávať iba špecificky zaškolený personál, takže v prípade potreby často dochádzalo ku zdĺhavým prestojom a odstávkam na pracovisku. Dnes, však pojem strojové videnie postupne stráca svoju povesť komplikovaného

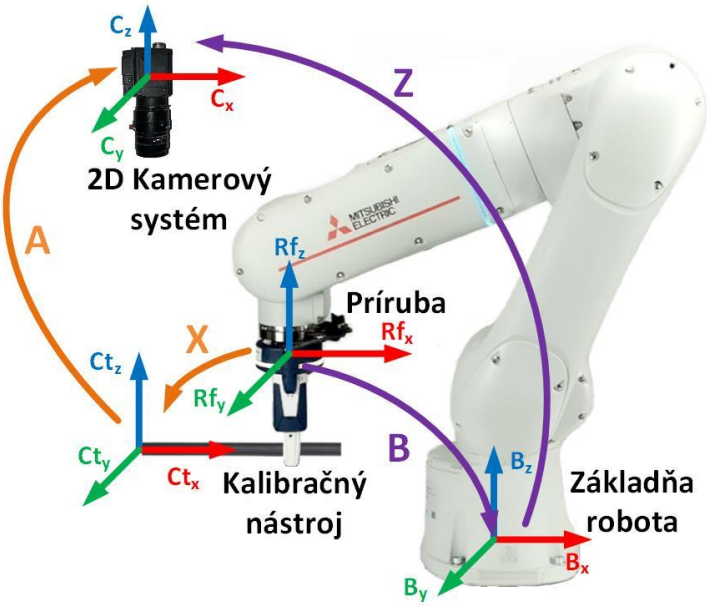
systému. Ruka v ruke sa osvedčuje i trend niekoľkonásobnej kontroly pre odstránenie chýb a nepodarkov už počas technologických operácii pri výrobe objektov [2].
Pre korektnú a úspešnú detekciu je príhodné zabezpečiť kvalitné osvetlenie povrchu snímaného objektu. Obzvlášť to platí pri podmienkach, kedy je snímaný objekt alebo snímaná scéna rušená odleskami [3]. Efektívne osvetlenie je pre konkrétnu aplikáciu na automatizovanom či robotizovanom pracovisku kľúčovou voľbou, Obr. 1.

Obr. 1: Kamerový systém KEYENCE

Konečným cieľom nasadenia tohto systému je skvalitnenie a zefektívnenie prebiehajúceho procesu [4]. Úvodnou myšlienkou je nahradenie človeka, ktorý zabezpečuje vizuálnu kontrolu a často neodhalí nepresnosti jednotlivých dielov, škrabance či tvarové nepresnosti [5]. Navyše, robotickým systémom je možné efektívne a presne triediť výrobky na tie, ktoré sú v poriadku a na tie, ktoré obsahujú vadu určitého charakteru. Všetky nedokonalosti na výrobku tak dokáže systém strojového videnia dokonale odhaliť a obsluha sa môže na pracovisku venovať inej, intelektuálnej pracovnej činnosti [6].

2 METÓDY A APLIKÁCIE

Napriek tomu, že systémy strojového videnia propagujú najmä 3D kamerové snímanie, ich opomenutou nevýhodou je často ich robustnosť, zložitosť a nepoužiteľnosť pri jednoduchších aplikačných riešeniach. Preto je tento prezentovaný výskum orientovaný do oblasti nasadenia monokulárneho kamerového systému (na báze 2D), ktorý je schopný rýchlo, spoľahlivo a za cenovo dostupnú hodnotu stanoviť vlastnosti snímaného objektu voči svetovému súradnicovému systému [7].
Prístupy ku aplikácii strojového videnia vychádzajú z geometrických veličín (poloha, dĺžka, plocha). Základom je poznanie vzťahov medzi snímanými dátami (v pixeloch) a ich súradnicami vyjadrenými v dĺžkových jednotkách. Tento proces a jeho experimentálne overovanie sa nazýva kalibrácia systému strojového videnia (Hand-Eye calibration). Úspešnosť testovanej aplikácie je tak závislá na vymedzení zorného poľa testovaného 2D kamerového systému v komparácii s pracovným priestorom robotického systému, v ktorých prieniku sa počas procesu kalibrácie bude nachádzať kalibračný nástroj. Z hľadiska inštalácie kamerových systémov a uloženia kalibračného nástroja využijeme kalibračnú metódu Eye to Hand.
Kalibračná metóda je založená na tom, že 2D kamerový systém je staticky lokalizovaný nad pracovným priestorom robotického ramena (mimo príruby) robotického systému (napr. na opornej konštrukcii a pod.). Charakter tohto prístupu je často využívaný v takých aplikačných riešeniach, kde dominantnou zložkou automatizovaného pracoviska je kolaboratívny robotický systém, Obr. 2.



Obr. 2: Eye to Hand kalibrácia

Dôvody tohto prístupu sa odvíjajú od potrieb efektívneho monitorovania pracovného priestoru kolaboratívneho robotického systému, keďže sa predpokladá, že v prebiehajúcom procese aplikácie má svoju nezastupiteľnú úlohu aj obsluha vykonávajúca špecificky zamerané pracovné činnosti, práve v kooperácii s kolaboratívnym ramenom. Ďalšie kapitoly a zameranie nášho výskumu sú orientované do tohto prístupu, preto aj matematický popis vysvetľuje transformáciu súradnicových systémov základne robotického systému a súradnicového systému externe umiestneného 2D kamerového systému. Táto transformácia je popísaná transformačnou homogénnou rovnicou (1), kde:

$$AX = ZB \tag{1}$$

A: homogénna matica súradnicového systému základne robotického ramena

B: homogénna matica súradnicového systému 2D kamery

X: transformačná matica medzi súradnicovým systémom robotického ramena a prírubou (koncovým efektorom)

Z: transformačná matica medzi súradnicovým systémom základne robotického robota a 2D kamerou

Homogénne matice vieme zapísať v nasledovnom tvare:

$$\begin{bmatrix} R & t \\ 0 & 1 \end{bmatrix} \tag{2}$$

kde:

R: matica rotácie

t: matica translácie

Pri využití matice (2) v rovnici (1), dostávame nasledujúcu formu zápisu:

$$\begin{bmatrix} R_A & t_A \\ 0 & 1 \end{bmatrix} \cdot \begin{bmatrix} R_X & t_X \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} R_Z & t_Z \\ 0 & 1 \end{bmatrix} \cdot \begin{bmatrix} R_B & t_B \\ 0 & 1 \end{bmatrix} \tag{3}$$

Kde:

R_A, R_B, R_X, R_Z: zložky rotácie

t_A, t_B, t_X, t_Z: zložky translácie

A po úprave nadobúda nasledujúci tvar:

$$\begin{bmatrix} R_A R_X & R_A R_X + t_A \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} R_Z R_B & R_Z t_B + t_Z \\ 0 & 1 \end{bmatrix} \tag{4}$$

Z rovnice (4) vyplýva, že:

$$R_A R_X = R_Z R_B \tag{5}$$

$$R_A t_X + t_A = R_Z t_B + t_Z \tag{6}$$

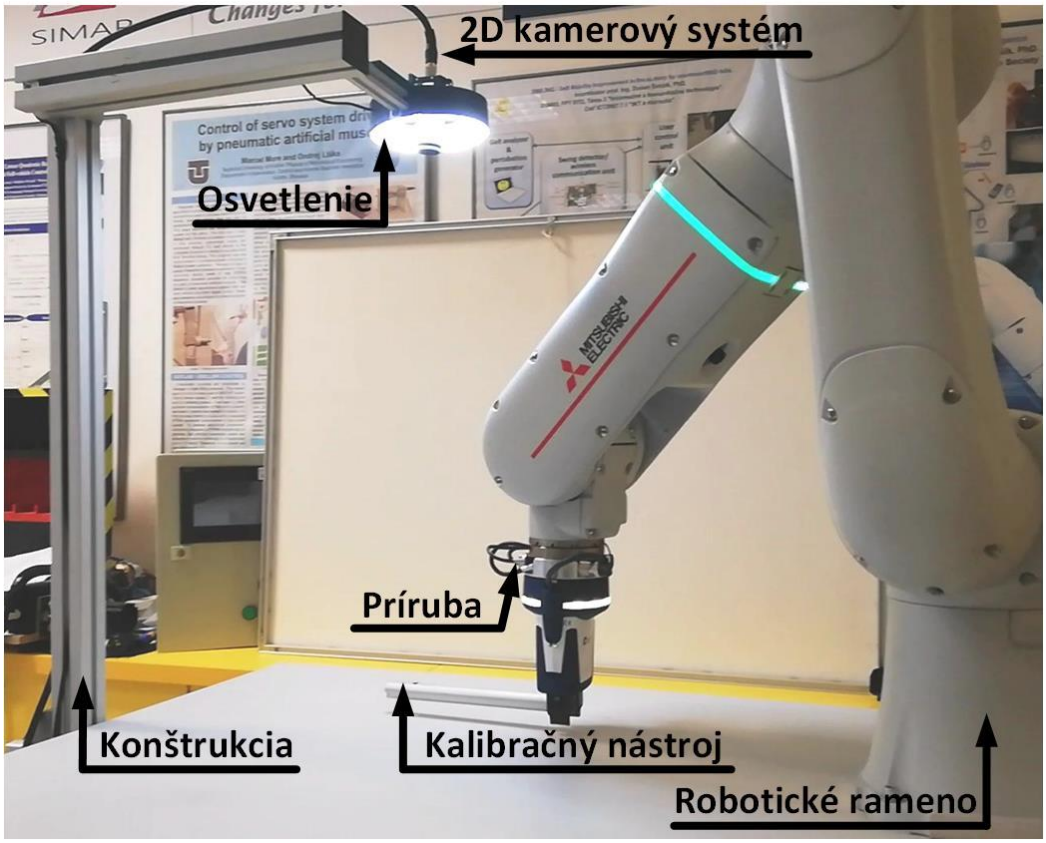
Rovnica (6) je lineárna v $\boldsymbol{t_x}$ a $\boldsymbol{t_z}$ v tých prípadoch, keď $\boldsymbol{R_Z}$ poznáme. Ideálnym riešením pre zistenie $\boldsymbol{X}$ a $\boldsymbol{Z}$ je teda vyjadrenie $\boldsymbol{R_x}$ a $\boldsymbol{R_z}$ z rovnice (5) s následným vypočítaním $\boldsymbol{t_x}$ a $\boldsymbol{t_z}$ z rovnice (3). Úpravou rovnice (1) pri použití správneho matematického aparátu vieme zapísať:

$$\sum_{i\in[0,n-1]} \|A_i X - Z B_i\|_F^2 \tag{7}$$

pričom, $\boldsymbol{F}$ je Frobienova norma. Riešením tejto funkcie pomocou metódy najmenších štvorcov získame parametre rotácie a translácie, ktoré definujú hľadané $\boldsymbol{X}$ a $\boldsymbol{Z}$ pre transformáciu [8].

3 EXPERIMENT

Zámerom tejto prípadovej štúdie je využitie „Eye to Hand“ metodického prístupu s dôrazom na praktické overovanie kalibračnej zostavy, ktorý je tvorený 2D kamerovým systémom a ďalšími odpovedajúcimi (spolupracujúcimi) zariadeniami, Obr. 3. Vhodnou softvérovou podporou docielime korektný setup a parametrizáciu procesu automatickej kalibrácie.



Obr. 3: Experimentálne testovacie pracovisko

Pri verifikácii vyššie spomínaného kalibračného prístupu využijeme experimentálne testovacie pracovisko s cieľom rozpoznávania naučeného vzorového objektu pre snímanie (kocka). Súčasťou tohto procesu je kalibračný nástroj, ktorý je pevne uchytený v čeľustiach efektora robotického ramena. Zásadou je, že jeho pozícia v priestore voči súradnicovému systému

základni robotického ramena sa počas procesu kalibrácie mení. Druh, typ alebo rozmery kalibračného nástroja pri tom nie sú rozhodujúce, aj keď vo všeobecnosti sa najčastejšie používa šachovnicový vzor [9]. Postupnosť kalibrácie, parametrizácia a verifikácie prístupu navrhnutej kalibračnej zostavy je závislé od:

- Nastavenia komunikačného protokolu (Ethernet - Non – procedural), odpovedajúcich portov a následného spustenia štartovacieho „setup“ programu, ktorého úlohou je sprevádzať užívateľa intuitívnym spôsobom počas procesu automatickej kalibrácie 2D kamerového systému (KEYENCE CV-X series).

Nevyhnutným predpokladom je ešte nastavenie IP adresy a vyhovujúceho osvetlenia zorného poľa. Následne pomocou funkcie „Ping“ testujeme spojenie medzi 2D kamerovým systémom a riadiacim systémom robota.

- Východiskovej (štartovacej) pozície kalibračného nástroja v koncovom efektore robotického ramena, ktorú 2D kamerový systém deteguje.

Cieľom je automatické rozpoznanie stredu otvoru na kalibračnom nástroji s tým, že v tomto kroku sa následne definuje počet a parametre referenčných bodov (v našom prípade deväť referenčných bodov, ktoré tvoria mriežku) pre určenie súradníc translácie. Súradnice rotácie sú určované ďalšími dvomi pootočenými polohami, ktoré sú pootočené o ±25° od východiskovej pozície stredového otvoru. Automatická kalibrácia postupne navádza užívateľa cez jednotlivé referenčné body tak, aby došlo k úplnému zosúladeniu natočenia súradnicových systémov kalibračného nástroja a základne robotického ramena.

- Nastavenia „Master“ pozície. Táto funkcia porovnáva súradnice robotického systému a získané súradnice z automatickej kalibrácie s ohľadom na kalibračný nástroj.

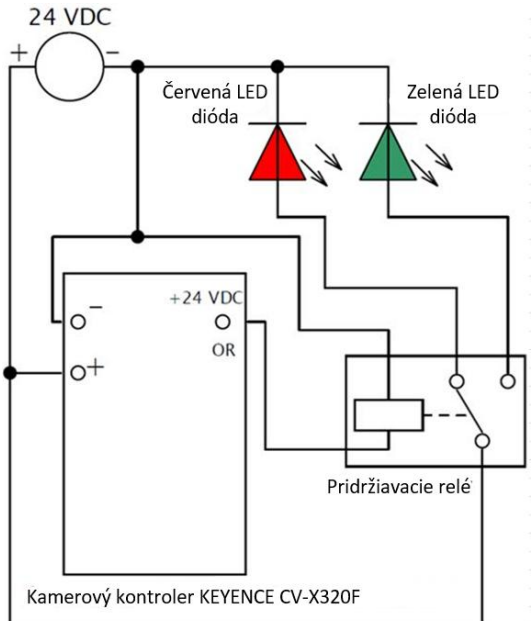
Keďže kalibračný nástroj má dané parametre (Ø18x215), logicky je potrebné ešte upraviť hodnotu ofsetu tak, aby konečná pozícia zodpovedala súradnicovému systému koncového efektora.Vďaka tejto úprave robotický systém snímaný objekt (kocku) spoľahlivo uchopuje a pokračuje vo vykonávanej (programovej) činnosti.

Spomínaný prístup je overovaný na experimentálnom testovacom pracovisku, ktorého činnosťou je jednoduché uchopenie snímaného objektu a položenie na naklonenú rovinu v pracovnom priestore robotického ramena. V princípe, robotické rameno po korektnej detekcii objektu dookola uchopuje a opäť pustí na naklonenú rovinu. Proces rozpoznávania sa opakuje, pokiaľ je proces rozpoznania úspešný resp. nenastane uchopenie. Tento aplikačný príklad je vizualizovaný pomocou výstupov na externej vyhodnocovacej jednotke pomocou signalizačného majáka, Obr. 4. Výsledok detekcie objektu je oznámený obsluhe formou červenej (NOK) farby, resp. zelenej farby (OK). Červená farba oznamuje obsluhe neúspešné rozpoznanie objektu, a zelená zase úspešné rozpoznanie.

Obr. 4: Svetelná vizualizácia výsledku detekcie (OK, NOK)

Práve programovateľným výstupom externej vyhodnocovacej jednotky (s názvom OR) realizujeme informáciu o detekcii. Tento výstup je spínaný logickou jednotkou, a v tom príde

dostávame informáciu „OK“ stav. V prípade logickej nuly máme „NOK“ stav. Schéma zapojenia a funkcionalita je vysvetlená na Obr. 5.



Obr.5: Schematické zapojenie kontroléra KEYENCE a vizualizačného aparátu

Sledovanie i zapisovanie získaných obrazových dát je vďaka tomu jednoduchšie, priebeh robotickej aplikačnej činnosti je značne detekovateľný. Sledovanie spoľahlivosti (verifikácia) navrhovaného prístupu a miera úspešnosti parametrizácie s cieľom stanovenia geometrických veličín v zornom poli bola overená kvantitatívnou metódou (v podobe 100 cyklov). Detekcia objektu bola zo 100 pokusov úspešná 98 krát. Komplikácie nastali pri cykle č. 38 a č. 62. V týchto prípadoch bol objekt detegovaný úspešne, avšak robotický systém nebol schopný uchopiť objekt, keďže ďalší objekt bol hneď vedľa neho, a tak ho koncovým efektorom zachytil. Vo výsledku to spôsobilo kolíziu s objektom, a bolo potrebné proces nanovo reštartovať.

4 ZÁVER

Cieľom článku je praktické overenie, nastavenie a parametrizácia vybraného systému strojového videnia pomocou vhodnej kalibračnej metódy na báze využitia jeho externej vyhodnocovacej jednotky a dostupných I/O a komunikačných periférií (rozhraní). Konečným cieľom je poukázať na spoľahlivosť a efektívnosť prezentovaného prístupu detekcie objektov na snímanej scéne prostredníctvom experimentálneho príkladu modelového experimentálneho pracoviska s robotickým systémom. Vhodným nastavením „Eye to Hand“ kalibrácie, dostupnými vstavanými funkciami testovaného kamerového systému strojového videnia a využitím dostupného komunikačného protokolu (Ethernet - Non – procedural) bola detekcia, následné spracovanie a úprava obrazových dát úspešná na 98% za použitia kvantitatívneho vyhodnotenia meraní. Finálnym krokom je stanovenie koordinačných súradníc v odpovedajúcom tvare do riadiaceho systému robota, ktorý následne „posiela“ robotické rameno pre rozpoznaný objekt. Budúce činnosti tohto predstaveného prístupu budú orientované najmä do výskumu vysokorýchlostného systému strojového videnia, ktorý disponuje segmentovým osvetlením (napr. technológia LumiTrax). Pomocou vhodnej inovatívnej zobrazovacej metódy (pri ktorej sa analyzujú viaceré snímky z rôznych strán) a za súčasnej synchronizácie s kamerovým systémom si autori článku v budúcnosti kladú za cieľ

eliminovať konvenčné problémy snímania objektov ako sú ich nepravidelnosti, textúra či povrchové vzory.

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PRODUCT VALIDATION FOR FLEXIBLE MANUFACTURING SYSTEM USING VISION SENSOR

Róbert Rákay, Patrik Šarga, Alena Galajdová, Jaroslav Romančík

Abstract

The article describes a method for process check of flexible manufacturing system FMS-500 based on vision sensor and industrial programmable logic controller. The proposed system is tested on experimental setup without integration to the complex system. The result can be used for further functionality expansion and efficiency evaluation on Flexible Manufacturing System and for educational purposes.

Key words: *vision sensor, controller, automation*

1 INTRODUCTION

The new trends in industrial automation and the development of various interdisciplinary tools and new IT technologies create possibilities to improve the existing industrial manufacturing and production systems. With combination of new hardware and software were able to monitor not only the parameters of the working devices but also were able to integrate product check systems. In order to meet the increasing demands on the reliability and effectivity of the processes and in the current economic situation we have to gather more and more information about our already working systems. [1-4]

If theoretical analysis of the running task and calculation of the risk is not sufficient we have to implement new subsystems to a working complex. In the modern era of programmable controllers we are able to integrate closed subsystems with different functionalities i.e. safety solutions, maintenance measurements, quality control and others. [1,5-7]

This paper focuses on the possibility of vision sensor based control subsystem for the existing experimental workplace FMS-500. The proposed system aims to control the product of the workplace and the presence of a relevant component on it.

The Flexible Manufacturing system FMS-500 was designed and created by Festo. It combines tasks of industrial hardware and software components for education and experimental purposes. The Department of Industrial Automation and Mechatronics uses the FMS-500 system primarily for educational purposes, where the students learn and work with the combination of industrial electropneumatic systems, programmable logic controllers, communication protocols and combine them to a closed workflow. [7-9]

In the current configuration the FMS includes 5 main subsystems. The system is controlled and connected via a central transport system – conveyor and its central PLC. There are 4 stations or subsystem: Handling, Machining, Mounting and Sorting stations. Each of the stations is able to work as a separated system with its own logic and tasks. The FMS in current state is shown on Fig. 1.

The goal of the proposed system is to check product competition after the Mounting station task is finished.

Fig. 1 Flexible manufacturing system at Laboratory of Automation

2 HARDWARE

To create and test the result of the mounting process a smart vision sensor was used.
The flexible manufacturing system produces a cylindrical product. Its main dimension with the mounted lid are shown on the following figure. (Fig. 2)

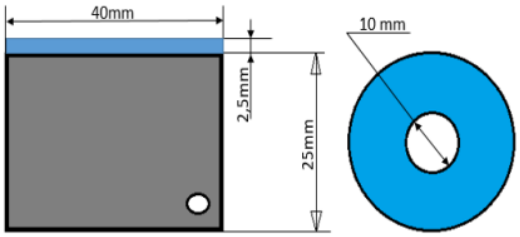

Fig. 2 Product of manufacturing system

The result of the vision sensors inspection is transferred to a PLC and can be further processed or communicated to the FMS system. The included hardware components are described below.

2.1 Vision Sensor Wenglor

As the main unit of the proposed system the B50M100 Wenglor camera was used. With its technical capabilities its suitable for various dimensional controls, sorting procedures, presence control, counting operations, and other tasks. The vision sensor integrates the sensing and processing part in one body. To communicate with its environment multiple I/Os are available as digital signal interfaces and also its capable to use Ethernet based communication protocols. The main optical parameters are listed in the table below.(Tab.1)[6]

Working range	≥ 20mm
Resolution	736 x 480 Pixel
Image Chip	Color
Pixel Size	6 x 6 µm
Frame Rate	15 Hz

Tab. 1 Optical Data B50M100

2.2 Industrial controller

As the first supervisor device an industrial programmable controller was used, Siemens PLC. The S7-1214C AC/DC/Rly is a compact PLC. In the main body the PLC includes an integrated 24 V power supply, digital I/Os, analog inputs and communication interface for Ethernet based protocols. Based on its technical design this controller is suitable for smaller automation applications or as a subsystem controller in a complex system. The main technical characteristics are listed in the table below.(Tab.2)

Onboard Inputs	14
Onboard Outputs	10
Output Type	Relay
Analog Inputs	2 Channels 0-10 V DC
Program Memory	100 KB

Tab. 2 Technical specifications of PLC

3 SOFTWARE

To configure the PLC, the TIA Portal V16 environment was used. This environment integrated software tools to manage, configure and monitor industrial devices primarly Siemens and other compatible vendors products. Typically is used to program controllers, HMI units, drive systems and their subsystems. Here its possible to prepare the controller and the subordinate devices, manage the communication and data flow. The network configuration process typically include Profinet communication parameters: device name, IP address, subnet and input/output addressing, with data block creation and configuration. [5]
Most of the camera and vision sensor system typically work with their own configuration software. In case of Weqube the uniVision software is used. The typical sensor setup consists of the following steps:

- Communication configuration for the project
- Field of the desired inspection
- Tool configuration i.e.: code, text, OCR, measurement, pattern, etc.
- Result calculation
- Output interface - signal or communication configuration

Example views on the vision sensor programming environment is shown on Figure 3.

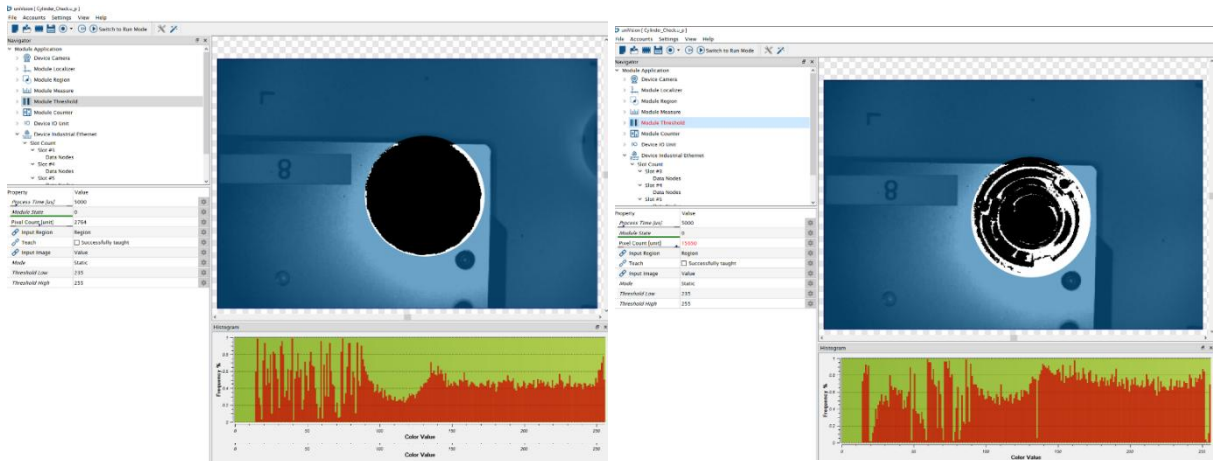

Fig. 3 Module Threshold in uniVision

4 TESTING OF THE SYSTEM

The following steps describe the requirements for successful implementation of the vision sensor with the PLC.

4.1 Camera setup

The vision sensors main functionality was configured with the use of Module Threshold. Here the most important parameter the pixel count was identified as the main indicator of the presence of the “lid” of the product.

The figure below shows the comparison between the finished and unfinished product on the transport palette.

From Fig. 3 its obvious that the pixel count -integer value describes wether the product has a lid or not. Based on this value there are multiple options to transfer information about the vision sensor inspection to a superior system Because of the Ethernet based communication capability we are able to configure 3 slots of the transfered information. In each slot different properties of the vision inspection results can be linked i.e. X,Y position, Qulity of Fit, Pixel Count etc. While the other slots are configurable its not necessary to set all the slots.

Obviously this device is the “sender”, based on the previous configuration the “receiver” must have the same prepared memory space and data formats prepared to receive information. This configuration is described in the following steps in the TIA Portal environment.

First of all to communicate with a third party device the GSDML file must be installed to the project library. This is followed by the network setup, with IP address and network assignment. The next step is to setup the message structure. This is configured under the device overview, using the available module options. Here different combinations of data length and its segmentation must be selected.

This is one of the most critical setup step and if the configuration is incorrect the wrong data will be read in the data slots. Based on the previous setup in the uniVision environment, the following data modules were added: 16 Byte Input (4 DINT); 1 Byte Output (8 BOOL); 16 Byte Input (4 REAL). Accordingly to the module type, the addresses were automatically generated, and if necessary are configurable in this window. The describe configuration is shown on the following Fig. 4

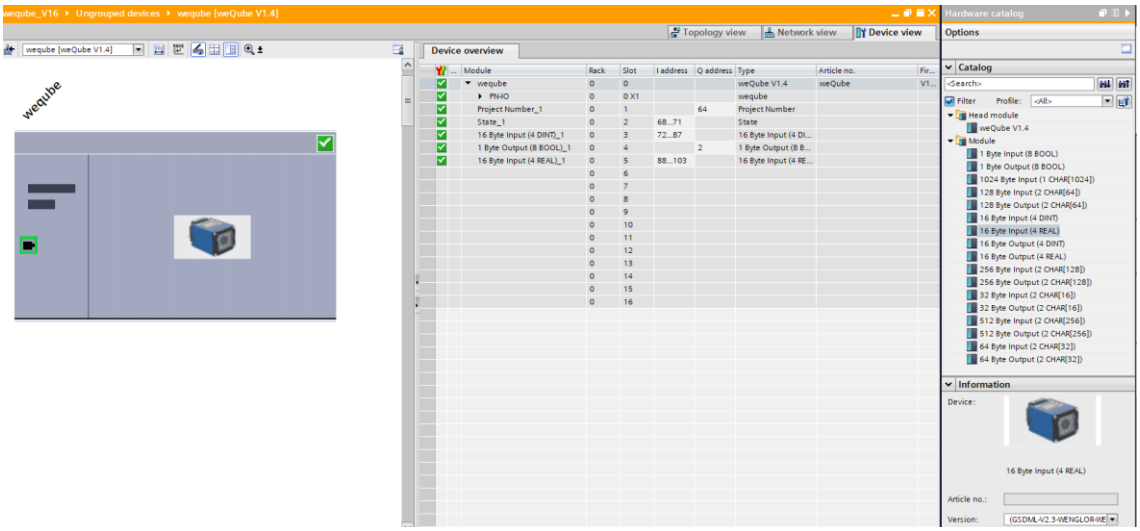

Fig. 4 Data structure configuration

After the desired setup the configuration of the system has to be implemented in to the PLC. This is followed by online testing. If the configuration is correct and the devices and the

transferred data in the TIA Portal is highlighted with green color during online view. (Fig. 5) In case of incorrect network parameters the online & diagnostics module highlights information that the communication partner is not reachable.

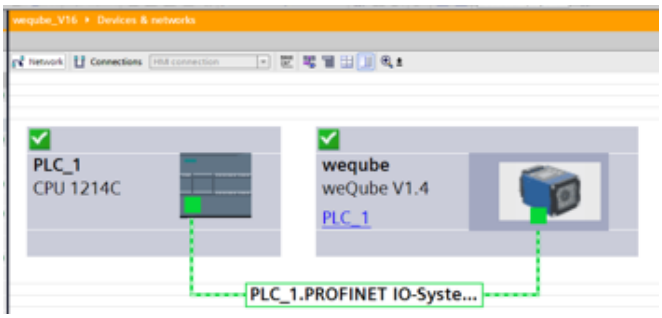

Fig. 5 Online view of correct network configuration

4.2 Testing

The testing of the system carried out using the integrated watch table functionality. Here the transferred data can be monitored and output signal can be controlled. While the camera inspection procedure and transfer works automatically, typically a trigger signal starts the process. In this testing phase a trigger signal was controlled from the Watch table. In this Watch table all the transferred information from the sensors "slot" were monitored. The following figure shows part of the Watch table during the testing with activated trigger output and with the received data.
(Fig. 6) In this case it's the unfinished product, without lid.

PLC_1 [CPU 1214C DC/DC/Rly] ▸ Watch and force tables ▸ Watch table_1

Address	Display format	Monitor value	Modify value		Comment
%QW64	DEC	0		☐	Project No. To change
%IW68	DEC	0		☐	State
%ID72	DEC	413		☐	Center X
%ID76	DEC	268		☐	Center Y
%ID80	DEC	50		☐	Quality of FIT [%]
%ID84	DEC	15650		☐	Pixel Count
%Q2.0	Bool	TRUE	TRUE	☑ ⚠	Trigger
%Q2.1	Bool	FALSE		☐	
%ID88	Floating-point nu...	511.0		☐	Localizer X unit
%ID92	Floating-point nu...	311.0		☐	Localizer Y unit
%ID96	Floating-point nu...	0.0		☐	Phi (Z rotation)
%ID100	Floating-point nu...	1.0		☐	Smallest Difference
<Add new>				☐	

Fig. 6 Watch Table- Testing of setup

4.3 Monitoring

Another possibility to monitor the ongoing process of inspection in the vision sensor is available via any device on the same network with Internet browser. The vision sensor supports a web-interface on its IP address.

This Visualisation tool is automatically generated and its editable for the needs of applications.
The following figures show the ongoing Visualistaion without and with the mounted lid on the controlled product of flexible manufacturing system. (Fig. 7)

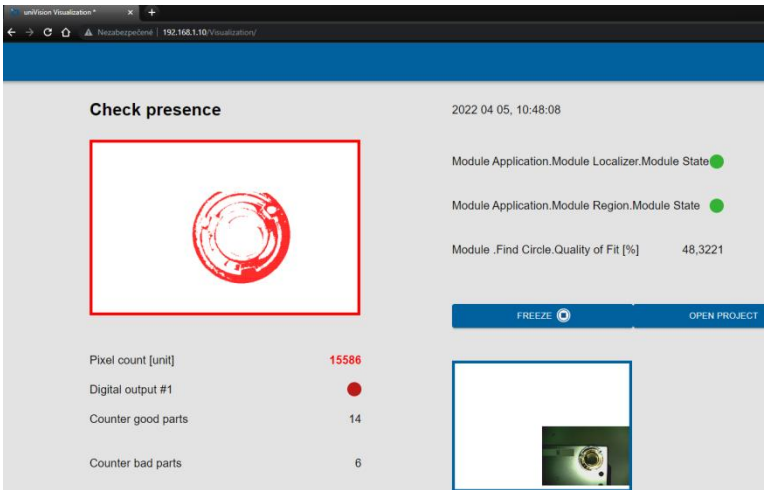

Fig. 7 View with uncomplete product

The complete product with the mounted lid is highlighted with green color. (Fig. 8)

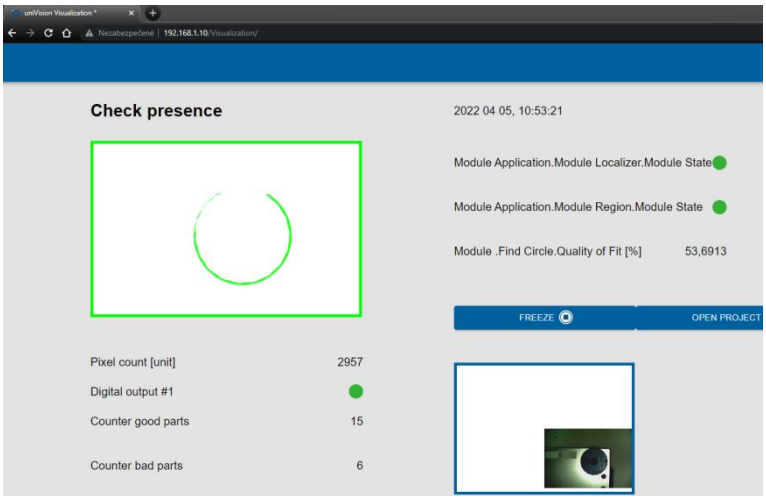

Fig. 8 View with correct - complete product

- The received parameters of the optical control can be further processed or communicated via the logic controller. While the data is in “raw” form for measurement purposes the counted pixel data has to be recalculated for distance units.
- Subsequent processes i.e. positioning or manipulation with a robotic system or alarming signals are optional reactions for incorrect pieces of product.

5 CONCLUSION

The aim of the article was to present the vision sensor-based method of product competition checking process. The control took place in the vision sensor and the results of the measurements are transferred via Profinet communication to the supervising PLC of the flexible manufacturing system. The example application of control is based on the presence of

the lid on the product. The article describes the basics of the sensor configuration and the setup of the communication channel between the two main devices. Their short description is also included. The Profinet based communication support many industrial devices for further operations such HMI visualization or robot system-based Pick and Place tasks. The experimental case study verifies the proposed hardware configuration and the method of product check. Lastly the presented work offers an example solution and base scenario for similar tasks in the field of industrial manufacturing systems.
The future options for the presented approach will be oriented on the area of moving object in similar scenario with focus on integration to the full ongoing process.

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ELIPTICAL GEAR WHEELS FROM THE OPTIMAL PRODUCTION POINT OF VIEW

Samuel Sivák, Silvia Maláková

Abstract

Gears are extensively utilized as transmission mechanisms and have become an iconic symbol of mechanical engineering. The proper functioning of gears involves significant performance expectations. Therefore, the production of gears holds great significance in achieving desired outcomes. Manufacturers face specific queries concerning the selection of gear production methods. Factors such as economic initial costs, suitability for serial production, adherence to shape specifications of the gearing, and precision requirements all contribute to the decision-making process. This paper focuses on the manufacturing process of an elliptical gear with an asymmetric tooth profile.

Key words: *gearing, production, asymmetric tooth profile, electric discharge cutting.*

1 INTRODUCTION

Gear wheels are an important and irreplaceable element in the basic components of mechanisms. Nowadays they can be found behind every corner and are an integral part of our lives and have a huge range of applications. However, they are most commonly found in the form of gear trains [1-4]. Due to their specific shape, gears are one of the most complex and technologically demanding machine parts. The specific shape of a gear wheel can be referred to as gearing, which is made up of teeth. The teeth have precisely defined dimensions, shape, properties, distribution around the circumference of the wheel and very high demands are placed on their manufacture [5]. Be it in terms of accuracy, performance, noise, durability and most importantly the speed of their manufacture [6-9]. These constantly increasing demands can be influenced by finishing methods, primarily by grinding.

The field of gear manufacturing is advancing at a rapid pace and has undergone many changes in its existence. It is a relatively challenging technological process because the shape of the gearing is complex and is precisely defined by its size and function [10]. A few years ago, the production of gearing was only possible by basic - conventional methods. The production of gearing is most often carried out by machining. The gears are formed by removing the tooth gap between the individual teeth. Gearing is obtained by milling, hobbling, broaching, or forming. Finishing machining methods such as grinding, shaving, burnishing, honing, and lapping are used to achieve the best possible degrees of surface accuracy.

In practice, non-standard - atypical shapes of gearing, for the production of which it is not possible to use these conventional methods of gearing production, are also more and more often used [11, 12]. That is why unconventional methods of gearing production are also coming into awareness nowadays, of which it is possible to mention, for example, plasma arc cutting, laser removal, water jet or five-axis machining centre.

The paper is dedicated to the production of non-standard gears, where the use of conventional methods for the production of gearing is not suitable and it is necessary to use a different, unconventional method of production.

2 NON-STANDARD GEAR TRANSMISSION

The most commonly used gears in practice are "standard" gears, which can be characterized by a constant gear ratio. This means that when the driving wheel rotates, the driven wheel also rotates uniformly, i.e., the gear ratio must be constant during one revolution. The teeth of these "standard" gears on one gear have the same shape and are teeth with a symmetrical profile (in exceptional cases also with an asymmetrical profile).

In practice, gearing whose gear ratio is not constant during one revolution also finds its application. Based on practical requirements, a geometric model of a gear with a continuously variable gear ratio was created so that the gear meets the conditions of correct meshing. The gearing was designed for the following specific parameters:

- a pair of gears consisting of two identical gears,
- a harmonically repeating gear ratio in the range u = from 0.5 through 1.0 to 2.0 and back per revolution of the gears together,
- the number of teeth of the gears $z_1 = z_2 = 24$,
- normalised value of the gearing modulus $m_n = 3.75$ mm,
- axial distance a = 90 mm,
- designed for one direction of rotation.

The continuously variable gear pair consists of two identical elliptical wheels with an eccentrically mounted centre of rotation. The resulting AutoCAD model of this wheel is shown in Figure 1.

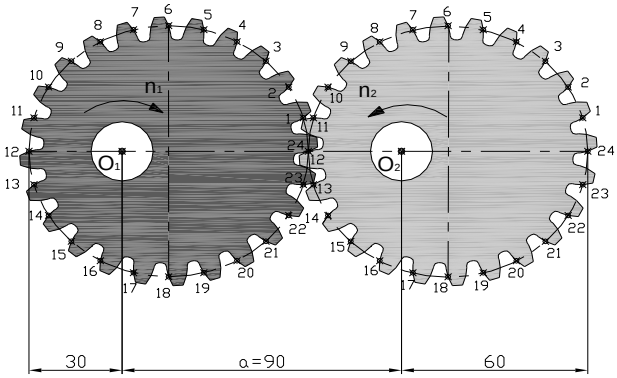

Fig. 1. Model of elliptical gears

The gear pair is formed by a pair of identical elliptical gears, with the centre of rotation in one of the centres of the pitch ellipse, i.e., they are eccentrically mounted gears. The active curve of the tooth profile is the involute, where unlike the involute of the tooth flank in "standard" circular gears, where the evolute of the involute is the base circle, and in this case the evolute of the involute is the ellipse. Each of the twelve teeth of a gear is different, the other twelve teeth of the same gear are the same. The flank curve is the involute and is different for the active and passive sides of the tooth. These are gears with an asymmetrical tooth profile, so the manufacture of such gearing is not possible with standard manufacturing processes developed for spur gears.

3 UNCONVENTIONAL GEARING PRODUCTION METHODS

Spur gear, where each tooth is different and the tooth profile is asymmetrical, is impossible to produce by standard manufacturing processes. This is where gear manufacturing comes in, where a CAD model of the designed gearing is used.

3.1 Production by water jet

This method of manufacturing is also known as Water Jet (WJ), Water Jet Machining (WJM) and Abrasive Water Jet Machining (AWJM) as water jet machining with abrasive particles.

In the WJM and AWJM process, the mechanical energy of both water and abrasive particles is used for machining. The typical pressure range for waterjet application is 205 - 600 MPa. When water is delivered at this pressure through the nozzles, the potential energy is transformed into kinetic energy and the water velocity increases up to 100m/s and the water behaves as a solid body.

If pure water is used, the water jet tends to pick up atmospheric air and this reduces the cutting ability. Therefore, chemical stabilisers are added to the water. The technology is mainly used in cutting soft materials such as small thickness sheets, plastics, foils [13, 14]. To eliminate this deficiency, abrasive particles, most often aluminium oxide grains, sand or glass microspheres, are added to the water. Therefore, AWJM is designed to machine harder materials (Fig. 2.). When the strength of the material is exceeded by the pressure of the beam head, the beam induces an erosive process in the workpiece material.

The advantage of its use is high energy efficiency - up to 85 %, the possibility of use in explosive environments, the material only needs to be clamped lightly, no cracks occur in the material due to the small number of cutting edges. There is no dust formation, so it is classified as an environmentally friendly technology. It is possible to change production in a very short time, high reliability in operation and accuracy of the given dimension (0.13 mm, repeatable 0.025 mm). The biggest advantage is the absence of temperature influence on the cut material.

Fig. 2. Example of the use of waterjet gear production

The shortcomings of this technology include variations in the quality of the cut along the cutting surface and at the exit of the cutting water jet. It is necessary to ensure the protection of steel semi-finished products against corrosion.

3.2 Production by plasma arc

This method is nowadays one of the most widespread methods of thermal separation of metallic materials. A plasma with a density of 5.105 Wm^{-2} is used and the plasma temperature reaches temperatures up to 30.103 ºK. Plasma cutting has been used to cut stainless steels

using inert gas. It has been used for cutting structural steels with the addition of oxygen as a protective gas.

The plasma is formed by an electrical discharge between the anode and cathode, thus the necessary condition is an ionized medium. This can be a gas, which is in the form of hydrogen, argon, etc.

This energy is transferred to the surface of the material to be split by the plasma and gas flow in the torch nozzle. The plasma drives into the material and local melting and partial evaporation of the molten metal from the surface of the material occurs resulting in a cut mark. Plasma cutting is very fast.

The production of gearing by plasma arc (Fig. 3.) has positive feedback in mechanical engineering practice. Different types of construction materials can be used for cutting. It is important to note that after the production of gearing by plasma arc, a thermally affected region is formed on the surface of the gearing, which is changed by the action of the plasma beam from top to bottom. At the beginning of the cutting thickness, the thermal effect is more intense than at the end, where the heat effect is lower.

Fig. 3. Part of gearing produced by plasma arc at different thickness of gearing.

The advantages of this method include high cutting speed, the ability to cut all materials and high precision in repeated cuts. Disadvantages include the limitation of the thickness of the material to be cut, the sloping of the cutting surface and the high cost of parts when the torch is gas cooled.

3.3 Production by laser beam

The principle of this material separation technology relies on the energy that is delivered by the light beam. At the point of impact on the opaque material, this energy is converted into thermal energy, which melts the material in the cutting plane. The cutting energy intensity is about 105 $kW.cm^{-2}$ and the laser cutting beam diameter is 1μm.

Fig. 4. Laser beam gear production

When used for the production of gearing (Fig. 4.), the interaction of the laser energy and the material of the workpiece to be cut is important. Energy absorption occurs due to the partial reflection of the beam from the material which is being cut. The deposition of absorbed energy is in about 0.1μm layer, which later penetrates the workpiece material due to thermal

conductivity. Propagation of the liquid interface into the material begins when the absorbed energy is high enough to melt the material.

3.4 Electrical discharge machining

Electrical discharge machining (EDM) is a method of electrically erosive machining of electrically conductive material. The removal of the material occurs by the action of an electric spark. In this method, the tool (electrode) is brought close to the workpiece at such a distance that a spark jumps between the electrode and the workpiece. The spark removes a small particle of molten metal from the surface of the workpiece. To increase the effect, to prevent arcing, and for local cooling, the whole process takes place in a liquid (dielectric). The size and speed of material removal depends on the size of the gap, and also on the material properties of the workpiece and electrode. Any conductive material can be machined with this method.

EDM processes include ED die sinking, ED wire cutting, anodomechanical cutting and ED hole drilling.
Electrical discharge wire cutting is a progressive modification of electro discharge machining. The first machine for wire cutting was developed by the Swiss company AGIE, which was the first to use NC control, thus speeding up the process and achieving more precise results. Nowadays, a CNC control system is used. This method allows control of direction, speed of movement, wire unwinding speed, monitoring of physical properties and control of the ongoing electroerosion.

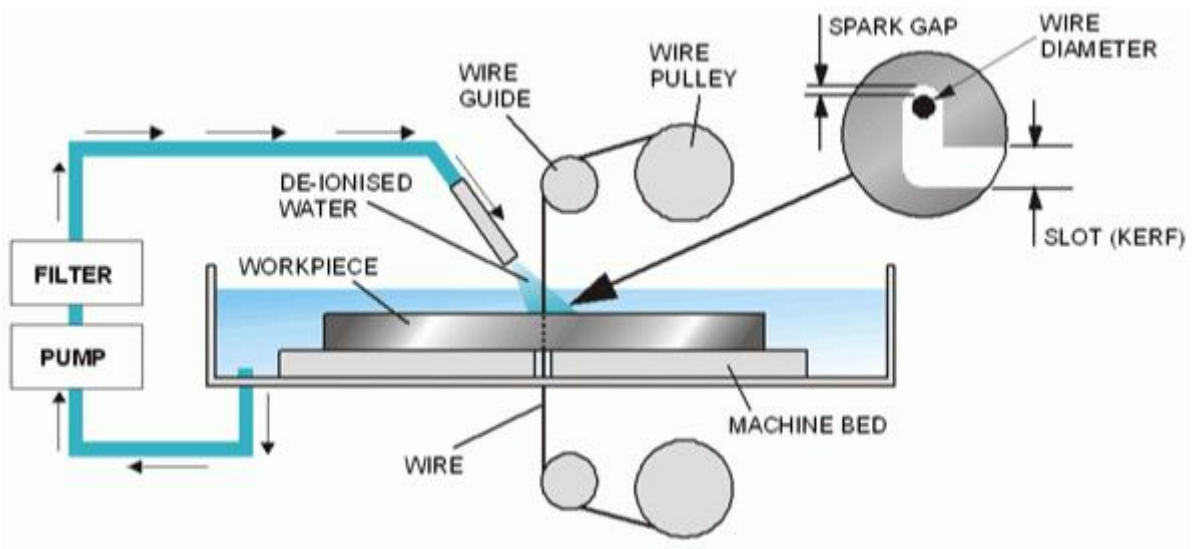

Fig. 5. Principle of Electrical Discharge Wire Cutting

The tool of the wire cutter is a thin wire, which is continuously unwound from the spool in the tray during cutting with the help of a special feeding device, which also has a wire sponging function to avoid wire tearing. To avoid inaccuracies, the wire is constantly tensioned with a constant tensile force by means of pulleys. The wire moves slowly, between 2.5 and 300 mm.s-1, and is controlled by the machine system (Fig. 5.). The wire as a tool can only be used once during the cutting process, then after use it ends up in the collection point.

4 PRODUCTION OF NON-STANDARD GEARING

For the technical preparation of production, it is necessary that it is provided by a company that specializes in the development and distribution of CAM systems and systems for the automation of programming of NC and CNC machines. The choice of the optimal production method is limited by conditions such as the number of pieces produced (only one pair of gears was produced), the production had to be ensured by a technology commonly available in the vicinity and without the use of any costly fixtures, and the costs for the technical preparation of the production and for the production of the functional model had to be as low as possible.

On the basis of the mentioned conditions, the NC machine for electrical discharge cutting EIR 005 B with RS-ER5 control was selected. Although it is an older machine of the production facility, the machine in question allows the creation of the designed shape of the gears with the required precision of 0.01mm and roughness Ra 1.6μm.

The main problem was the generation of NC code for a complex gear shape, which did not allow to use the usual approach for creating NC programs for gears, when the shape of one tooth is described and this is repeated according to the required number of teeth. There were three ways of preparing the NC code.

The first method is programming in the NC code of the machine. Due to the complexity of the shape requiring as many as 300 blocks, this method is complicated and messy, and for the machine in question this option was practically out of the question.

The second method was based on the use of existing software support for the machine. The description of the produced elliptical wheel contains 48 linear parts and 192 circular arcs, which would have to be tediously defined in this method (centre of the circle, radius, start and end point of the circular arc, etc.), therefore this method is time-consuming to prepare.

The last method is based on creating a postprocessor (translator) for the machine in the CAM2000 system, which is designed for automation of NC machine programming. This option has proven to be clearly the most effective and technically by far the most efficient. A postprocessor for ED wire cutting EIR 005 B with RS-ER5 control system was created. Its task was to automatically generate the NC code for the designed gear shape. In this way, an NC program for any desired profile shape can be created in a very user-friendly way within a few minutes.

As the cutting length of each gear was approximately 532 mm, each piece took 8 hours to produce with a recommended cutting wire thickness of 0.02 mm and test wheel thickness of 3 mm. This time could be increased up to 40 hours if the thickness of the gears is expected to increase to 15 mm. This method of repeated production (whether bespoke production or mass production) is obviously not sufficiently productive, and a more appropriate production technology will have to be chosen if the expected number of required gears is defined.

A powder metallurgy method may be used in the manufacture of the elliptical gear in question. Powder metallurgy products are currently among the so-called "economically efficient" products because their price can be up to 25-50 % lower compared to components produced by, for example, machining by material removal. Powder metallurgy is characterised by up to 95 % material utilisation due to the production of the part "to-finish" without machining costs. Powder metallurgy is one of the waste-free technologies, it is a closed-loop process, and the output is a finished product ready for assembly. It is characterised by energy savings of up to 50% and labour savings of up to 75%. This method is suitable for huge batches, mass production.

5 CONCLUSION

The gears themselves have undergone tremendous development since their invention. There have been changes in their shapes, the type of materials used and so on. Both standard and non-standard gears find their application in the automotive, shipbuilding, aerospace and food industries, as well as in other branches of the machine industry. This versatile use of gears in everyday life has led to the development of a large number of different processes and methods for their production. Each technology and production method used corresponds to the requirements and demands on the accuracy of the gearing and is dependent on the parameters and shape of the gearing.

Acknowledgements

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DESIGN OF REMOTELY CONTROLLED MONITORING VEHICLE

Patrik Šarga, Róbert Rákay

Abstract

This article describes the design of a remotely controlled monitoring vehicle for inspecting areas where human entry is not suitable. The vehicle is powered by a tracked drivetrain and is controlled via Bluetooth or IR using Arduino Uno control units. It features an FPV camera with a wide-angle lens and a night mode to enhance visibility in challenging lighting conditions. Temperature, humidity, and air quality sensing are implemented using a system that sends the acquired values to the cloud and displays them in graphs. Additionally, a detailed 3D model of the vehicle was created in the SolidWorks software environment.

Keywords: *Remote control, Arduino, Communication interfaces, Vehicle, Bluetooth, IR, Camera system*

1 INTRODUCTION

Remotely controlled monitoring vehicles are innovative devices that enable remote monitoring and exploration of various areas. Such compact vehicles are equipped with a wide range of sensors and cameras that allow for clear imaging and real-time data transmission.

One of the main uses of remotely controlled monitoring vehicles is their ability to access hazardous or hard-to-reach environments. These vehicles can be utilized in various industries and fields, such as security and military operations, firefighting, soil exploration, building inspections, and more.

One advantage of remotely controlled monitoring vehicles is their ability to navigate easily in challenging terrains. Thanks to special motors and flexible wheels, they can overcome obstacles such as uneven terrain, stairs, or narrow spaces. This enables them to gain access to complex and intricate locations that would be difficult for a human to reach.

Remotely controlled monitoring vehicles also offer the advantage of remote control. The operator can maneuver the vehicle using a remote controller, computer, or smartphone. This feature allows for controlling the vehicle from a safe distance, which is advantageous in environments that are dangerous or unfavorable for human presence.

Furthermore, these vehicles have the capability to transmit images and videos in real-time. By connecting to a wireless network, they can provide the operator with up-to-date information about the monitored area [1-6].

2 DESIGN OF THE VEHICLE

The current market offers a variety of chassis options for building different remotely controlled vehicles, so it is necessary to choose a suitable variant. Firstly, we were interested in chassis with all-wheel drive to ensure sufficient propulsion power in various terrain conditions. The second parameter was the payload capacity of the vehicle since it needs to be able to carry hardware components as well as additional accessories such as the housing. Dimensions were also an important parameter, and we set a maximum size of 50x50x30cm for the chassis. And finally, the resulting cost was another parameter to consider, as we set a maximum production cost of 200 Euros.

Among several considered options, the chassis shown in Fig. 1 was chosen. The frame construction is made entirely of aluminum, providing suitable dimensions, sufficient rigidity, and a low center of gravity. The advantage of this variant is the four-wheel drive system, and the construction also features independent suspension for each wheel. Another advantage is

the independent position of the right and left parts of the construction, achieved using a pivot point (Fig. 2). This solution is advantageous for us as it allows the chassis to cross over uneven terrain, enabling traversal of such terrain.

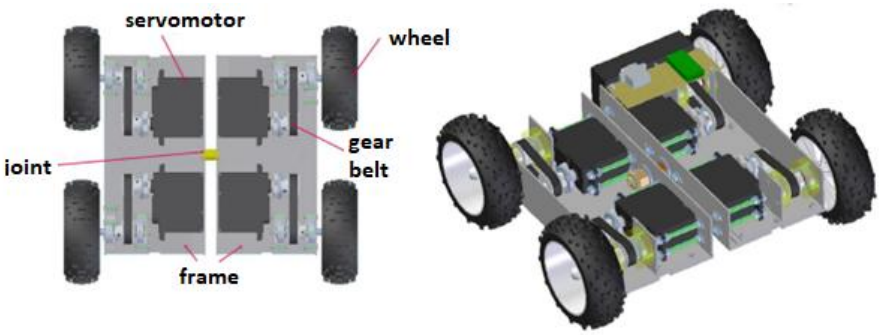

Fig. 1 The initial design of the vehicle

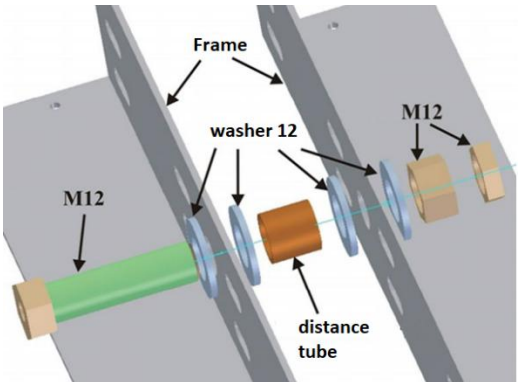

Fig. 2 Detail of the joint

The controlling unit is an important part of our device. When selecting the controlling unit, we took into consideration compatibility with other hardware components, expandability of slots, and price range.

After considering the features of several controlling units, we decided to choose the Arduino Uno model. Its features and capabilities were sufficient for our needs, and since our workplace has an ample supply of these units, we decided to use it in our device. There are many shields (adapters) available for Arduino Uno, which are designed to increase the number of pins and connect various modules together.

The remote control of the vehicle was subsequently addressed in two ways: using an IR module and as a second option, control via Bluetooth. Both variants use Arduino Uno boards as their controlling unit. This was done to ensure that if there is a malfunction in one Arduino Uno board and consequently a loss of connectivity with the IR module, control via Bluetooth will still be functional. The same applies vice versa. In Fig. 3, we can see the final wiring diagram of the propulsion and communication part of the proposed vehicle control [7-10].

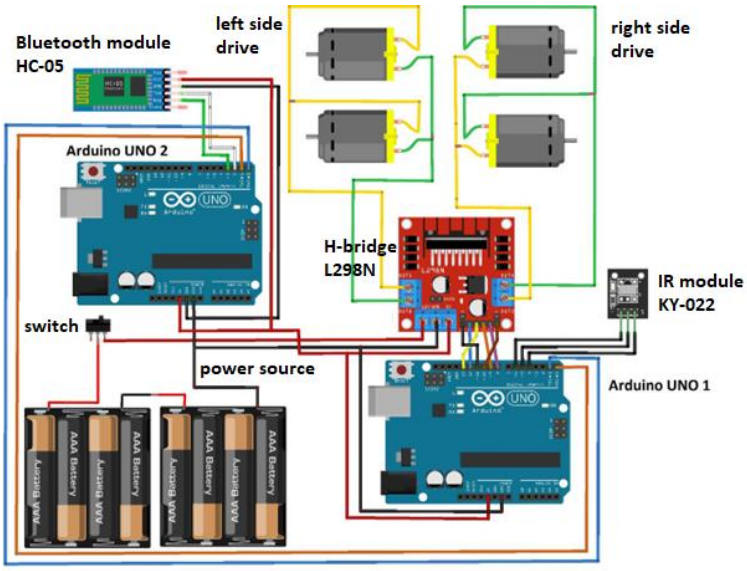

Fig. 3 Schematic wiring of the control part of the vehicle

3 DESIGN OF THE MONITORING PARTS OF THE VEHICLE

Since our device was designed for the purpose of monitoring the surroundings or objects where it is risky to send a person, it was necessary to equip the device with a camera system that allows remote monitoring of the object or surroundings.

Currently, there are many camera systems available on the market that can wirelessly transmit video and audio. However, not all options are affordable or reliable for rugged terrains. Since our device can be controlled remotely up to approximately 20 meters, it was necessary to equip the device with a camera system that can continuously transmit video within this range.

The additional desired parameters were: wide-angle coverage of 180°, night vision capability, the ability to power it through our circuit or a battery, and, of course, the ability to transmit video at the distance our device would achieve. After filtering based on these requirements, we were left with options of cameras that transmit video either via Wi-Fi or through radio transmission. Considering the reliability and suitability of the camera for our device, we decided to choose a camera with radio transmission.

We opted for the CADDX RATEL NIGHT FPV CAMERA (Fig. 4). This camera meets all the parameters we set for the camera equipment of our device. It offers high-quality imaging, and thanks to the HDR 1/1.18" sensor, it provides good image quality even in low-light conditions, whether at night or in dark spaces.

This type of camera is commonly used in various drones or RC models that operate over long distances in different conditions, which further convinced us to choose this camera model.

Fig. 4 FPV camera CADDX RATEL

The video captured by the FPV camera can be viewed in multiple ways, either using a smartphone equipped with a radio receiver and an accompanying application to facilitate the communication, or through a wireless FPV monitor labeled PVR732 (Fig. 5). However, oper-

ating our device with two smartphones would be impractical, so we decided to go with the wireless FPV monitor option.
This device is equipped with two antennas and features a display with a resolution of 1024x600 pixels, which is fully compatible with our camera. The monitor display also has its own built-in battery, eliminating the need for external power supply, and provides approximately 2 hours of operation. The advantage is that the battery is easily replaceable, so in case of depletion in the field, it can be quickly swapped for a charged one.
Another significant advantage is that the captured video can be recorded onto a memory card, which can be inserted into this device. The wireless monitor can operate on up to 40 channels, meaning that in unfavourable conditions, the signal can be shifted to a different channel.

Fig. 5 FPV monitor PVR732

Most of the devices used in emergency services can be expanded with additional features and components, such as monitoring ambient temperature or air quality, or detecting hazardous gases in the air. These functions can save many lives, as these technologies allow the evaluation of potential dangers in the field and subsequent notification of restricted access. Therefore, we have decided to add a system for sensing temperature, humidity, and air quality in the field to our vehicle.
The cornerstone of sensing environmental parameters is, of course, the controlling unit. This time, we chose the ESP32 unit, which stands out for its compact size, lightweight, sufficient performance, and most importantly, its built-in Wi-Fi module. Through this module, the values will be sent to the cloud, which can be monitored via a smartphone, tablet, or other device with internet browser access.
We selected this controlling unit to avoid burdening the serial communication of the main control system and to benefit from the significant reliability of the ESP32 when transmitting the sensed values to the cloud.
After selecting the programming unit, we proceeded with choosing the sensors. We decided to use the DHT11 sensor, which is responsible for measuring temperature and also provides humidity measurements in its surroundings. We chose this sensor mainly due to its availability and cost-effectiveness.
Since we also wanted to measure air quality and detect hazardous gases, we decided to utilize the MQ-135 sensor in our design. This sensor is commonly used for air quality detection and is suitable for detecting ammonia, nitrogen oxides, alcohol, benzene, smoke, and oxygen levels in the air.
The schematic connection of the sensors can be seen in fig. 6.

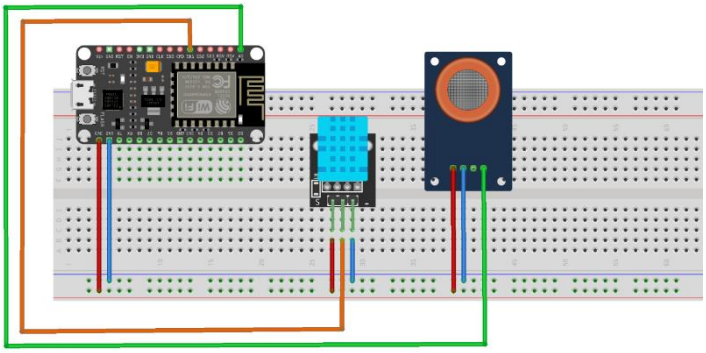

Fig. 6 Connecting the relevant sensors to the circuit

The final step of this design was the development of a program for the cloud (Fig. 7) where we can easily monitor the sensed values through available graphs and other indicators. We chose Ubidots as our cloud platform, which is freely accessible and can be used after user registration via email. The cloud platform is fully compatible with devices controlled by Arduino programming units.

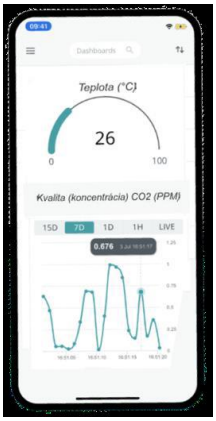

Fig. 7 Ubidots cloud display design for smartphones

4 VISUALIZATION OF THE PROPOSED VEHICLE

The visualization of the final vehicle design was created using SolidWorks software, which allows us to create a 3D model with rendering effects. The resulting model includes a complete body, which consists of two independent axles connected by a central part called the pivot joint. We designed a removable hood for the body, which can be easily detached for maintenance, replacement, or recharging of the power source. The hood is secured to the body using eight screws, which can be quickly and easily removed. The vehicle is propelled by a tracked drivetrain, which we chose for its superior performance in demanding terrains (Fig. 8). The model also includes the electronic components of the vehicle design (Fig. 9, Fig. 10).

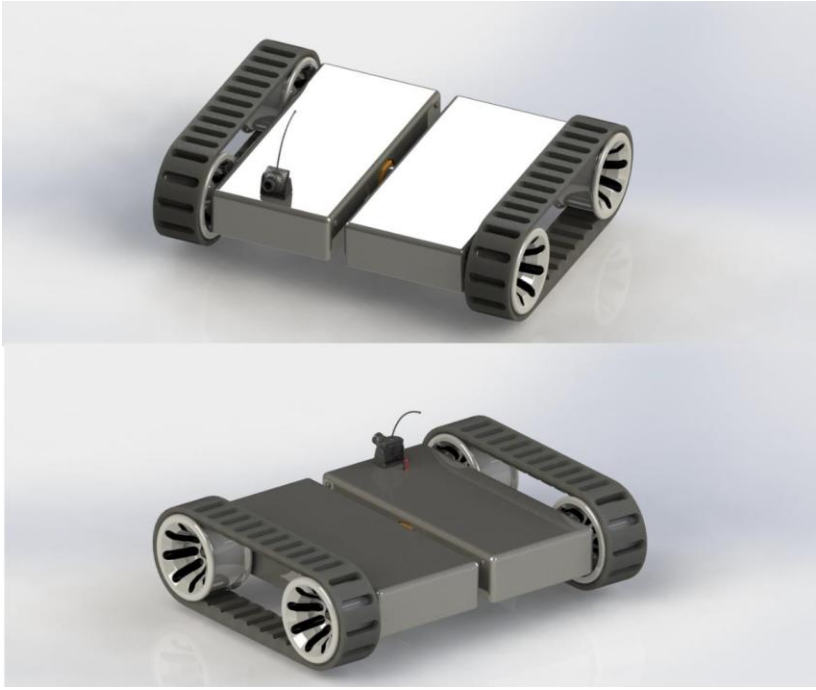

Fig. 8 Visualization of the final vehicle

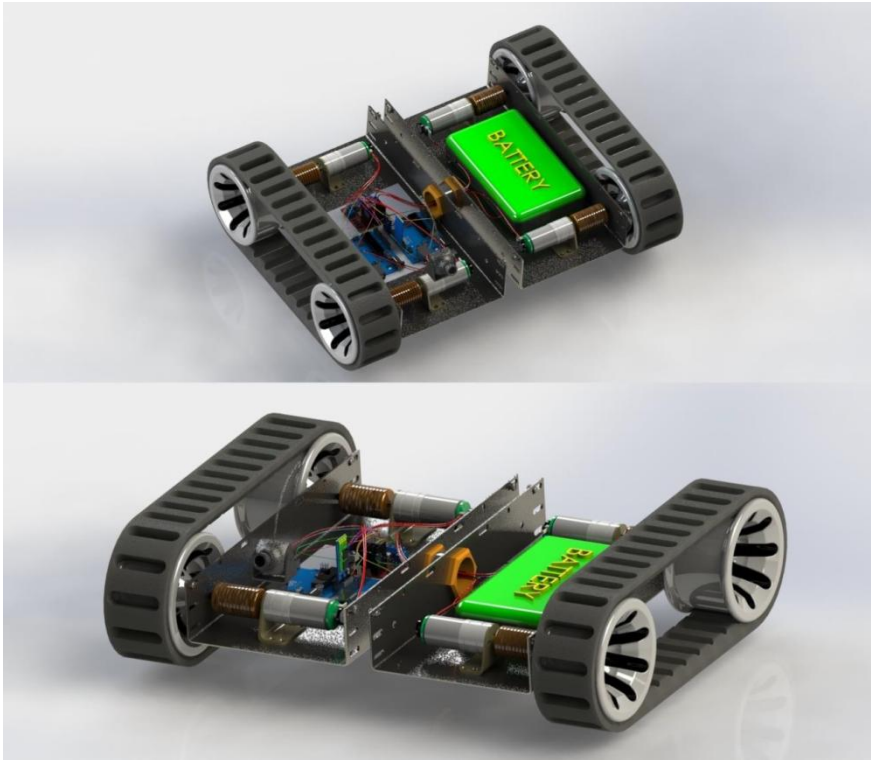

Fig. 9 Visualization of the vehicle without fairing

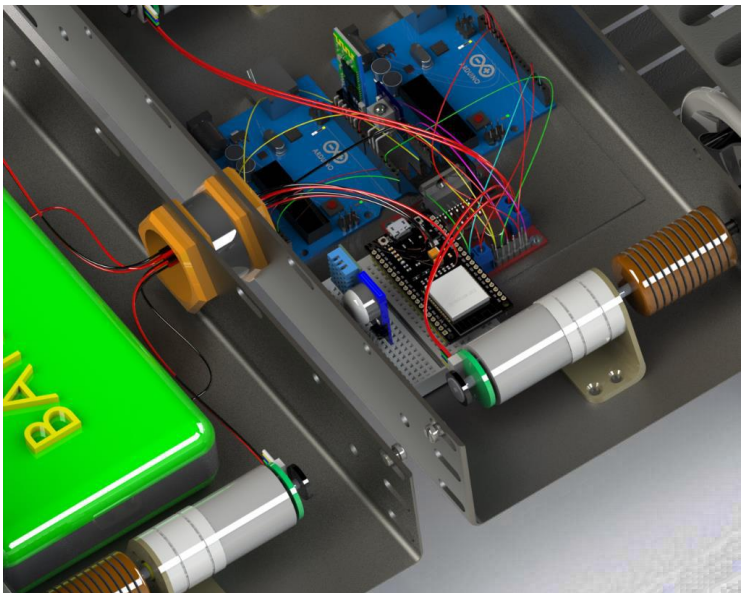

Fig. 10 Visualisation of the hardware part of the vehicle

In fig. 11 we can see a visualization of the control, including the holder for the phone and the monitor.

Fig. 11 Visualization of control including phone and monitor holder

5 CONCLUSION

The aim of this project was to design a remotely controlled monitoring vehicle that can be used for inspecting areas where human entry is not suitable. The resulting vehicle design is propelled by a track drive system and can be controlled via Bluetooth or infrared remote control using Arduino Uno microcontrollers. The vehicle is equipped with an FPV camera with a wide-angle lens and a night mode for low-light conditions in the field. The live video feed is displayed on a wireless LCD monitor that communicates using radio transmission.

To measure temperature, humidity, and air quality, a system was developed to capture the data using sensors and transmit it to the cloud. The collected values are then displayed in clear graphs and indicators. For this purpose, the ubidots cloud platform was chosen, which is compatible with Arduino microcontrollers.

Furthermore, a detailed 3D model of the vehicle was created using Solid Works software. This model serves to visualize the design in a realistic form and allows for planning the layout of components.
The final vehicle design can also be used in educational process to familiarize students with the design aspects of the vehicle's structure, control, and monitoring components.

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A PYTHON-BASED PROGRAM FOR EXTRACTING THE GEOMETRY OF SELECTED STRUCTURAL ELEMENTS FROM AN IFC FILE

Aset Madiev, Jan Erdelyi, Richard Honti

Abstract

The use of information technology is now a necessary condition for the successful implementation of any project in various fields of human activity. One such technology is Building Information Modeling (BIM), which has gained wide popularity as an effective means of exchanging information in architecture, engineering, and construction (AEC) based on standardized and platform-independent standards. Among these, Industry Foundation Classes (IFC), the ISO standard for BIM, are widely used. However, due to the complexity and flexibility of IFC, extracting geometric information from IFC objects is a challenging process. In this article, we provide practical information on the extraction of geometric data from IFC objects and present a Python-based program we developed. The results obtained demonstrate that the created program ensures the accurate retrieval of geometry data.

Keywords: *Python, IFC, BIM, AEC*

1 INTRODUCTION

The modern era of information technology has brought significant changes to various spheres of human activity. In the context of universal digitization, the use of information technology has become an integral part of successful project implementation. One of the most notable technologies that have gained widespread adoption in architecture, engineering, and construction (AEC) is Building Information Modeling (BIM).

Building Information Modeling (BIM) is an approach to creating and managing a comprehensive digital model of a building or infrastructure asset. It enables efficient information exchange among different project stakeholders and enhances the overall lifecycle efficiency of the asset, from design and construction to operation and maintenance. However, despite all the advantages of BIM, there is a challenge in extracting geometric information from objects in the Industry Foundation Classes (IFC) format, which is the ISO standard for BIM. The flexibility and complexity of the IFC format create challenges in obtaining accurate geometry data of objects.

This article presents practical information about a developed Python program that enables the automated extraction of geometric data from IFC objects. A BIM model (Fig. 1) exported in the IFC 4.3 format was used as the input data. Three types of objects - walls, structural openings, and columns - were selected for experimentation and program efficiency evaluation. The results demonstrate that the developed program provides accurate geometry data for the selected objects.

This article offers practical recommendations and opens prospects for further research in the field of extracting geometric information from IFC, which can have a significant impact on the development and efficiency of AEC projects.

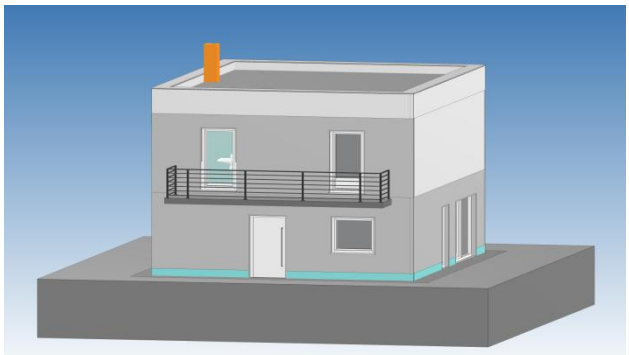


Fig. 1. A BIM models imported into the IFC format.

2 GEOMETRY EXTRACTION FROM IFC

1.1 Wall geometry extraction

According to the definition by the International Organization for Standardization (ISO), a wall is a vertical structure, usually, stone or concrete, that restricts or separates the structure and performs load bearing or retaining functions [5]. To facilitate the perception of information, as an example, the first floor of the model will be considered in this section (Fig. 2).

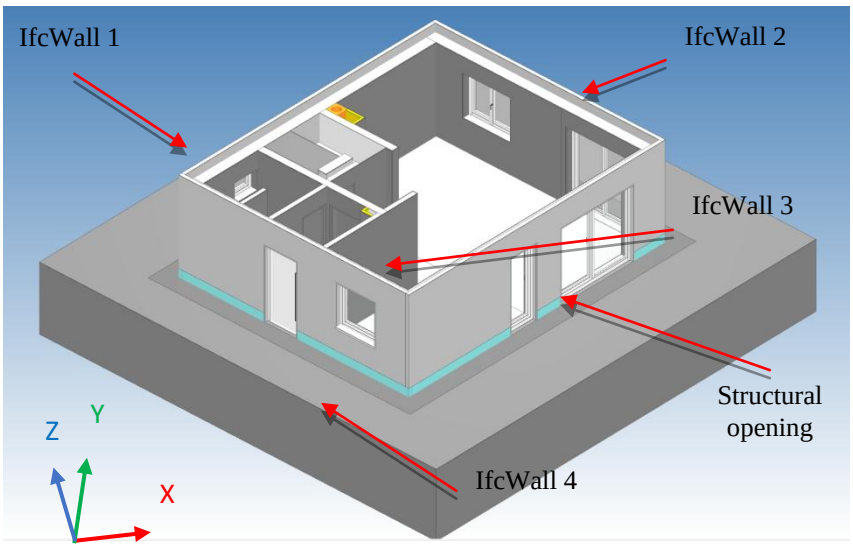


Fig. 2. The first floor of the model.

In contrast to the definition given by [5], the definition of a wall in buildingSMART is supplemented by the following: "... Walls are usually vertical or almost vertical flat elements, often designed for bearing structural loads. At the same time, the wall should not be a carrier ..." [6]. There is a division into IfcWallStandartCase and IfcWall in the buildingSMART catalogue. So, IfcWallStandartCase is used for all occurrences of walls that have a constant thickness along the wall path and where the thickness parameter can be fully described by a set of material layers. These walls are always represented geometrically using the SweptSolid geometry if a three-dimensional geometric representation is assigned. IfcWall, is used for all other wall occurrences for walls with varying thickness along the wall path (for example, polygonal walls), or walls with non-rectangular cross-sections. The information provided in IfcWall 1 contained the following information stored as text (Fig. 3):

#198= IFCWALL('3Yy0jz6MP9ZeACZWhGnQtn',#11, 'Stena z keram. tvrnic','Stena z keram. tvrnic,$,#140,#142,$,$);

Fig. 3. IfcWall 1 data used in this section.

The information stored in the line in Fig. 3 is the following:
– #198 – the sequence number of the line in the IFC file.
– IFCWALL – internal data type.
– 3Yy0jz6MP9ZeACZWhGnQtn' – IFC–GUID is a globally unique identifier that provides a way to uniquely identify an object.
– #11 – Information about the file. This includes information about the organization and the user who created this object.
– 'Stena z keram. tvrnic' – the name of the object specified by the user.
– 'Stena z keram. tvrnic ' – the type of object specified by the user.
– $ - a symbol indicating the absence of an optional element.
– #140 – information about the location of the object.
– #142 – information about the shape of the object.
To trace the entire connection of storing all geometry information, it is necessary to follow the links from the initialization of the object to the final line with data about the coordinate system used. The initialization string is located at position #140, has the name IfcLocalPlacement and contains two links: #136 and #477 (both are IFCLocalPlacement). From the [6], we understand that IfcLocalPlacement indicates the location of the object. In this case, the location consists of two components: information about the relative object of which the current object will be constructed (PlacementRelTo), as well as information about the object itself (RelativePlacement). If there is no PlacementRelTo, it means that the object is located absolutely (without connecting to another object). Based on this definition, it was assumed that the information contained in line #136 and all subsequent references within it refers to information about a relative object. And the information contained in line #477 refers to information about the location of the object itself (Fig. 3).

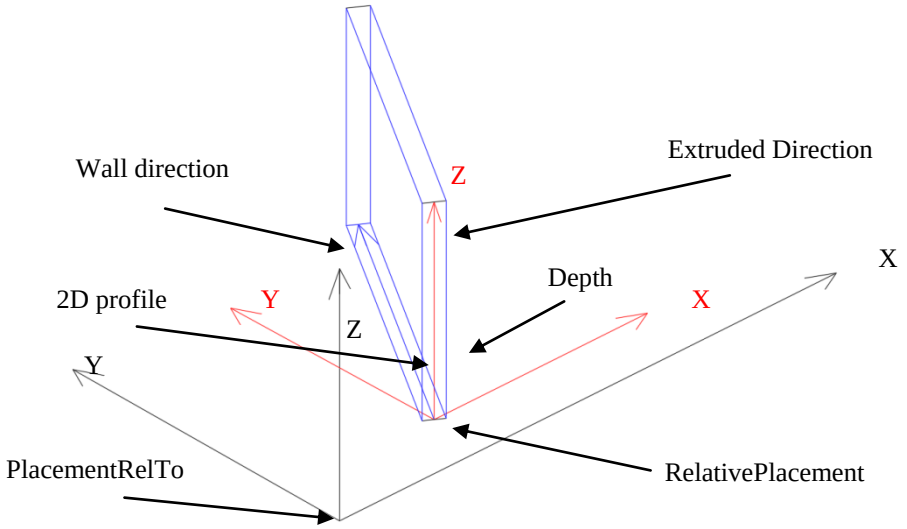


Fig. 4. Definition of IfcLocalPlacement in a three–dimensional coordinate system (XYZ (red)– the coordinate system of the object itself (RelativePlacement). XYZ (black) – the coordinate system of a relative object (PlacementRelTo) Wall direction – the direction of the wall or a unit vector.)

Following the link to the number #136, we could find that it also has the name IfcLocalPlacement and contains an identical set of parameters (#136 = IFCLocalPlacement(#33,#135). At the end of this iteration, we come to line #146 (#146= IFCAxis2Placement3D(#6,$,$), which represents the location and orientation for placing elements in three-dimensional space. The object is characterized by a point having coordinates in a two- or three–dimensional rectangular Cartesian coordinate system (IfcCartesianPoint), two axes (IfcDirection), with one of the axes representing the Z-axis direction of a local coordinate system, and the second - the X-axis direction of local coordinate system. It is also worth noting that the IfcDirection components are not normalized, so if a unit vector is needed, it should be normalized first and used only after. If there are no IfcDirection elements, as in our case, this means that the axes are set by default and equal to X-axis [1., 0., 0.,], Y-axis [0., 1., 0.,], Z-axis [0., 0., 1.,]. The location of the object itself contains an identical set of parameters (a point and two vectors). After determining the information about the location of the object, it is necessary to determine the remaining elements to be able to recreate the desired object independently. Therefore, the next step for analysis is information about the shape and dimension of the object.

All information about the shape of the object is presented in the IfcProductDefinitionShape. In our case, this description is presented in line #142 (#142= IfcProductDefinitionShape($,$,(#483,#512))). Shape-related information includes shape representation, related representation information, and assignment to representation layers or elements of a topological representation for connectivity systems. Based on the example presented, the information about the form was divided into two links (#483 and #512, with the same name IfcShapeRepresentation). Despite the similarity of the names, in the first case (#483) was presented information about the object axis, and in the second (#512) - information about the shape of the object. Since information about the shape of the object itself is considered the most important, the second case of IfcShapeRepresentation (#512) will be considered here, but their data structure is the same, so all explanations can be applied to the first case (#483).

#512 IfcShapeRepresentation - represents the concept of a specific geometric representation of a product or product component in the context of a specific geometric representation (definition from buildingSMART). And, indeed, if we look at the contents of line #512 (#512= IfcShapeRepresentation(#105,’Body’,’SweptSolid’,(#502))), we can see the following parameters:

1. #105 is the first element of the string containing information about the subcontext. Since each object has several instances of IfcRepresentation subtypes, each of which is assigned to different geometric representations, then using the information about the subcontext, you can choose the most appropriate representation for displaying the geometric shape of the object, depending on the target view and scale. This element contains attributes that represent information about the form of representation:

1.1. Parent context. The most important attribute containing information about the coordinate system, accuracy, dimension of spatial coordinates and true north.

1.2. Information about the scale.

1.3. Updated information about the target form.

1.4. User-defined form (this parameter may be missing).

2. Information about the object concerning which all information is provided (Axis, Body, etc.).

3. Representation types for shape representation.

4. And the most important element is the location. In our case, this value corresponds to the string #502 IfcExtrudedAreaSolid (Fig. 3).

From the definition provided by [6], IfcExtrudedAreaSolid is the body of an elongated area defined by covering a bounded flat surface. Having considered the structure of the element (#502= IFCExtrudedAreaSolid(#500,#501,#20,2590.31254649137)), we can observe the following parameters:

1. IfcArbitraryClosedProfileDef – defines an arbitrary two-dimensional profile for the use within the swept surface geometry, the swept area solid or a sectioned spine. It is given by an outer boundary from which the surface or solid can be constructed.
2. The direction in which the surface should be swept.
3. The distance the surface is to be swept (wall height).

1.2 Structural opening geometry extraction

According to the definition from [6], IfcOpeningElement defines an opening, recess or slot reflecting voids. It represents a void within any element that has physical manifestation. There are two different types of opening elements:

– An opening, where the thickness of the opening is greater or equal to the thickness of the element.

– A recess or niche, where the thickness of the recess is smaller than the thickness of the element.

To capture the differences, the inherited ObjectType attribute is used, which specifies "Opening" for the first type and "Recess" for the second type of detached elements. If the ObjectType value is set to NOTDEFINED, "Opening" is assumed. As an example, the structural opening is used (Fig. 2). The information provided in IfcOpeningElement was as follows (Fig. 5).

#1343= IFCOPENINGELEMENT ('069cAVrUT5WBODNYwCoEJm',#42,'Basic Wall:SN.257_WALL_RCO_250:444020',$,'Opening',#1342,#1336,'444020',.OPENING.)

Fig. 5 IfcOpeningElement data used in this section.

The only difference from the wall's characteristics is the 3rd item ('Basic Wall:SN.257_WALL_RCO_250:444020'), indicating the element in which this opening is located.

Since the description of IfcOpeningElement is identical to the description of IfcWall, the structure of extracting information about the location of the opening is identical to the structure of extracting information about the location of the wall, except for one thing. Since the openings are "inside" the wall, they have two PlacementRelTo objects. The first PlacementRelTo object for openings will be the wall PlacementRelTo object, and the second will be the wall RelativePlacement. At the same time, openings also have their own Relative Placement (Fig. 6).

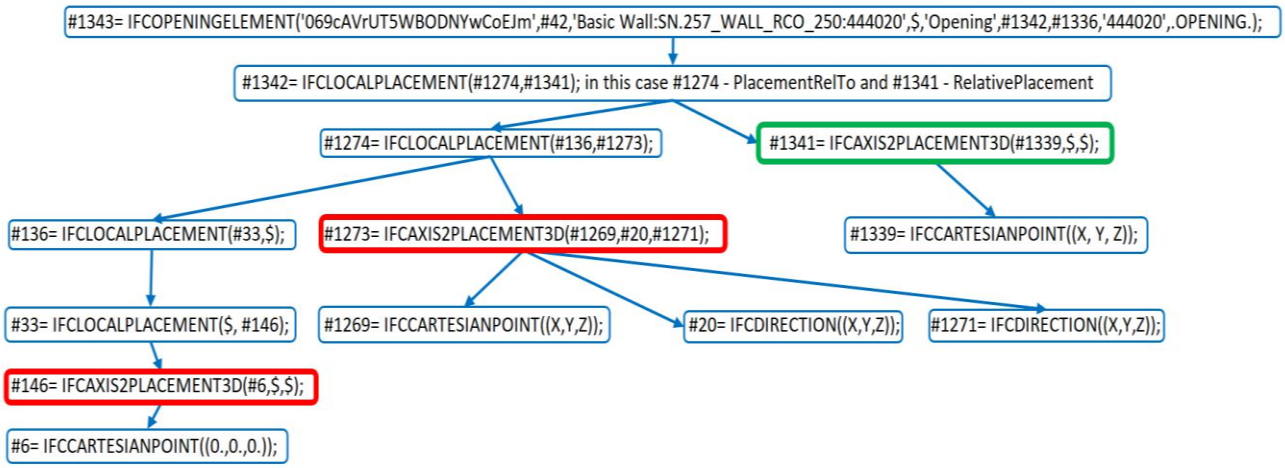


Fig. 6. The structure of the location information in structural opening. PlacementRelTo is highlighted in a red rectangle. RelativePlacement – into a green rectangle.

Unlike the almost identical structure of location information with IfcWall, the structure of information about the shape of the opening has more differences. All information about the shape of the object is also presented in the IfcProductDefinitionShape. In our case, this description is presented in line #1336 (#1336= IfcProductDefinitionShape($,$,(#1332))). Due to the entry of the opener into the wall, there is no need for information about the axes here to represent the shape and space of the object. Further, the description of the object's shape has an identical IfcWall structure, up to the moment of the shape's location.

IfcRectangleProfileDef is an entity used for describing the location of the object's centre, which in our case is in line #1314. According to [6], this attribute defines a rectangle as a profile definition used by the geometry of the sweeping surface or the solid body of the sweeping area. The attribute itself includes the following parameters:

1. Name.
2. location (described by IfcCartesianPoint and IfcDirection).
3. The length of the rectangle in the direction of the X and Y axes.

A feature of this attribute is the change in the direction of the axes. When an opening is located, the directions of the main axes of the object are changed relative to the relative coordinate system used for the entire BIM model (since the direction of the axes of the wall coordinate system coincides with the direction of the axes of the relative coordinate system). Thus, the X-axis of the structural opening corresponds to the Z-axis of the wall, the Y-axis of the structural opening corresponds to the X-axis of the wall, and the Z-axis of the structural opening corresponds to the Y-axis of the wall (Fig. 7).

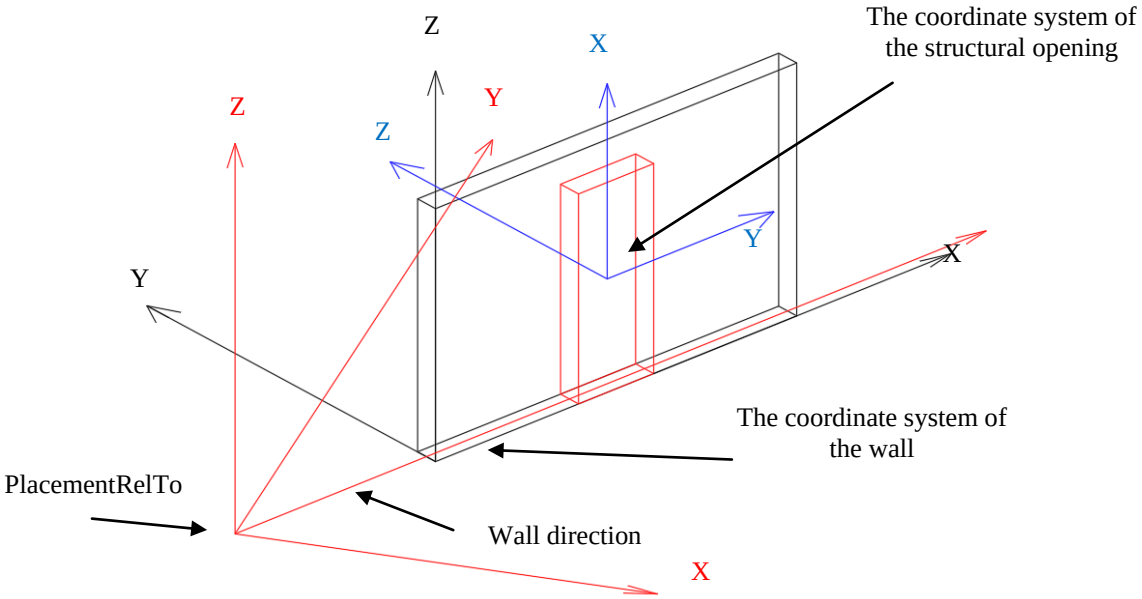


Fig. 7. Scheme of the IfcOpeningElement axes relative to the wall coordinate system.

1.3 Column geometry extraction

3 columns were used as example in this section (Fig. 8). From the definition [6], IfcColumn is a vertical structural element that is often aligned at the intersection of the structural grid. The information provided in IfcColumn was as follows (Fig. 9).

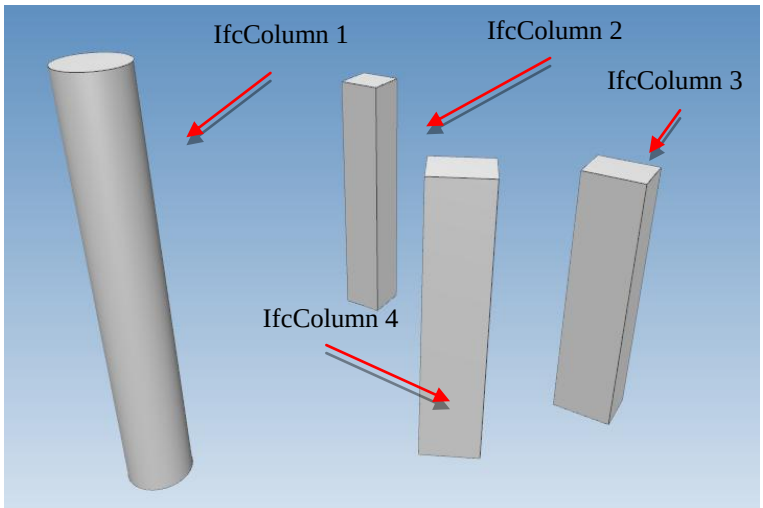


Fig.8 IfcColumn used in this section.

#409=IFCCOLUMN ('2l2PK1jcD8jhsjs8kucjTh', #42,'Family1:Family1:
206432', $,'Family1:Family1', #408, #402,'202859',.COLUMN.)

Fig.9 IfcColumn1 representation.

As can be seen from the example, the structure of the columns is identical to the structure of the walls, so the data extraction process is identical to the data extraction process from IfcWall. The only difference is the representation of the object's shape. If the column has a cylindrical shape, the IfcCircleProfileDef attribute is used, describing the shape of the column

using a point (IfcCartesianPoint), direction (IfcDirection) and radius. If the column has a rectangular shape, the IfcRectangleProfileDef attribute is used, describing the shape of the column using a point (IfcCartesianPoint), direction (IfcDirection) and the length of the rectangle in the direction of the X and Y axes. At the same time, the height, regardless of the column's shape, is represented in a separate attribute (IfcExtrudedAreaSolid).
Thus, the extracted data, stored in the line in Fig. 7, for a column has the following form:
– PlacementRelTo coordinate system. For the entire BIM model, this coordinate system was unified and had the following characteristics [0,0,0] - coordinates of the reference point represented as [X, Y, Z]; [1,0,0], [0,1,0], [0,0,1] – the direction of the vectors X, Y, Z, respectively. In our case the data was stored in #408 → #407 → #405.
– RelativePlacement. The coordinates of the reference point are [-173.102273899521, -320.272744411158, 0]. In our case the data was stored in #408 → #146 → #33 → #32.
– 2D profile coordinates (0, - 4.92417986287059E-13.). In our case the data was stored in #402 → #400 → #398 → #390 → #387 → #386 → #384 → #383 → #381.
– Radius. 304.800 In our case the data was stored in #402 → #400 → #398 → #390 → #387 → #386 → #384.
– The direction in which the surface should be swept (column height) = [0,0,1]. In our case the data was stored in #402 → #400 → #398 → #390 → #387 → #386 → #20.
– Column height – 4000 mm. In our case the data was stored in #402 → #400 → #398 → #390 → #387 → #386.
The column restored in the AutoCAD environment based on the extracted data had the form (Fig. 10).

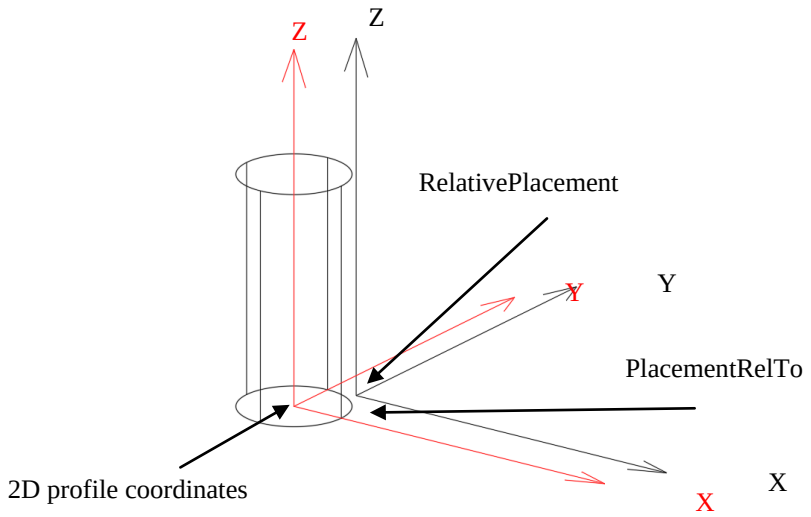


Fig. 10. Column restored based on extracted data.

The aim of the first part of the research was to collect and export geometric information from a BIM model imported into IFC format. In this model walls, structural openings, and columns were chosen as examples. The search and extraction of the data were done manually. The gained results were compared using the BIMCollab app, in which it is easy to find the coordinates of the required object and showed that the applied approach provides reliable object geometry data.

4 PYTHON-BASED PROGRAM

The program (fig. 11) was developed in the Python 3.10 using the PyCharm 2022.1 development environment. it uses the following libraries: tkinter, filedialog, messagebox and

tk to create a graphical interface, ifcopenshell to work with IFC files and numpy to perform mathematical operations.

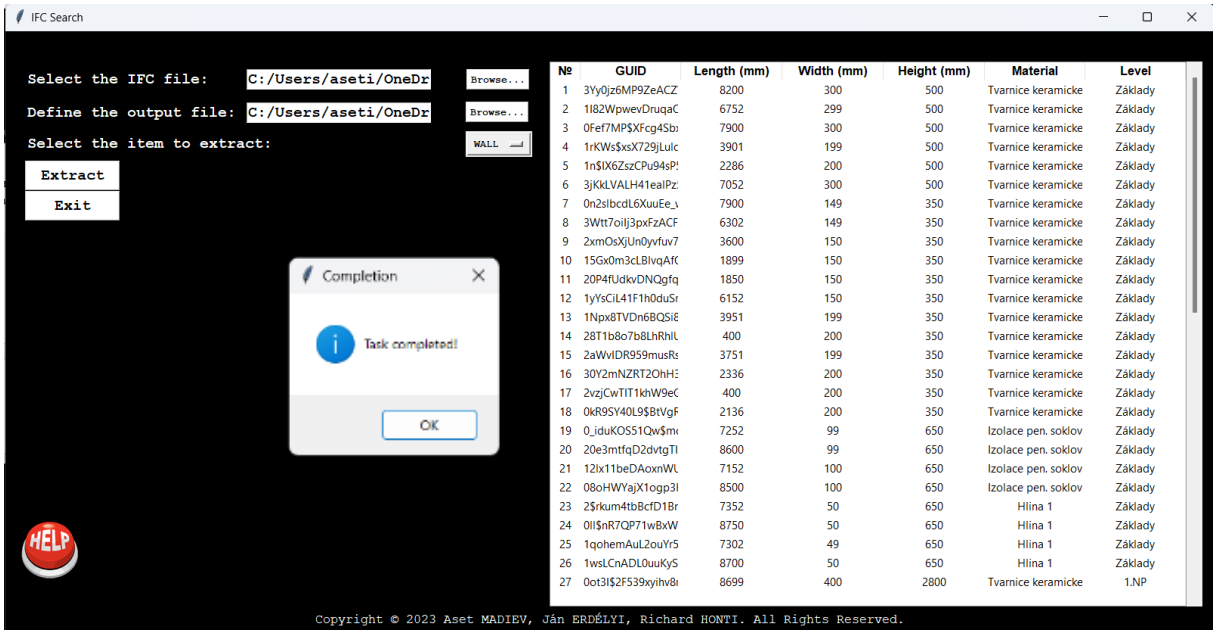


Fig. 11. Interactive program window, after running the code.

The main functions of the program:

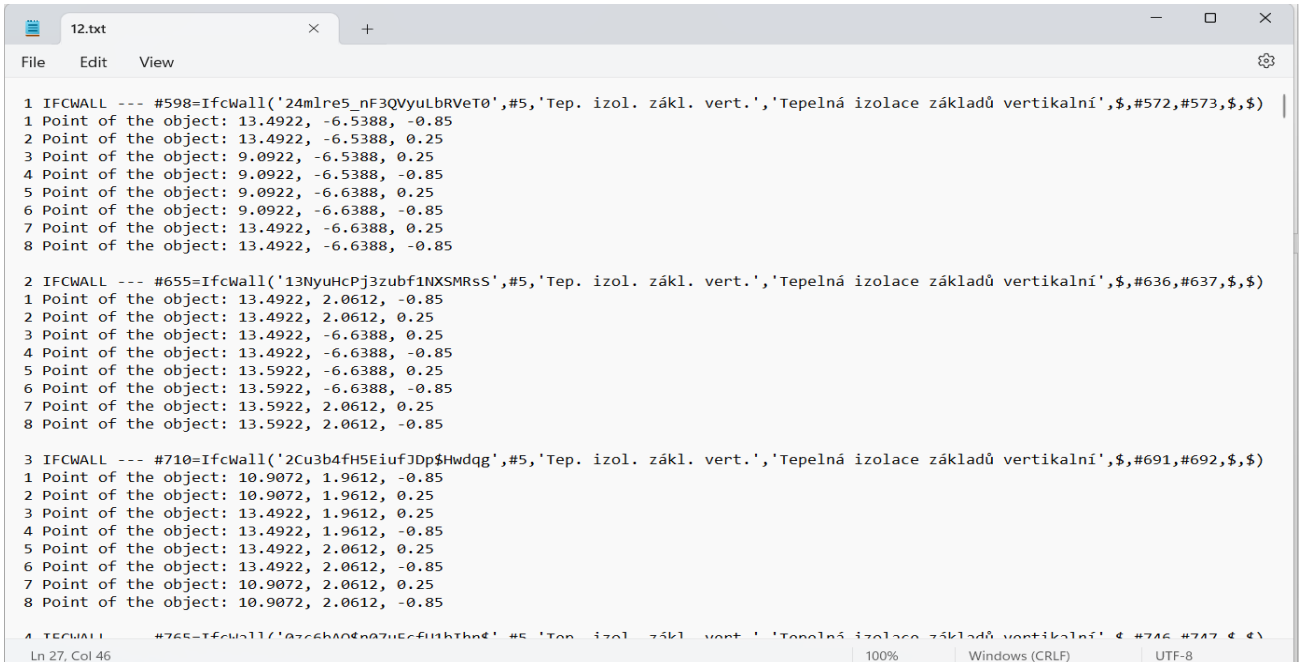
1. The ‘get_global_coordinates(shape)’ function is used to get the global coordinates of an element. This function takes the ‘shape’ argument, which represents the geometric shape of the element. Inside the function, the element transformation matrix is extracted. The function then extracts the vertices of the element and calculates the global coordinates of each vertex of the element using a transformation matrix. The result of the function is a list of global coordinates of the vertices of the element.
2. The function ‘search_list_item_in_file(ifc_file, search_value, output_filename, percent_label)’ searches for elements in the IFC file based on the specified value ‘search_value’ and saves the results to a file named ‘output_filename’. The ‘ifc_file’ argument represents an open IFC file that the function will work with. For each found element, the function calls the ‘get_global_coordinates()’ function to calculate its global coordinates. The function then saves the search results to the file using the data recording function. In addition, the function displays the progress of the task as a percentage by creating, updating, and displaying a label in the GUI using the ‘percent_label’ argument.
3. The ‘open_ifc_file(file_path) ‘function takes the path to the IFC file as ’file_path'. Inside the function, the presence of the file is checked and the IFC file is opened. The function returns an object ‘ifcopenshell’ which represents an open IFC file and is used to work with it.
4. The function ‘show_completion_message(output_file_path, ifc_file, search_value, d_z, d_x, d_y)’ displays a message about the completion of the task and creates a table with the results of the search for items. The ‘output_file_path’ argument represents the path to the saved search results file. A window and a table are created inside the function using the ttk library. Then the function fills the table with data about the found elements and displays a window with the table (fig. 12). After that, the function opens the folder with the saved file (fig. 13).
5. The ‘show_instruction()’ and ‘exit_programm’ functions display instructions for using the program and closing the program, respectively.

6. The ‘run_program()’ function is the main function that calls all the other functions in the correct order. Inside the function, there is interaction with the user to obtain input data. It gets the paths to the IFC files selected by the user and the type of items to search for. The function then opens the IFC file, searches for items, and saves the results to a file. After that, the function calls the ‘show_completion_message()’ function to display a message about the completion of the task.

№	GUID	Length (mm)	Width (mm)	Height (mm)	Description	Type	Level
1	3_1DLodtP0hfU	1000	200	2150	Dveřní otvor	Opening	1. NP
2	1fEJjuiozEbQoEI	899	400	2150	Okenní otvor	Opening	1. NP
3	1_9eA8_Fz738Kc	2500	400	2150	Okenní otvor	Opening	1. NP
4	0S$2rAsXj8590A	1050	399	2150	Dveřní otvor	Opening	1. NP
5	1G8tfhoCDF2fuI	1250	399	1250	Okenní otvor	Opening	1. NP
6	2CQiOhajD0H9(	1500	400	1250	Okenní otvor	Opening	1. NP
7	0JLMzYyGz62gE	2000	400	2150	Okenní otvor	Opening	1. NP
8	2IKtW4jIz0GxGh	800	125	2150	Dveřní otvor	Opening	1. NP
9	2QE$TFonf7GBE	700	125	2150	Dveřní otvor	Opening	1. NP
10	22gDrWh3T3qu	800	400	600	Okenní otvor	Opening	1. NP
11	1$$I1efjD4hOPa	1200	400	1250	Okenní otvor	Opening	1. NP
12	1McXuXOof8eO	359	359	250	Prostup deskou	Opening	1. NP
13	2S$K7_oir9ef3z	1500	400	1249	Okenní otvor	Opening	2. NP
14	2czAKFMhn3n9	1500	400	1249	Okenní otvor	Opening	2. NP
15	0d5$$P_112Thp	899	125	2149	Dveřní otvor	Opening	2. NP
16	1utbJPu9f8hhv8	899	125	2149	Dveřní otvor	Opening	2. NP
17	27NGwyVL575B	899	125	2149	Dveřní otvor	Opening	2. NP
18	1dXzWYDcnDb	699	125	2149	Dveřní otvor	Opening	2. NP
19	3qTU2Z6kj5IQN	1000	399	2149	Okenní otvor	Opening	2. NP
20	3SKgrVt3j6DBlr	1000	399	2149	Okenní otvor	Opening	2. NP
21	3NIFFfQ_D1cfSh	1200	400	1249	Okenní otvor	Opening	2. NP
22	1wmzOZD_b1Yv	359	359	200	Prostup deskou	Opening	2. NP

№	GUID	Length (mm)	Width (mm)	Radius (mm)	Height (mm)	Level
1	1T8jvkCsn1yxbAR$	758	699	-	3000	Level 1
2	1T8jvkCsn1yxbAR$	475	456	-	3000	Level 1
3	2I2PK1jcD8jhsjs8ku	-	-	609	4000	Level 1
4	3J6bzoOCD5PgEOJ	610	474	-	2743	Level 1

Fig. 12. Tables of structural opening parameters (left) and columns (right).



```
1 IFCWALL --- #598=IfcWall('24mlre5_nF3QVyuLbRVeT0',#5,'Tep. izol. zákl. vert.','Tepelná izolace základů vertikalní',$,#572,#573,$,$)
1 Point of the object: 13.4922, -6.5388, -0.85
2 Point of the object: 13.4922, -6.5388, 0.25
3 Point of the object: 9.0922, -6.5388, 0.25
4 Point of the object: 9.0922, -6.5388, -0.85
5 Point of the object: 9.0922, -6.6388, 0.25
6 Point of the object: 9.0922, -6.6388, -0.85
7 Point of the object: 13.4922, -6.6388, 0.25
8 Point of the object: 13.4922, -6.6388, -0.85

2 IFCWALL --- #655=IfcWall('13NyuHcPj3zubf1NXSMRsS',#5,'Tep. izol. zákl. vert.','Tepelná izolace základů vertikalní',$,#636,#637,$,$)
1 Point of the object: 13.4922, 2.0612, -0.85
2 Point of the object: 13.4922, 2.0612, 0.25
3 Point of the object: 13.4922, -6.6388, 0.25
4 Point of the object: 13.4922, -6.6388, -0.85
5 Point of the object: 13.5922, -6.6388, 0.25
6 Point of the object: 13.5922, -6.6388, -0.85
7 Point of the object: 13.5922, 2.0612, 0.25
8 Point of the object: 13.5922, 2.0612, -0.85

3 IFCWALL --- #710=IfcWall('2Cu3b4fH5EiufJDp$Hwdqg',#5,'Tep. izol. zákl. vert.','Tepelná izolace základů vertikalní',$,#691,#692,$,$)
1 Point of the object: 10.9072, 1.9612, -0.85
2 Point of the object: 10.9072, 1.9612, 0.25
3 Point of the object: 13.4922, 1.9612, 0.25
4 Point of the object: 13.4922, 1.9612, -0.85
5 Point of the object: 13.4922, 2.0612, 0.25
6 Point of the object: 13.4922, 2.0612, -0.85
7 Point of the object: 10.9072, 2.0612, 0.25
8 Point of the object: 10.9072, 2.0612, -0.85
```

Fig. 13. The resulting file containing the extracted coordinates of the walls from the IFC file.

The first number is the ordinal number of the element, then the element type, and all attribute information about this object. On the next line – the coordinates of the bottom and top characteristic points of the extracted item. The coordinates are presented in meters, in the format: X, Y, Z

After selecting the IFC file, specifying the output location, providing a name for it, and indicating the desired data types to extract, the program launches, and the following window appears, indicating the successful execution of the program. Additionally, a table is presented, showcasing the parameters of the extracted data.

5 CONCLUSION

The aim of this research was to create a program which allows to extract geometric information from an IFC format. In this research, a wall, a construction opening, and a column were chosen as examples. The results showed that the applied approach provides reliable data on the geometry of the objects used. The obtained data can be used to check the geometric parameters of construction objects.

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PRVOTNÉ VÝSLEDKY TESTOV NÍZKO NÁKLADOVÉHO MOBILNÉHO MAPOVACIEHO SYSTÉMU

FIRST TEST RESULT OF A LOW-COST MOBILE MAPPING SYSTEM

Ján Brindza, Ján Erdélyi, Peter Kyrinovič

Abstrakt

Príspevok sa zaoberá prototypom mobilného mapovacieho systému, pričom jeho hlavnou časťou sú prvotné výsledky z použitých senzorov. Mapovací systém pozostáva z niekoľkých senzorov pre určenie polohy ako inerciálnej meracej jednotky, snímačov otáčok, stereokamery, tromi 2D lidarmi a jeho hlavnou časťou je Velodyne lidar. Dáta generované mapovacím systémom budú spracované algoritmom pre simultánnu lokalizáciu a mapovanie (SLAM). Príspevok popisuje hardvér meracieho systému ako aj spustenie celého systému. Časť príspevku je venovaná senzorom meracieho systému, ktoré generujú dáta. Pre každý senzor sú uvedené generované dáta a sú aj graficky zobrazené.

Kľúčové slová: *lidar, SLAM, inerciálna meracia jednotka, stereokamera, snímač otáčok*

Abstract

The paper deals with a prototype of a mobile mapping system, while its main part is the initial results from the used sensors. The mapping system consists of several sensors for localization as an inertial measurement unit, rotary encoders, a stereo camera, three 2D lidars, and its main part is a Velodyne lidar. The data generated by the mapping system will be processed by the Simultaneous Localization and Mapping (SLAM) algorithm. The paper describes the hardware of the measurement system as well as the start-up of the entire system. Part of the paper is dedicated to the sensors of the measurement system that generate data. For each sensor, the generated data is listed and is also displayed graphically.

Key words: *lidar, SLAM, inertial measurement unit, stereo camera, rotary encoder*

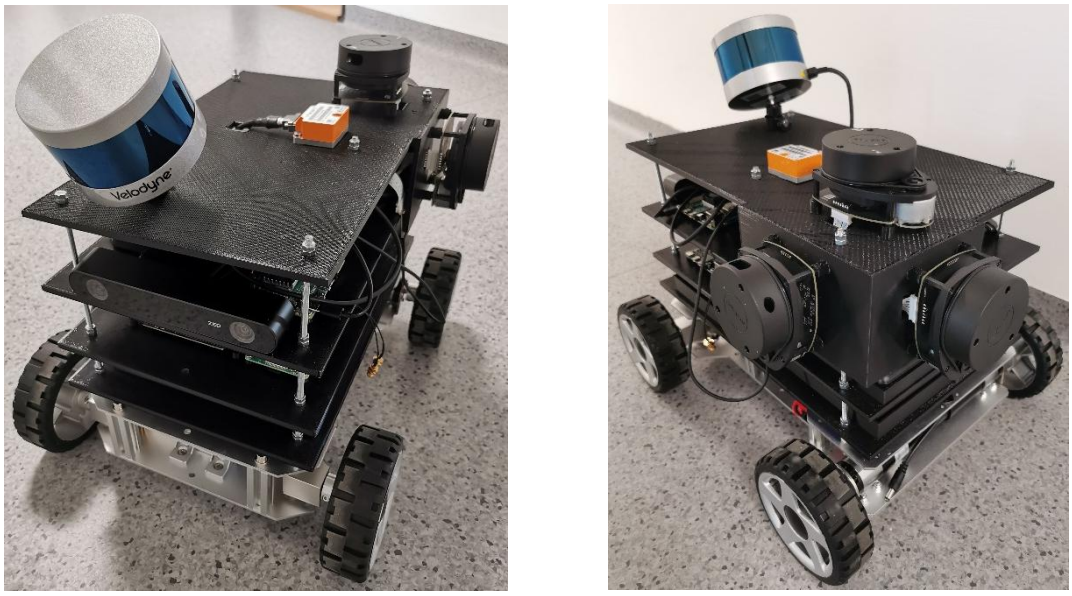
1 ÚVOD

V súčasnej dobe digitalizácie je potrebné implementovať nové metódy a techniky aj v stavebníctve. Pre digitalizáciu dokumentácie v stavebníctve je využívaný Building Information Modeling (BIM) [1]. BIM model zhromažďuje všetky dostupné informácie o stavebnom objekte, ktoré môžu byť grafické, negrafické alebo vo forme dokumentácie. Použitie BIM modelu zefektívňuje procesy, napr. pri overení geometrie realizovaných konštrukčných častí stavby. Preto je potrebné navrhnúť a implementovať nové metódy zberu priestorových údajov, ktoré budú dostatočne presné a výsledky dostaneme v krátkom čase. Pre tento účel môže byť použitá technológia terestrického laserového skenovania a fotogrametrie. Pre efektívnejší zber priestorových údajov je vhodné využiť mobilné mapovacie systémy, ktoré sa skladajú z viacerých snímačov na určovanie priestorovej polohy a orientácie mapovacieho systému. Takýto mobilný mapovací systém môže používať napr. "light detection and ranging" (Lidar), kamery alebo inerciálnu meraciu jednotku (IMU). Jednotlivé snímače tak spolu vytvárajú kinematický laserový skenovací systém, ktorý zefektívňuje zber priestorových údajov a tým prispieva k automatizácii dokumentácie skutočného vyhotovenia stavieb.

Príspevok sa zaoberá návrhom prototypu mobilného mapovacieho systému pre digitalizáciu vnútorného prostredia budov. Prototyp sa skladá z 5 podsystémov, popísaných v nasledujúcich častiach a celý mapovací systém je riadený robotickým operačným systémom ROS. Pri spracovaní dát je využívaná simultánna lokalizácia a mapovanie, v rámci ktorej sa vypočítava aktuálna poloha meracieho systému a súčasne sa vytvára model okolitého prostredia. SLAM je možné rozdeliť na základe použitých senzorov na SLAM pomocou lidaru [2], [3], [4], SLAM pomocou kamier [2], [3], [5], [6], [7] a SLAM pomocou kombinácii viacerých snímačov [3]. Na trhu je množstvo meracích systémov, avšak ich cena dosahuje rádovo niekoľko 10 000 €. Naším cieľom je navrhnúť prototyp nízko-nákladového mapovacieho systému pre 3D mapovanie vnútorných priestorov budov. Príspevok sa zameriava najmä na ukážky meraných dát jednotlivých komponentov prototypu mapovacieho systému. V príspevku sú popísané aj použité komponenty v jednotlivých podsystémoch. Časť príspevku je venovaná operačnému systému ROS. Taktiež je popísaný návrh budúceho testovania celých systémov.

2 NAVRHNUTÝ MOBILNÝ MAPOVACÍ SYSTÉM

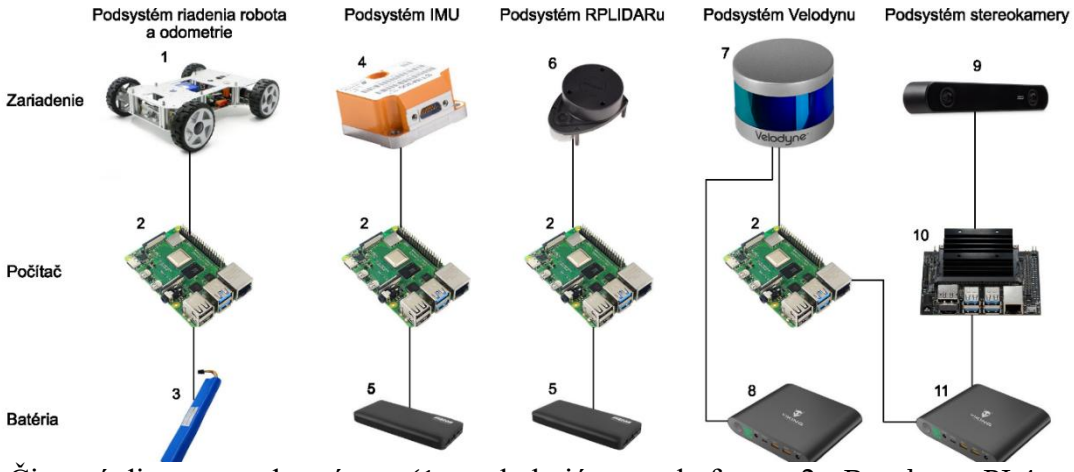
Navrhnutý prototyp mobilného mapovacieho systému (Obr. 1) sa skladá z kombinácie viacerých snímačov tak, aby jednotlivé snímače kompenzovali nedostatky ostatných snímačov. Mapovací systém sa skladá z lidarov (RPLIDAR, Velodyne), stereokamery, IMU a snímačov otáčok.



Obr. 1 Prototyp mobilného mapovacieho systému

Mobilný mapovací systém je tvorený z jednotlivých podsystémov, ktoré sú umiestnené na pohybujúcom sa nosiči typu ackerman:

- podsystém riadenia robota a odometrie (Obr. 2 – 1, 2, 3),
- podsystém RPLIDARov (Obr. 2 – 6, 2, 5),
- podsystém Velodyne lidaru (Obr. 2 – 7, 2, 8),
- podsystém IMU (Obr. 2 – 4, 2, 5),
- podsystém stereokamery (Obr. 2 – 9, 10, 11).



Obr. 2 Čiarový diagram podsystémov (1 – pohybujúca sa platforma, 2 - Raspberry PI 4 model B 8 GB, 3 – 22,2 V batéria, 4 – STIM 300, 5 – 5 V batéria, 6 – RPLIDAR A1, 7 – Velodyne Puck, 8 – 12 V batéria, 9 – ZED 2, 10 – NVIDIA Jetson Nano 4 GB, 11 – 5 V batéria)

2.1 Podsystém riadenia robota a odometrie

Hlavnou súčasťou podsystému je dvojica snímačov otáčok, ktoré sú umiestnené na zadnej náprave pohybujúcej sa platformy (Obr. 2 (1)) [8]. Celú pohybujúcu sa platformu riadi STM32F103RC Controller, ktorý je prepojený s počítačom Raspberry Pi 4 model B 8 GB (Obr. 2 (2)). Merané dáta z dvojice snímačov otáčok sú cez STM32F103RC Controller preposielané do Raspberry Pi 4 a z neho následne do hlavného (master) počítača NVIDIA Jetson Nano (Obr. 2 (10)), v ktorom sú ukladané. Celý podsystém je napájaný 22,2 V batériou (Obr. 2 (3)), pričom Raspberry Pi 4 je napájané cez STM32F103RC Controller.

2.2 Podsystém RPLIDAR

Podsystém tvorí trojica RPLIDARov A1 (Obr. 2 (6)) [9] od spoločnosti Shanghai Slamtec Co., Ltd., ktoré sú umiestnené na spoločnej platforme v troch navzájom kolmých rovinách. RPLIDAR A1 je 2D lidar s maximálnym dosahom 12 m a vykonáva skenovanie v 360 °. Rýchlosť skenovania je konfigurovateľná v rozmedzí 2 Hz – 10 Hz, pričom odporúčaná rýchlosť skenovania je 5,5 Hz. Výstupom z RPLIDARu A1 je 2D mračno bodov, ktoré je tvorené bodmi so súradnicami X a Y. Trojica RPLIDARov A1 je pripojená na počítač Raspberry Pi 4 (Obr. 2 (2)), na ktorom je spustené meranie, pričom záznam merania je ukladaný na master počítač Nvidia Jetson Nano (Obr. 2 (10)). Celý podsystém je napájaný 5 V batériou (Obr. 2 (5)).

2.3 Podsystém Velodyne

Velodyne Puck lidar (Obr. 2 (7)) [10] je 3D lidar, ktorý skenuje okolité prostredie v 16 kanáloch. Výrobcom udávaný maximálny možný počet bodov merateľných za sekundu je 300 000. Jeho maximálny dosah je 100 m s 360 ° horizontálnym zorným poľom, 30 ° vertikálnym zorným poľom (s +/- 15 ° nahor a nadol) a rýchlosťou otáčania 5 Hz – 20 Hz. Velodyne Puck je napájaný cez interface box 12 V batériou (Obr. 2 (8)) a s počítačom Raspberry Pi 4 (Obr. 2 (2)) je prepojený pomocou ethernet kábla. Pre komunikáciu Velodyne Pucku s Raspberry Pi 4 je potrebné nakonfigurovať pripojenie resp., je potrebné nastaviť ethernet pripojenie počítača. Počítač Raspberry Pi 4 je následne napájaný 5 V batériou (Obr. 2 (11)).

2.4 Podsystém IMU

Hlavnou súčasťou podsystému je IMU STIM 300 (Obr. 2 (4)) [11], ktorá obsahuje 3 vysoko presné MEMS gyroskopy, 3 vysoko stabilné akcelerometre a 3 vysoko stabilné inklinometre.

STIM 300 je pripojené k počítaču Raspberry Pi 4 (Obr. 2 (2)) pomocou kábla s redukciou z rozhrania RS422 na USB typu A. IMU je umiestnené na spoločnej platforme s lidarmi RPLIDAR A1 a Velodyne Puckom. Celý podsystém je napájaný 5 V batériou (Obr. 2 (5)).

2.5 Podsystém stereokamery

Podsystém je tvorený stereokamerou ZED 2 (Obr. 2 (9)) [12], ktorá využíva 2 snímače s vysokým rozlíšením pre snímkovanie stereosnímok. Kamera je vybavená tiež IMU, barometrom, magnetometrom a dvomi senzormi teploty. Maximálne zorné pole stereo kamery je 110 ° (H) x 70 ° (V) x 120 ° (D) s maximálnym rozsahom hĺbky 20 m. Stereokamera je pripojená pomocou USB kábla typu A k počítaču NVIDIA Jetson Nano (Obr. 2 (10)) a celý systém je napájaný 5 V batériou (Obr. 2 (11)). Všetky dáta z celého systému sú ukladané na pamäťovú kartu počítača NVIDIA Jetson Nano, z ktorej sú po ukončení merania stiahnuté. Výsledkom záznamu merania stereokamery je jeden súbor vo formáte *.svo.

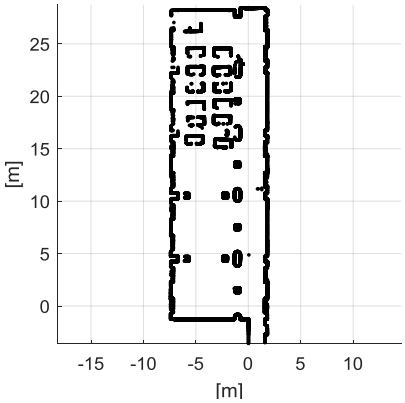
2.6 Spustenie systému

Celý systém je riadený pomocou ROS [13], čo je voľne dostupný softvér pre robotické aplikácie. ROS poskytuje nástroje, knižnice a schopnosti potrebné pre vývoj robotizovaných zariadení. ROS nenahrádza bežné operačné systémy ale pracuje spolu s nimi [14]. Každý počítač využíva operačný systém Ubuntu 20.04 a používajú ROS1 Noetic Ninjemys, ktorý je poslednou verziou ROS1.

Pred spustením systému ROS je potrebné, aby boli všetky počítače pripojené na rovnakú WiFi sieť. Pri spustení systému musí byť najskôr spustený ROS na master počítači Nvidia Jetson Nano a následne môže byť spustené meranie zo stereokamery ZED 2. Ostatné počítače Raspberry Pi 4 sú pripájané v rámci ROSu na IP adresu master počítača Nvidie a postupne sú spustené všetky snímače pre dané počítače. Po pripojení všetkých počítačov do ROSu, ktoré tvoria jeho uzly, sa na master počítači spustí záznam merania do súboru typu *.bag. Záznam zo stereokamery je ukladaný do súboru typu *.svo. Následne môže byť vykonané meranie vo vnútorných priestoroch budovy a po skončení merania sa ukončí záznam merania a všetky podsystémy sa vypnú.

3 MERANÉ DÁTA Z JEDNOTLIVÝCH PODSYSTÉMOV

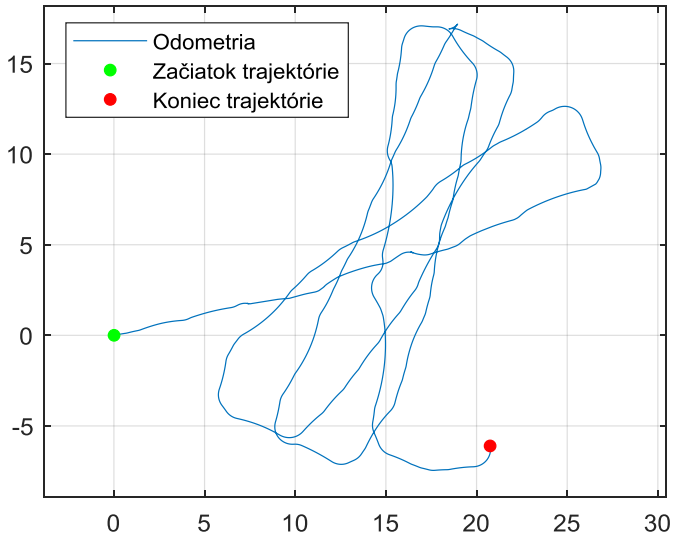
Každý podsystém tvorí senzor, ktorý generuje merané údaje. Potrebné je vedieť, ktoré komponenty produkujú aké dáta a ako vieme pracovať s týmito dátami. V ďalších častiach si ukážeme aké merané dáta nám produkuje vytvorený prototyp nízko-nákladového meracieho systému. Pre získanie dát bolo vykonané krátke meranie, v rámci ktorého bola trikrát prejdená miestnosť po obvode približne po rovnakej trajektórii. Miestnosť je členitejšieho charakteru s rozmermi 30 m x 9,4 m a obsahuje stĺpy, piliere, stoličky a stoly (Obr. 3).



Obr. 3 Pôdorys miestnosti vytvorený terestrickým laserovým skenovaním

3.1 Pohybujúca sa platforma

Pohybujúca sa platforma (Obr. 2 (1)) je vybavená dvomi zariadeniami, ktoré generujú merané údaje. Prvým zariadením je dvojica inkrementálnych snímačov otáčok, ktoré sú umiestnené na zadnej náprave pohybujúcej sa platformy. Z týchto snímačov otáčok získavame polohu meracieho systému vo forme súradníc X a Y (Obr. 4). Druhým zariadením je integrovaná IMU na riadiacej doske pohybujúcej sa platformy. Z IMU sa získava zrýchlenie a uhlová rýchlosť, z ktorých pomocou integrovania môžeme vypočítať trajektóriu meracieho systému. Frekvencia záznamu snímačov otáčok a IMU je 17,3 meraní za sekundu.



Obr. 4 Trajektória mobilného mapovacieho systému z odometrie

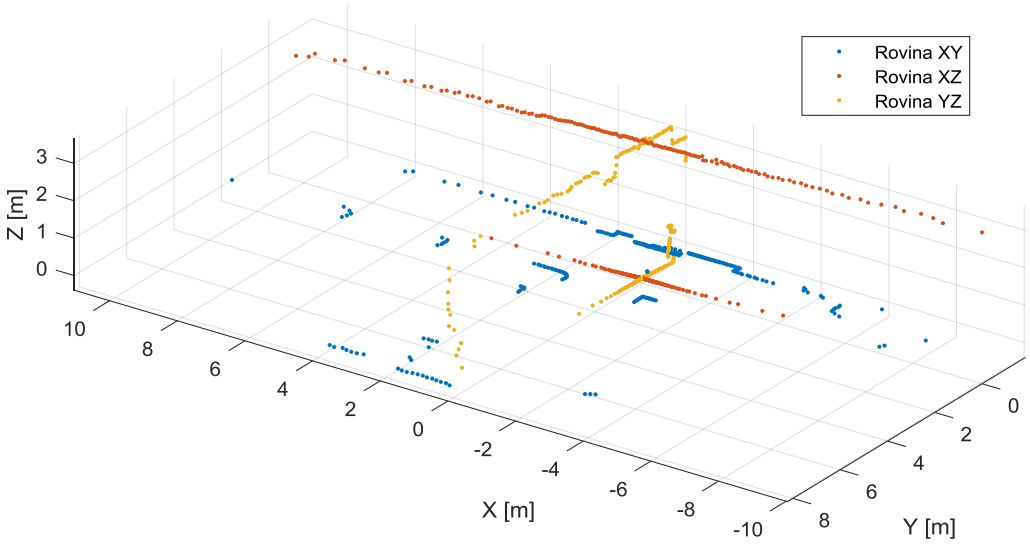
Z Obr. 4 môžeme vidieť, že trajektória sa v jednotlivých opakovaniach merania líši a stáča sa. Môže to byť spôsobené prekĺzavaním kolies pohybujúcej sa platformy, nerovnou podlahou v miestnosti alebo zlým nastavením snímačov otáčok. V ďalšej práci bude vykonané testovacie meranie pre inkrementálne snímače otáčok na zistenie týchto príčin.

3.2 RPLIDAR A1

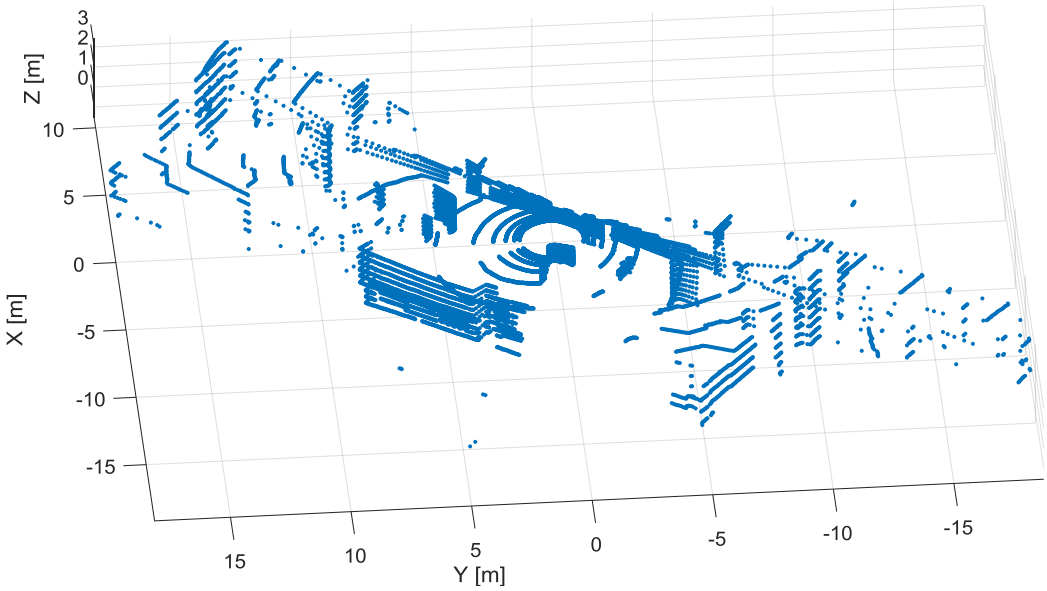
Podsystém tvorí trojica ortogonálne umiestnených 2D lidarov RPLIDAR A1 (Obr. 2 (6)). Každý lidar generuje 2D mračno bodov so súradnicami X a Y. Vďaka ortogonálnemu umiestneniu lidarov je možné vytvoriť 3D mračno bodov (Obr. 5). Poloha 2D mračien nie je správna, pretože medzi jednotlivými lidarmi sa nachádzajú ofsety, ktoré je potrebné odstrániť. Z nameraných dát sa bude následne pomocou SLAM vytvárať 3D mračno bodov celého vnútorného priestoru miestnosti. Frekvencia záznamu je 6,5 skenov (otáčok) za sekundu.

3.3 Velodyne Puck

Velodyne Puck (Obr. 2 (7)) je 3D lidar, ktorý generuje mračno bodov (Obr. 6) so súradnicami X, Y a Z. Pri meraní je možné nastaviť spôsob merania bodov pre najsilnejší odraz, posledný odraz alebo všetky odrazy laserového lúča. Velodyne sníma okolité prostredie v 16 kanáloch, ktoré vytvárajú 3D mračno bodov. Frekvencia meraných mračien bodov je 5,7 skenov (otáčok) za sekundu. Výrobca udávaná presnosť v meranej dĺžke lepšiu ako 3 cm. V rámci ďalšej práce sa vykonané testovanie pre najvhodnejšie nastavenie spôsobu merania bodov.



Obr. 5 Spojené 2D mračna bodov RPLIDARov A1 do 3D mračna bodov



Obr. 6 Ukážka mračna bodov z Velodyne Pucku

3.4 IMU STIM 300

Z IMU STIM 300 (Obr. 2 (4)) sú ukladané nasledovné dáta: zrýchlenie a uhlová rýchlosť, ktoré sú merané v 3 smeroch X, Y a Z. STIM 300 je výkonnejšia IMU ako IMU integrovaná na riadiacej doske pohybujúcej sa platformy. Frekvencia záznamu je 1188 meraní za sekundu. Pomocou meraných dát dokážeme vypočítať trajektóriu meracieho systému, avšak do vypočítanej trajektórie sa vnáša chyba z integrovania zrýchlenia a uhlovej rýchlosti.

3.5 ZED 2

Stereokamera ZED 2 (Obr. 2 (9)) je vybavená viacerými senzormi ako teplomer, barometer, magnetometer a IMU. Zo spomenutých senzorov sú ukladané dáta do súboru typu *.bag, v ktorom následne nájdeme teplotu pre IMU, ľavý a pravý snímač kamery, atmosférický tlak, magnetické pole, uhlovú rýchlosť a zrýchlenie. Snímky zo stereokamery sú ukladané do osobitného súboru typu *.svo. Z daného súboru je možné vyexportovať videozáznam, snímky z ľavej a pravej kamery (Obr. 7) alebo hĺbkové snímky (Obr. 8). Výrobca udáva relatívnu presnosť pre barometer 0,12 hPa a presnosť v meranej teplote 0,5 °C.

Obr. 7 Ukážka stereosnímok zo stereokamery ZED 2 (vľavo - ľavá snímka, vpravo - pravá snímka)

Obr. 8 Ukážka hĺbkovej snímky zo stereokamery ZED 2

4 ZÁVER

Článok sa venuje prototypu nízko nákladového mobilného mapovacieho systému vyvíjaného pre skenovanie vnútorných priestorov budov. Merací systém sa skladá z trojice 2D lidarov, 3D lidaru, IMU, stereokamery a snímačov otáčok. Každé zariadenie tvorí jeden podsystém, ktoré sú riadené operačným systémom ROS a spolu sú prepojené pomocou IP adresy. Merací systém je tvorený podsystémom pre riadenie robota a odometrie, podsystémom RPLIDARov, podsystémom Velodyne lidaru, podsystémom IMU a podsystémom stereokamery.

Mobilný mapovací systém obsahuje 5 komponentov, ktoré generujú merané dáta. Pohybujúca sa platforma obsahuje snímač otáčok, ktorý meria 2D polohu v tvare súradníc X a Y a IMU, ktorá meria uhlovú rýchlosť a zrýchlenie. Lidar RPLIDAR A1 generuje 2D mračno bodov so súradnicami X a Y a lidar Velodyne Puck generuje 3D mračno bodov so súradnicami X, Y a Z. IMU STIM 300 meria uhlovú rýchlosť a zrýchlenie v 3 osiach X, Y a Z a stereokamera ZED 2 sníma stereosnímky a obsahuje senzory ako teplomer, barometer, magnetometer a IMU. Všetky merané dáta sú ukladané do dvoch súboroch typu *.bag a *.svo. Súbor typu *.svo je určený pre záznam snímok zo stereokamery a v súbore typu *.bag sú ukladané dáta zo všetkých ostatných senzorov, vrátane senzorov umiestnených v stereokamere. Presnosť jednotlivých senzorov bude testovaná.

Budúca práca bude zameraná na testovanie vhodnosti všetkých komponentov v prototype mapovacieho systému. K tomu aby sa zistilo či sú všetky komponenty potrebné je nutné vykonať testovacie meranie, ktorým vytvoríme výsledný model miestnosti. Výsledný model budeme musieť porovnať s referenčným modelom, ktorý bude vytvorený terestrickým laserovým skenovaním. Avšak pre vytvorenie modelu miestnosti je potrebné vytvoriť algoritmus pre spracovanie nameraných dát, ktorého hlavnou časťou bude Scan matching, čo

je transformácia aktuálneho skenu na predchádzajúci sken pomocou normálovej distribučnej transformácie [15].

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EXPOSITION OF CELLS OF LIVING ORGANISMS BY AN ELECTROMAGNETIC FIELD IN PETRI DISHES

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Abstract

Living organisms of *Saccharomyces cerevisiae* are subjected to extremely low-frequency electromagnetic field exposition during the workweek, followed by cultivation over the weekend. Initially, the weight of the inoculum with YPD agar is examined in the exposure setup without exposition between the first and the last day. Subsequently, the coil is supplied, generating a static and time-varying electromagnetic field. The theoretical assumption underlying this experiment is based on the modified ion parametric resonance theory, which specifically focuses on calcium ions at a frequency of 192.26 Hz. The time-varying magnetic field amplitude is set at 451.66 μT, accompanied by a static field of 250.92 μT. By employing an experimental protocol, the cells are exposed to these conditions for an long-term exposition within Petri dishes.

Keywords: *extremely low-frequency electromagnetic field, exposition of cells, the mass ratio*

1 INTRODUCTION

Electromagnetic field (EMF) exposure has been used in many different applications to modulate biological processes across industries. Pulse and alternating EMF have both been shown capable of stimulating and inhibiting different plant growth, with a focus on important agricultural crops such as corn and barley [1,2,3].

EMF treatment has been proposed as a cost and time-effective method to remove bacterial biofilm and scale build-up on ships and other infrastructure and has gathered increasing interest from both the military and commercial business [4]. Combined, these applications possess tremendous financial and economic impact in the orders of thousand-billions of United States dollars per year as seen in Figure 1. On more human-centric applications, pulse EMF has been shown to be able to induce vestibular response and offer a new method to study motion sickness and spatial disorientation [5]. In addition, EMF therapeutic applications can target issues such as pain and inflammation reduction, skeletal tissue healing, and even treatment of neurological diseases [6; 7; 8].

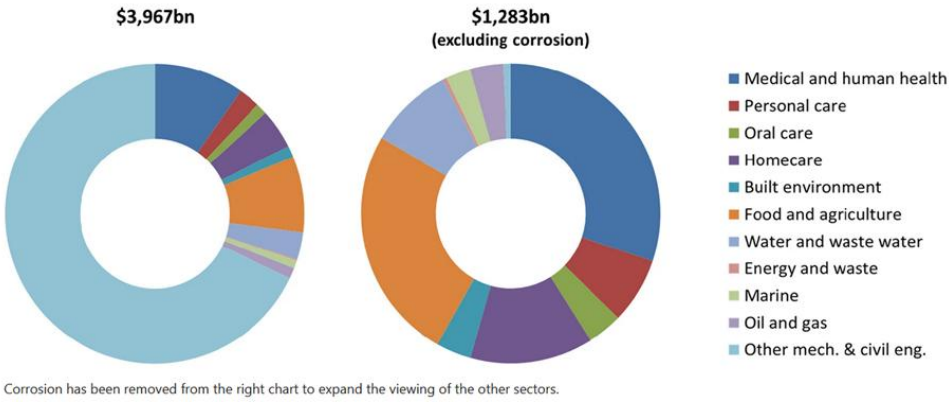

Figure 1. Worldwide economic losses associated with biofilm persistence disaggregated by commercial sector. ***Left***: Corrosion (light blue ■) dominates industrial economic losses;

***Right*:** corrosion loss equivalents are excluded from chart to improve sector resolution. Adapted from [4].

Taking a closer look at these applications, EMF of different parameters can have both positive and negative effects on biological systems, especially on cell activity and viability; and though well-observed, the EMF exact interacting mechanism with biochemical systems is still poorly understood. As such, it is a challenging task to set relevant safety limits for when considering its exposure effect on human health, a rising concern.

With the recent global commercialization of fifth generation (5G) telecommunication technology, there has been a renewed interest among the public in the health effect of EMF exposure. Looking broadly, in the modern environment, EMF can arise from a wide variety of sources and parameters, from commercial power distribution systems to your smartphones. According to the National Institute for Occupational Safety and Health, the three main categories of concern for EMF exposure are radio frequency, extremely low frequency, and static magnetic fields.

EMF exposure may be considered a cellular physical stressor and a possible carcinogen, though this issue remains controversial for non-thermal level of exposure. Thus, the exact cause-effect relation has yet to be established. Studies have shown that a large number of processes and components have been identified to be able to be modulated by external magnetic field [9; 10; 11].

At the same time, many epidemiological studies have indicated a rise in human cancers occurrence since the advent of electricity, drawing correlation to the increased exposure to EMF in modern time [12]. A study from Shih et al. [13], shows that there is a significant correlation between smartphone usage and distance from their chest to increased incident of breast cancers at up to 5-fold.

Due to both the large amount of exposure parameters (different waveforms, frequencies, amplitude, time of exposure, and combination of the above and more) and the many feedback system present in cellular activities (not accounting for variation between cell types, species, and individuals), the observed result is non-linear and challenging to pinpoint the result to a single mechanism. Despite the difficulty mentioned above, investigating cellular growth rate is the first step to help fill in part of the puzzle, what is point of this contribution.

2 MATERIALS AND METHODS

In the study conducted by Bajtos et al. [17], an experimental protocol was established to investigate the long-term exposure of cells cultivated on Petri dishes. The primary focus of the study was to address the following questions:

1. How does the mass of the YPD agar change over time?
2. How does the mass of the YPD agar with cell culture change over time?

By systematically monitoring the mass variations of the YPD agar, in this contribution, it is aimed to understand the dynamics of the growth medium and its potential impact on cell culture.

Subsequently, Test A and Test B were carried out to examine the influence of extremely low-frequency electromagnetic field (ELF-EMF) on the growth of living organisms. The experiments were designed to explore the effects of ELF-EMF exposure on cell growth, taking into account the aforementioned mass changes of the YPD agar.

The experimental protocol established in this study lays a solid foundation for the investigation of long-term effects of ELF-EMF on cell growth, presenting opportunities for scientific and practical advancements. To ensure reliable and accurate results, the experimental setup incorporates exposed and control coils for conducting paired experiments.

In terms of the biological component, the study employs *Saccharomyces cerevisiae* cells, commonly known as wine or beer yeasts. These cells serve as a suitable model organism due to their well-characterized biological properties and genetic tractability. By using *Saccharomyces cerevisiae*, it is possible to gain valuable insights into the effects of ELF-EMF on cellular processes and growth dynamics.

For more detailed information regarding the experimental setup, it is encouraged to refer to the work of Judakova [18]. Judakova's research provides additional information on the specifics of the experimental design, including the instrumentation, coil configurations, and other technical details essential for replicating and further exploring the study's findings.

2.1 Test A

In order to ensure that cells remain in the stationary phase rather than entering the phase of death during the 7-day cultivation period, Test A was conducted to determine the optimal growth conditions. Based on the findings of Lin et al. [19], it was determined that maintaining the temperature within the range of 10 to 20 °C in the incubator is crucial. To extend the stationary phase of yeast cells and slow down their growth, a temperature of 15 °C was selected for cultivating the samples. As this experiment does not involve exposition, the hypothesis suggests that both control and exposed samples placed on different coils will exhibit similar decreases in mass.

In Test A, two YPD mediums were prepared, differing in the duration of precultivation on a shaker. The first medium was agitated for 26 hours, while the second medium underwent agitation for 20 hours. Subsequently, a dilution of 1:10 was performed for both mediums to ensure similar initial conditions for the samples. The concentration of the first medium was measured to be 317 778 cells/ml, whereas the concentration of the second medium was determined to be 247 333 cells/ml.

The incubator was set to a temperature of 15 °C, and 10 Petri dishes (PDs) were inoculated with the first medium, marked as number 1, while another set of 10 PDs were inoculated with the second medium, marked as number 2. Each inoculum consisted of 100 µl. To account for different conditions, five control samples and five exposed samples were prepared from each concentration. These samples were labeled as Control coil (C) or Exposed coil (E) depending on the coil they were placed in. The final designation of each sample included the coil (C/E), the medium used (1/2), and the position in the coils (A/B/C/D/E).

During Test A, the samples were placed in the incubator, and their weights were measured at the beginning and end of the 7-day experiment. Although the incubator temperature rose to 21.9 °C briefly when the samples were initially placed, it stabilized at 15 °C after 22 minutes.

2.2 Exposition Setting

For Test B, the establishment of parameters for exposure is crucial, and these parameters are determined based on the Ion Parametric Resonance (IPR) theory. In this study, the focus is on the role of $Ca2^{+}$ ions, as they play a significant role in proper human body function, as proposed in the IPR model [20], [21].

To calculate the AC frequency, Formula 2.1 from the IPR model is employed. This is essential for determining the parameters of exposure, specifically for characterizing the frequency variation over time, denoted as f_{AC} [Hz]:

$$f_{\mathrm{AC}} = \frac{1}{n} \cdot \frac{qB_{\mathrm{DC}}}{2\pi m} \tag{2.1}$$

where B_{DC} [T] is the DC magnetic flux density, q [C] is the charge of the charged particle, m [kg] is the mass of the charged particle, and n [-] is the frequency index. This formula describes how the frequency of an applied AC field depends on the static MF density. According to the study of Bajtos et al. [21], the designated AC frequency adjusts proportionally with the change of the magnetic flux density.

It is important to note that the frequency variation over time, as described by Formula 1.1, impacts the static magnetic flux density. The frequency is one of the parameters that need to be set in the system to achieve the desired exposure. As noted by Bajtos et al. [21], increasing the static component of the magnetic flux density can help mitigate the effects of the Earth's magnetic field, which changes over time. These considerations and the utilization of Formula 2.1 allow for the determination of appropriate parameters for the exposure in Test B.

Considering the limitations in increasing the static magnetic flux density, this research specifically focuses on ELF-EMF and its impact on living cells. According to a study conducted by Touitou and Selmaoui [22], ELF ranges between 1 and 300 Hz. Therefore, the calculated frequency must fall within this required limit.

In laboratory, the magnetic field strength of the Earth is measured to be approximately 50.92 μT. For the purpose of this experiment and to satisfy one of the postulates of IPR, which is the collinearity of $\boldsymbol{B}_{\mathrm{DC}}$ (static magnetic field) and $\boldsymbol{B}_{\mathrm{AC}}$ (applied AC magnetic field), a magnetic flux density of 200 μT is chosen. This value ensures the neglect of the Earth's magnetic field. Subsequently, in Formula 2.1, the sum of the mentioned values, 250.92 μT, is substituted [21], [23].

To further calculate the AC frequency in Formula 2.1, additional values need to be included. As for the charge of the charged particle, q [C], the smallest positive electric charge is considered. Since calcium has an oxidation number of 2+, the charge is multiplied by 2. As for the mass of the charged particle, m [kg], the atomic mass of calcium, which can be obtained from the periodic table, is utilized. The periodic table generally provides the relative atomic mass, which represents the ratio of an element's average atomic mass to the unified atomic mass unit (Dalton unit). To calculate the mass of the calcium ion, the relative atomic mass is multiplied by the unified atomic mass unit, which is approximately $1.66 \cdot 10^{-27}$ kg. Lastly, the frequency index, n [-], is selected as 1. The calculation of the AC frequency can be performed using Formula 2.2 [20], [21],:

$$f_{\mathrm{AC}} = 1 \cdot \frac{2 \cdot 1.602 \cdot 10^{-19}[\mathrm{C}] \cdot 250.92 \cdot 10^{-6}[\mathrm{T}]}{2 \cdot \pi \cdot 40.08 \cdot 1.66 \cdot 10^{-27}[\mathrm{kg}]} = 192.26\ [\mathrm{Hz}] \tag{2.2}$$

The calculated frequency falls within the range of ELF, indicating that the selection of an increased static magnetic flux density was appropriate. This ensures that the experiment aligns with the desired frequency range. It is expected that the biological reaction will be more pronounced when this condition is fulfilled.

To calculate the currents, both static and varying magnetic flux densities are required. In this case, the varying magnetic flux density is determined to be 1.8 times the static value. This

choice is made with the expectation that the biological reaction will be stronger under these conditions [24]. The specific value for the AC magnetic flux density can be obtained using Formula 2.3 [23].

$$\boldsymbol{B}_{\mathrm{AC}} = 1.8 \cdot 250.92\ [\mu\mathrm{T}] = 451.66\ [\mu\mathrm{T}] \tag{2.3}$$

Utilizing Formula 2.4, one can determine the AC and DC currents.

$$I = \frac{\boldsymbol{B} - 20.443}{2183.6} \tag{2.4}$$

Using Formula 2.4, the DC, I_{DC} [A], where the value of $\boldsymbol{B}_{DC}$ [μT] is substituted for the position of $\boldsymbol{B}$, is 105.55 mA. The AC, I_{AC} [A], where the value of $\boldsymbol{B}_{AC}$ [μT] is substituted instead of $\boldsymbol{B}$, is 197.48 mA [25].

2.3 Test B

In Test B, the preparation of YPD medium and agar plates takes place one day before the inoculation. The YPD medium is prepared by placing one loop of yeast on a shaker for 24 hours. On the day of inoculation, a dilution of 1:10 is performed, and the concentration of the resulting solution is determined using Formula 2.5, which yields a concentration of 266,667 cells/ml.

$$V_2 = V_1 \cdot \frac{c_1}{c_2} \tag{2.5}$$

where V_1 [μl] is the original volume used in the previous experiment, V_2 [μl] is the required volume needed to ensure the same beginning condition as in the previous experiment, c_1 [cells/ml] is the concentration calculated in the previous experiment, and c_2 [cells/ml] is the new calculated concentration. The volume for the first group of samples is 119 μl and 93 μl for the second group.

The null hypothesis for this experiment in Test B is similar to that of Test A. The prediction states that the mass of the exposed samples will undergo changes similar to the mass of the control samples. However, in this case, the exposition is turned on, meaning that the cells are subjected to the EMF.

In Test B, the samples are labeled following the same convention as in Test A: using the coil designation (C/E), the medium used (1/2), and the position in the coils (A/B/C/D/E). Once labeled, the samples are measured and then placed in the incubator, where the temperature is maintained at 15 °C, as in previous test.

After the samples are properly positioned, the parameters of exposition determined in the previous chapter are configured in the generator, and the amplifier is switched on. This ensures that the desired EMF exposition is established.

The exposition is initiated every working day for a duration of 6 hours, beginning at the same designated time. Initially, the exposition time is set for 5 consecutive days. Throughout the exposition period, the temperature on the sensor is monitored and recorded.

Following the 5-day exposure phase, the subsequent two days serve as rest days, constituting the weekend. During these rest days, the temperature sensor is not utilized, and measurements are not taken. After the weekend period, the samples are measured again to assess any changes that may have occurred as a result of the electromagnetic field exposition.

3 RESULTS

The primary objective of this study is to examine the cellular proliferation response when exposed to EMF. The proliferative response may vary among cells. In a study conducted by Carnecka et al. [23], it was observed that exposure to ELF-EMF had an inhibitory effect on two samples, while three other samples exhibited a stimulating effect. Their study focused on the impact of Mg^{2+} in a liquid medium and was conducted under conditions similar to those employed in this present work.

This work has the objective of determining the exposure parameters and evaluating the results based on the IPR theory. The weight of the samples is chosen as the primary parameter for comparing the results before and after exposure. The yeast strain *S. cerevisiae* is cultivated on PDs for a duration of 7 days. Prior to each experiment, a null hypothesis is established, and its validity is assessed by comparing the p-value to a significance level of 0.05.

The data obtained from each experiment do not exhibit a normal distribution, as indicated by the Kolmogorov-Smirnov test. To compare multiple samples, the Kruskal-Wallis test is employed, while the Mann-Whitney test is used for comparing two samples. All the necessary calculations are performed using MATLAB [26].

For Test A, the results after 7 days of cultivation at 15 °C are shown in Figure 2.

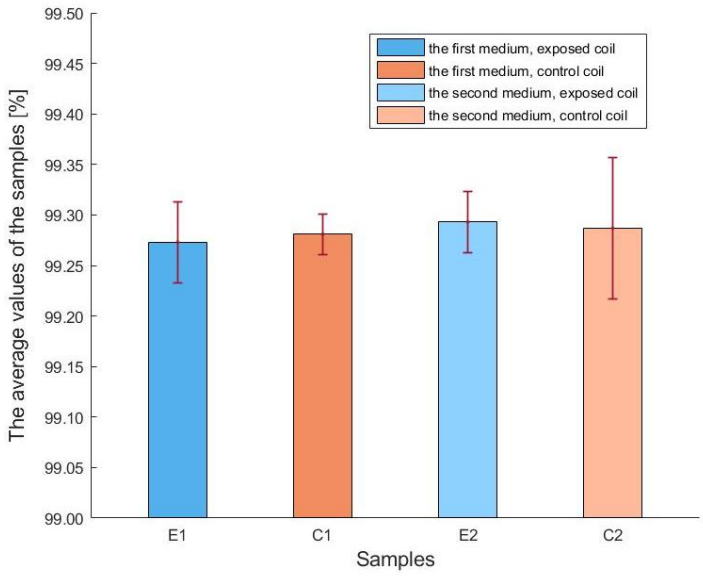

Figure 2 The mass ratio average values of the samples of two different concentrations after 7 days of cultivation at 15 °C in incubator with no exposition.

To evaluate the validity of the second hypothesis, we compare the samples of the first and second concentrations between the E and C coils using the Kruskal-Wallis test. The results of the test indicate a p-value of 0.64. Since this value exceeds the significance threshold of 0.05, we conclude that there are no significant differences observed. Therefore, it is likely that the second hypothesis, which suggests that the change in mass for all samples is the same, holds true.

During Test B, the concentration of the diluted inoculum is determined to ensure consistency with Test A. By calculating the necessary volumes, the desired concentrations are achieved and subsequently pipetted onto agar plates. Additionally, parameters are configured to enable the exposition, while temperature sensors are activated for each position within the coil.

The obtained results from Test B are then compared and visually presented in Figure 3 allowing for a comprehensive analysis and interpretation.

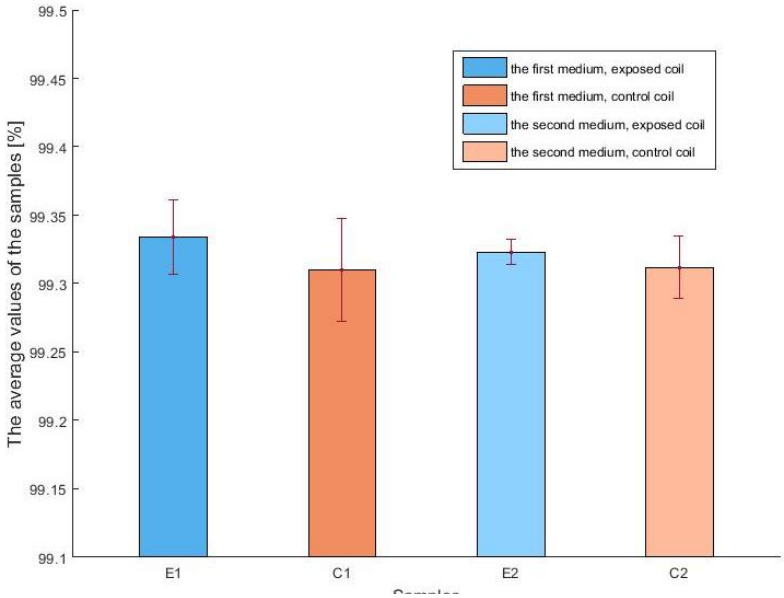

Figure 3 The mass ratio average values of the samples of two different concentrations after 7 days of cultivation at 15 °C in incubator with the exposition.

The comparison of the control and exposed samples for the first concentration yields a p-value of 0.31, while for the second concentration, it is 0.57. Furthermore, when considering all samples from both the control and exposed coils, the Kruskal-Wallis test calculates a p-value of 0.42. These results indicate the absence of a significant effect. Thus, it supports the prediction that the hypothesis stating an equal decrease in all samples holds true.

To provide a more detailed depiction of the findings, Figure 3 presents the average values and standard deviations (SDs) of the samples. Notably, the exposed samples exhibit higher average values compared to the control samples. Additionally, the SDs of the exposed samples are smaller than those of the control samples. This observation contrasts with the results from Test A, as depicted in Figure 2. Although these changes could potentially be random, they might also indicate a proliferative change in cells under the influence of electromagnetic fields.

4 DISCUSSION AND CONCLUSION

This contribution focuses on investigating the potential impact of ELF-EMF on living organisms. To conduct the study, an experimental protocol is developed based on the IPR theory. The model organism selected for this investigation is *S. cerevisiae*, cultivated on PDs.

The proliferative activity of the cells is monitored by measuring the mass of the samples. The confirmation or refutation of hypotheses related to Test A and Test B is determined based on the p-value, considering a significance level of 0.05. Additionally, standard deviations (SD) are calculated for each test.

Test A examines the behavior of cells in the incubator without any exposure to ELF-EMF. Test B is designed to simulate Test A but with the inclusion of exposure. In the control coil, the control samples are subjected to normal growth conditions. The experiment begins with five consecutive days of exposure, where each day follows the same schedule of six hours of exposure. The following weekend is designated as a non-exposure period. At the end of the experiment, the mass of the samples is compared to the initial mass. Based on the calculated

p-value, no significant changes in the mass ratio between the control and exposed samples were observed during the exposition.

It is worth noting that the impact of ELF-EMF on the proliferative activity of cells may be more evident when the cultivation temperature is higher or when different parameters of exposure are employed. During this research, other potential parameters for comparing the results were discovered. Notable changes were observed in the appearance of the samples. While the growth area of cells reaches full coverage during cultivation at room temperature, at 15°C, distinct regions of varying growth levels can be observed. Other interesting parameters to monitor include the concentrations of yeast metabolic byproducts, as well as the size, shape, and number of budding cells observed under a microscope.

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APLIKÁCIA POKROČILÝCH TECHNOLÓGIÍ SPAĽOVANIA VO VYSOKOVÝKONNÝCH MOTORCH

ADVANCED COMBUSTION TECHNOLOGIES APPLICATION IN HIGH-POWERFUL ENGINES

Pavol Tarbajovský, Michal Puškár, Matúš Lavčák

Abstrakt

V súčasnosti je celý priemysel vrátane sektoru dopravy pod značným tlakom na jeho celkovú dekarbonizáciu, pozornosť je orientovaná hlavne na spaľovacie motory, kde patrí medzi priority aplikácia udržateľných palív spolu s novými technológiami spaľovania. Snahy sú zamerané na hľadania kompromisu medzi spotrebou paliva a stabilitou spaľovania. Riešením sú technológie ako napr. HCCI, SPCCI alebo RCCI, ktoré patria medzi nízkoteplotné známe ako LTC (low-temperature combustion) a prioritne boli vyvíjané ako riešenie pre zníženie emisií NO_X. Tvorbe NO_X sa dá väčšinou zabrániť udržiavaním lokálnej teploty pod približne 2200 K. Tento stav je možné dosiahnuť spaľovaním mimoriadne chudobnej palivovej zmesi. Koncepcia LTC sa zároveň môže rozšíriť aj na súčasné znižovanie tuhých častíc v závislosti od pomeru lokálnej ekvivalencie. Pre aplikáciu je potrebné urobiť konštrukčné úpravy zamerané okrem iného aj na tuhosť konštrukcie, ktorá je zároveň predmetom tohto článku.

Klúčové slová : *Pokročilé technológie spaľovania, spaľovanie, LTC*

Abstract

Currently, the entire industry is under considerable pressure for its overall decarbonization, including the transport sector, especially with a focus on internal combustion engines. The solution is the application of sustainable fuels together with advanced combustion technologies. These are aimed at finding a compromise between fuel consumption and combustion stability. The solution is technology such as HCCI, SPCCI, or RCCI, which are among the low-temperature combustion engines known as LTC (low-temperature combustion) and were primarily developed as a solution to reduce NOX emissions. The formation of NOX can mostly be prevented by keeping the local temperature below approximately 2200 K. This condition can be achieved by burning an extremely lean fuel mixture. At the same time, the LTC concept can also be extended to the simultaneous reduction of solid particles depending on the local equivalence ratio. For the application, it is necessary to make structural adjustments aimed, among other things, at the rigidity of the structure, which is aligned with the subject of this article.

Keywords: *Advanced combustion technologies, combustion, LTC*

1. COMBUSTION ENGINES

Combustion engines are among the most used types of car drives. However, due to emission standards that are increasingly restrictive, their existence is slowly disappearing from the market. Conventional internal combustion engines are being replaced by alternative sources of propulsion, such as electric motors or hydrogen engines/fuel cells.

However, internal combustion engines still have several reserves that can improve the efficiency of their combustion with the result of reducing emissions that arise during combustion and thereby comply with emission standards. One of these reserves is the SCCI or

SPCCI (Spark Controlled Compression Ignition) technology. This technology combines the combustion principle of a diesel engine and a petrol engine.
The combination of these technologies ensures an increase in combustion efficiency and a reduction in produced emissions [1-5].

1.1 Combustion engine technical solution

The engine design was based on construction solutions that are used in cars commonly available on the market. The proposed engine assumes a cylinder displacement of two thousand cubic centimeters.
The shape of the crankshaft as well as connecting rod and piston had to be adapted to the dimensions of the engine design. It was also necessary to design the lubrication channels located in the crankshaft, piston, and connecting rod body to lubricate important moving parts.
However special attention was paid to the construction of its crown, which has a direct impact on the application of SCCI technology. The shape of the piston crown ensures the highest compression ratio, which is very important for a proper combustion process in an internal combustion engine using SPCCI technology. The shape of the piston crown can be seen in Figure 1.

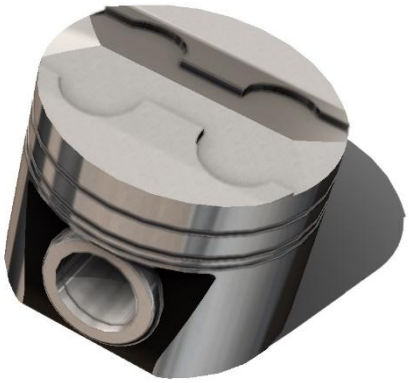

Figure 1 SPCCI piston design.

The bearing component of the upper part of the combustion engine is the cylinder head. The shape of the cylinder head must correspond to the shape of the engine block and the arrangement of the cylinders, which was followed in the design.
As can be seen in Figure 2, all the designed components sit in their designated places. Figure 2 shows the order of cylinder combustion. Pistons 1 and 4 will perform the same cycles at the same times, while pistons 2 and 3 will also perform the same cycles at the same times opposite to pistons 1 and 4.

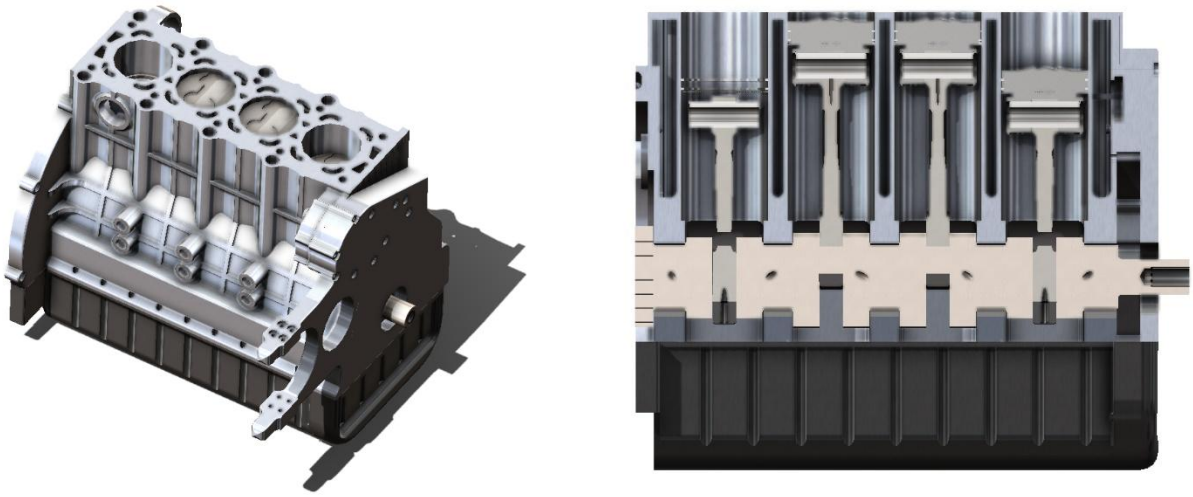

Figure 2 Complete bottom part of the SPCCI combustion engine.

In the design, it was important to focus on the placement of the intake and exhaust valves to ensure quality combustion and the placement of the spark plug between the intake valves. Figure 3 shows the shape of the cylinder head and the layout of the intake and exhaust valves, as well as the location of the spark plug.

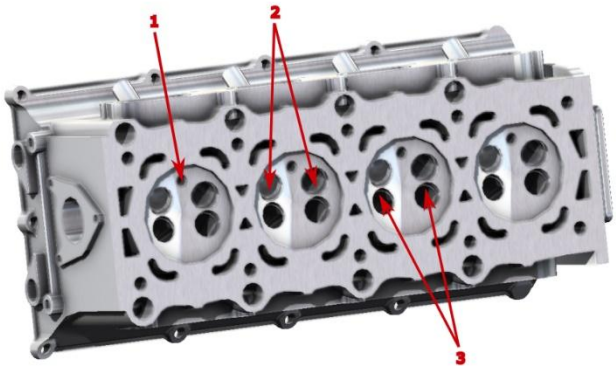

Figure 3 Cylinder head (1-sparkplug, 2-intake valves, 3-exhaust valves).

The design included construction solutions of cylinder head components, such as camshafts, valves, valve mechanism, cylinder head cover but also intake manifold, and exhaust manifold. All these components are shown in Figure 4.

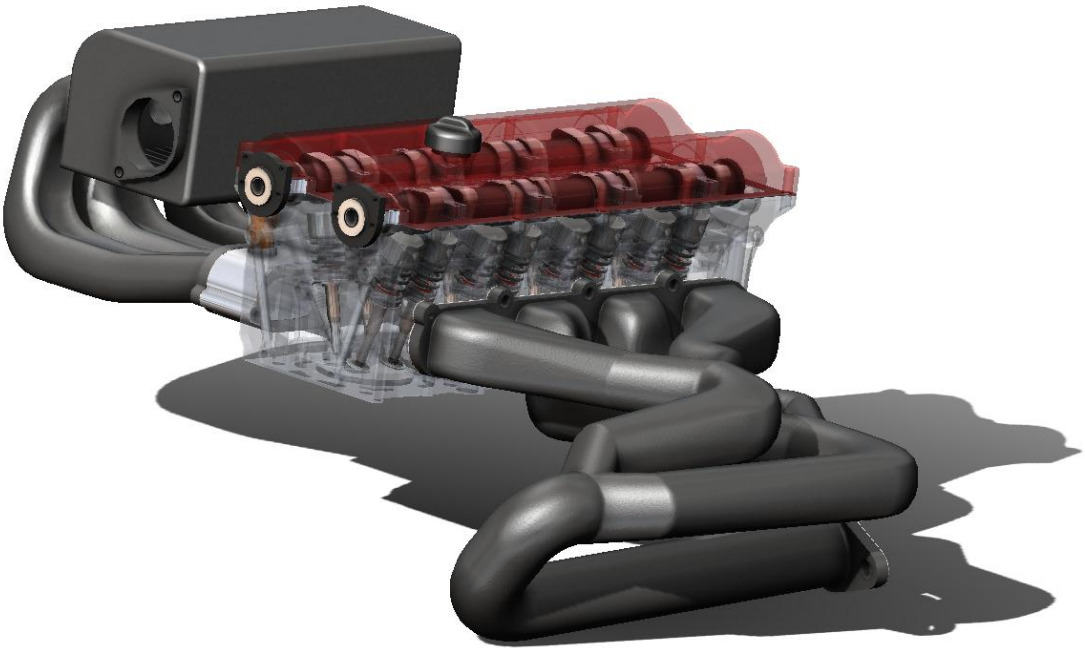

Figure 4 Upper part of the SPCCI combustion engine.

The whole engine design with all designed components is shown in Figure 5.

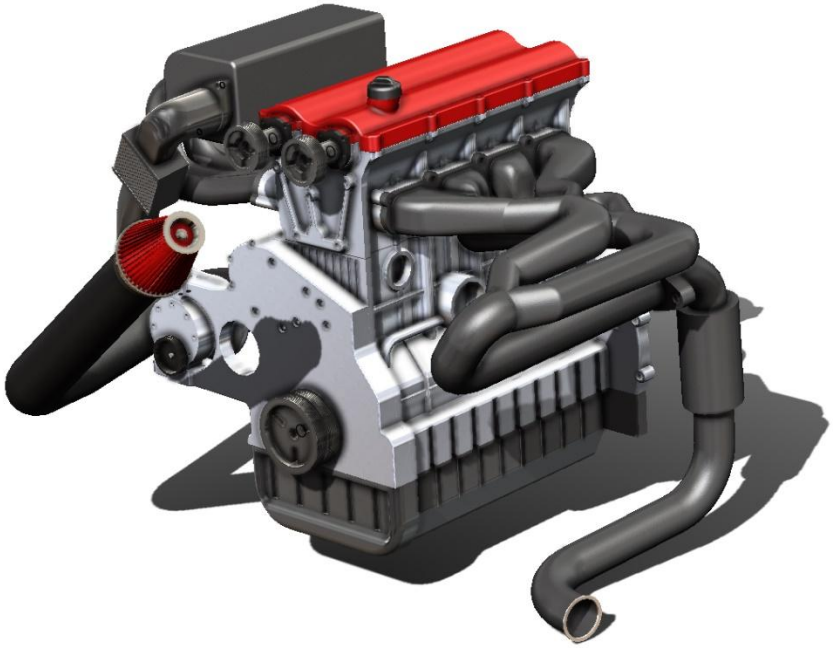

Figure 5 SPCCI combustion engine design.

2. DESIGNED SPCCI INTERNAL COMBUSTION ENGINE PRINCIPLE

The combustion process starts with starting the engine. The pistons in the engine are in a certain initial position at the moment of starting. The ideal starting position of the piston is the top dead center position or the bottom dead center position. Let's say that the piston is located at the top dead center as in Figure 6.

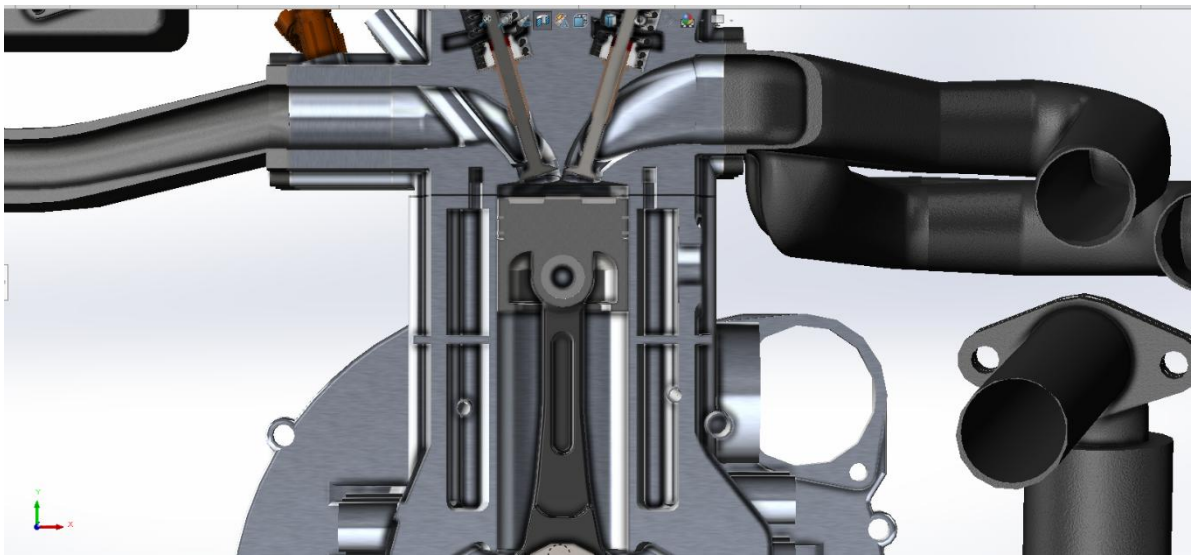

Figure 6 Top dead center position of the piston at the combustion process beginning.

The piston starts to move towards the bottom dead center and the intake valve opens simultaneously to allow air to enter the combustion chamber. At the moment, just after the bottom dead center position, when the intake valve is fully open, fuel is injected from the injection nozzle under high pressure, provided by a high-performance fuel pump. The injected fuel is mixed with the intake air in the combustion chamber to form a homogeneous mixture (Figure 7). The compressor supplies additional air to ensure a super lean mixture.

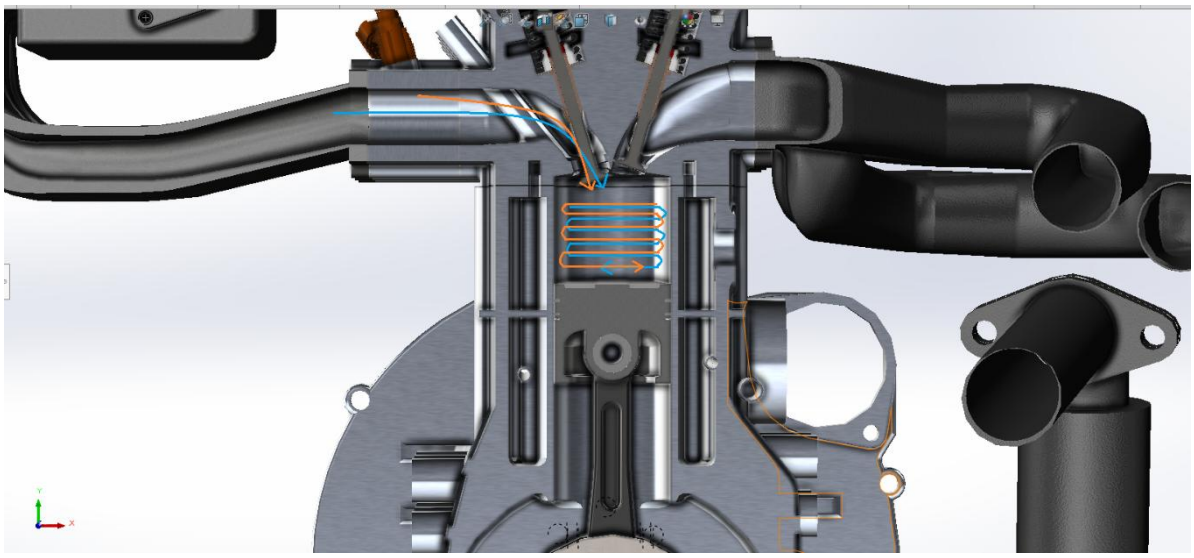

Figure 7 Mixing of fuel and air mixture (blue-air, orange-fuel).

The compression phase begins (Figure 8). The intake valve closes, and the fuel/air mixture is compressed under high pressure. The high compression ratio is ensured by the shape of the pistons and enables combustion with SPCCI technology. The pressure in the combustion chamber is so high that it enables spontaneous combustion of the fuel and air mixture. However, the problem of uncontrolled combustion of the mixture arises. For this reason, a spark plug enters the combustion chamber, which ignites the mixture just before the spontaneous combustion of the mixture (Figure 9). Since the temperature of the mixture reaches the auto-ignition temperature due to high compression, the energy of the spark plug can be several times smaller, which reduces the load on the electrical system.

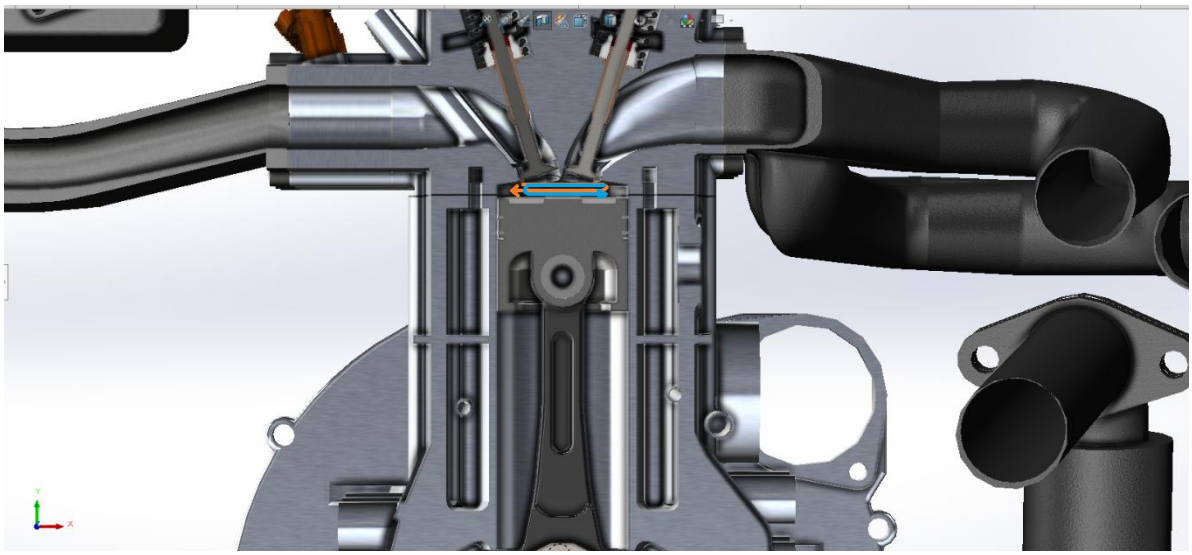

Figure 8 A mixture of fuel and air compressed under high pressure.

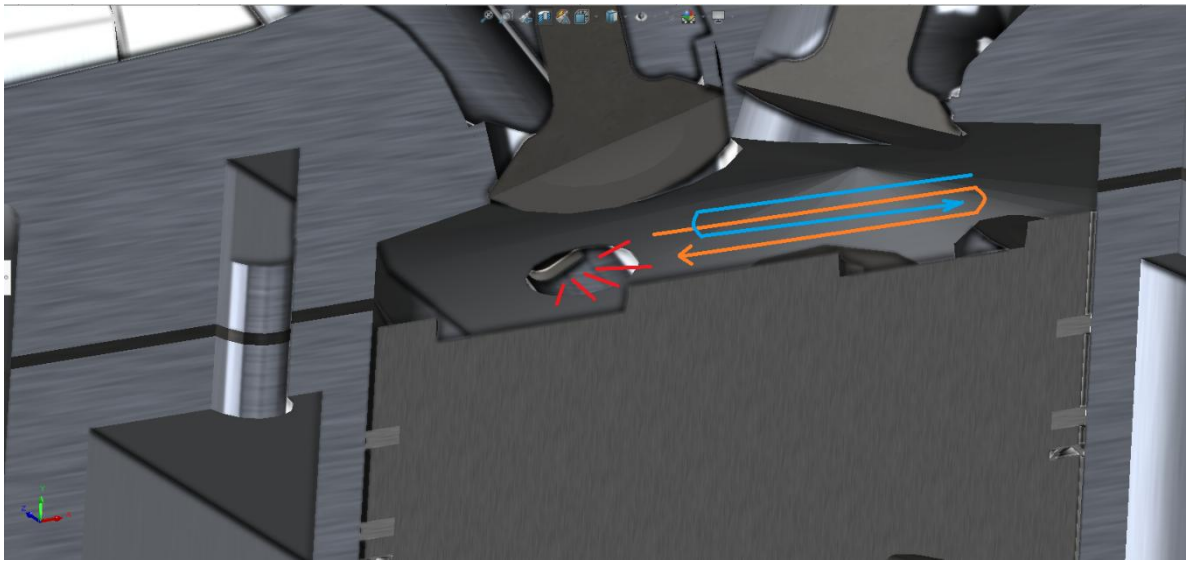

Figure 9 Ignition of the mixture with a spark plug (red-spark plug discharge).

Ignition causes further compression of the unburned mixture. When the unburned mixture reaches the highest possible pressure, it ignites and burns at high speed simultaneously. The expansion phase occurs, and the piston moves at high speed towards the bottom dead center due to the released burned mixture of fuel and air (Figure 10).

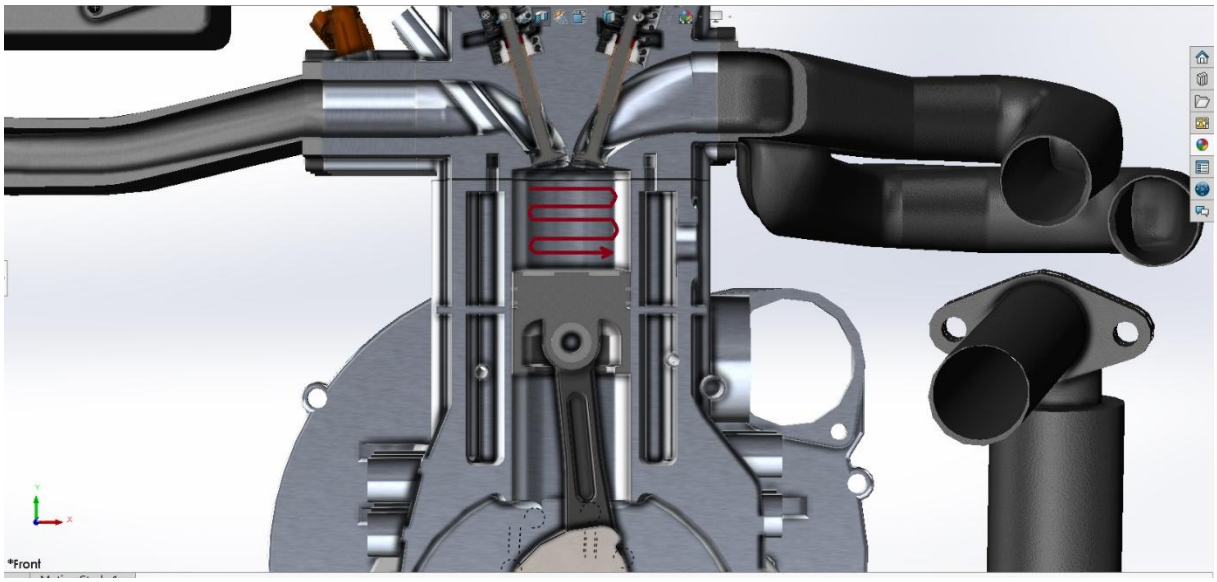

Figure 10 Piston movement to bottom dead center, expansion of the burnt mixture.

In the lower dead centre position, the exhaust valve is opened, ensuring flushing of the combustion chamber (Figure 11). The burnt mixture is discharged into the exhaust system. As soon as the combustion gases leave the combustion chamber, the whole process starts from the beginning until the fuel supply is interrupted.

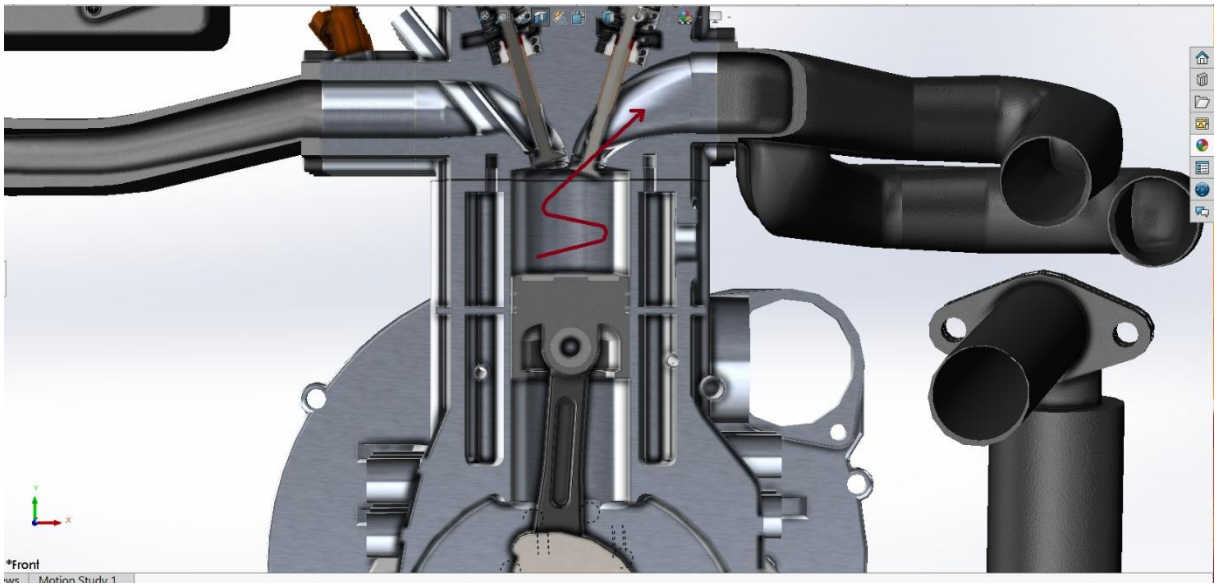

Figure 11 Fuel gas flushing after opening the exhaust valve, gas entering the exhaust system.

The designed internal combustion engine works without a throttle body. Engine speed is controlled using variable valve timing, which needs to be designed in further work [1-5].

3. CONCLUSION

Combustion engines still have opportunities for innovation, which prompted the design of an engine design with SPCCI combustion technology. This technology can produce a sufficiently large output, to significantly improve the efficiency of the combustion process itself, with the maximum reduction of emissions during its operation. These features make SPCCI technology one of the most promising innovations of the future of combustion engines.

Acknowledgements
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SPAĽOVACIE MOTORY A UHLÍKOVÁ NEUTRALITA

COMBUSTION ENGINES AND CARBON NEUTRALITY

Marieta Šoltésová, Michal Puškár

Abstrakt

Cieľom v rámci EU je prejsť na zelené, obehové a nízkouhlíkové hospodárstvo, znižovať emisie z dopravy a zvyšovať podiel priemyselnej výroby na celkovom hospodárstve krajín EÚ. Tento stav má za následok masívny rozvoj elektromobility. Slabinou batériových elektromobilov môže byť aj celkový dojazd vozidla, ktorý sa síce za uplynulé obdobie výrazne zvýšil, ale pri cestách na dlhšie vzdialenosti predstavuje zasadnú nevýhodu. Riešim môžu byť okrem alternatívnych palív ako napr. vodík aj klimaticky neutrálne e-palivá, ktoré pravdepodobne budú hrať dôležitú úlohu hlavne pre sektory, v ktorých je použitie batériových elektrických pohonov neefektívne. Vzhľadom k snahám o úplný zákaz spaľovacích motorov v osobných automobiloch po roku 2035 sa mnohé európske automobilky orientujú na batériové elektromobily. Pre budúcnosť automobilového priemyslu v EÚ je však prijatie výnimky pre klimaticky neutrálne palivá veľmi dobrou správou, keďže k batériovým elektromobilom vznikne výrazná alternatíva v podobe spaľovacích motorov využívajúcich k pohonu e-palivá.

Kľúčové slová: *spaľovacie motory, uhlíková neutralita, emisné normy*

Abstract

The goal within the EU is to transition to a green, circular, and low-carbon economy, reducing emissions from transportation and increasing the share of industrial production in the overall economy of EU countries. This situation has resulted in a massive development of electromobility. One weakness of battery electric vehicles can be their overall range, which has significantly increased over the past period but still represents a fundamental disadvantage for long-distance journeys. Solutions can include alternative fuels such as hydrogen and climate-neutral e-fuels, which are likely to play an important role, especially in sectors where the use of battery electric propulsion is inefficient. Considering the efforts to completely ban combustion engines in personal vehicles by 2035, many European automakers are focusing on battery electric vehicles. However, the acceptance of an exception for climate-neutral fuels is very good news for the future of the automotive industry in the EU, as it will provide a significant alternative to battery electric vehicles in the form of combustion engines utilizing e-fuels for propulsion.

Keywords: *combustion engines, carbon neutrality, emission standards*

1 ÚVOD

Pohonom bez emisií sa v súčasnosti rozumie predovšetkým bez emisná prevádzka automobilu (etapa jazdy). Pozornosť sa však musí upierať aj na celkový reťazec pri výrobe a prevádzke automobilu (celý jeho životný cyklus). K tomu je potrebné zaradiť celé skupiny dodávateľských reťazcov zahŕňajúcich výrobu automobilu, výrobu pohonných médií, etapu používania vozidla a jeho recykláciu. Problematickou môže byť aj chýbajúca infraštruktúra pre nabíjanie elektrických vozidiel a bezpečnosť samotných batérii ako aj ich cena pri prípadnej výmene. Agentúra Reuters zverejnila zaujímavé informácie o osude havarovaných elektromobilov Tesla, keď aj relatívne málo poškodené vozidlá s nízkym počtom najazdených

kilometrov nemieria do servisu, ale do šrotu alebo do aukcie, kde ich môže získať záujemca na náhradné diely. Poisťovňa sa totiž rozhodne označiť škodu za „totálnu“ aj pri exemplároch, ktoré ak by neboli elektromobilmi, by nechala štandardne opraviť a opravu zaplatila v rámci poistenia. Dôvodom sú vysoké ceny opráv. Stáť za tým majú batérie, najdrahšia súčasť elektromobilu. Ak sú nárazom poškodené, oprava je príliš drahá. Podľa údajov dvoch najväčších aukčných domov v USA, z viac ako 120 vozidiel Tesla, ktoré boli celkovo po kolíziách predmetom aukcii v decembri 2022 a začiatkom januára 2023, mala drvivá väčšina najazdených menej ako 16 000 km. Slabinou batériových elektromobilov môže byť aj celkový dojazd vozidla, ktorý sa síce za uplynulé obdobie výrazne zvýšil, ale pri cestách na dlhšie vzdialenosti predstavuje zasadnú nevýhodu. Riešim môžu byť okrem alternatívnych palív ako napr. vodík aj klimaticky neutrálne e-palivá, ktoré pravdepodobne budú hrať dôležitú úlohu hlavne pre sektory, v ktorých je použitie batériových elektrických pohonov neefektívne.

2 EURÓPSKE EMISNÉ ŠTANDARDY A PRODUKCIA EMISIÍ

Európske emisné štandardy (normy) sa začali zavádzať v roku 1992. Pôvodne sa týkali iba nákladných vozidiel, no nárast množstva osobných automobilov upriamil pozornosť aj na túto oblasť. Cieľom európskej emisnej normy tzv. EURO bolo a stále je zlepšenie kvality ovzdušia. Emisné štandardy sa postupne menili a pritvrdzovali v priemere každé štyri až päť rokov. V tabuľke 1 je uvedená postupnosť ich schvaľovania a jednotlivé hodnoty regulovaných emisií [1].

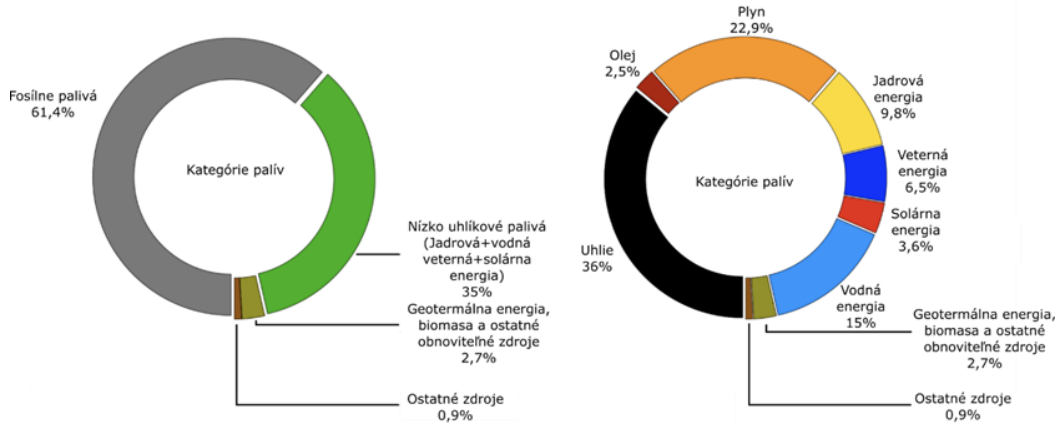
Tab. 1 Emisné normy EURO

Maximálne povolené emisie pre nové benzínové vozidlá						
	platné od	CO g/km	HC g/km	NOx g/km	HC+NOx g/km	PM g/km
EURO I	1992	2.72	-	-	0.97	-
EURO II	1996	2.20	-	-	0.50	-
EURO III	2000	2.30	0.20	0.15	-	-
EURO IV	2005	1.00	0.10	0.08	-	-
EURO V	2009	1.00	0.10	0.06	-	0.005
EURO VI	2014	1.00	0.10	0.06	-	0.045

Maximálne povolené emisie pre nové dieselové vozidlá						
	platné od	CO g/km	HC g/km	NOx g/km	HC+NOx g/km	PM g/km
EURO I	1992	3.16	-	-	1.13	0.14
EURO II	1996	1.00	0.15	0.55	0.70	0.08
EURO III	2000	0.66	0.06	0.50	0.56	0.05
EURO IV	2005	0.50	0.05	0.25	0.30	0.025
EURO V	2009	0.50	0.05	0.18	0.23	0.005
EURO VI	2014	0.50	0.09	0.08	0.17	0.045

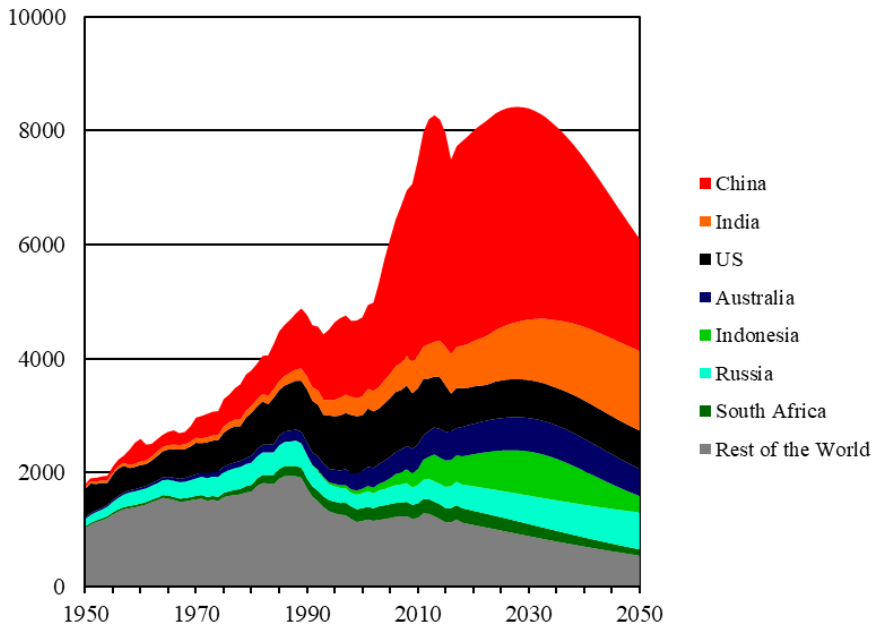
V blízkej budúcnosti by mohla vstúpiť do platnosti norma Euro 7. Podľa dostupných informácií chce Európska únia docieliť, aby do roku 2030 nové automobily mohli vypúšťať v priemere o 37,5 % menej emisií CO_2. Medzi rokmi 2025 až 2029 sa bude vyžadovať, aby automobily a dodávky vypúšťali o 15 % menej emisií CO_2. Od roku 2030 budú musieť byť emisie CO_2 nových dodávok v porovnaní s rokom 2021 v priemere o 31 % nižšie. Zároveň je v pláne do roku 2035 dosiahnuť -100 % emisií CO_2 pre nové autá.
Súčasťou tohto plánu je dohoda Nemecka a Európskej únie, že nové vozidlá so spaľovacími motormi sa môžu naďalej predávať, ak budú využívať len klimaticky neutrálne palivo. Európska únia v pôvodnom návrhu zákona žiadala úplný zákaz predaja nových vozidiel vybavených spaľovacími motormi po roku 2035. Podľa Nemecka sú autá, ktoré spaľujú e-

palivá, uhlíkovo neutrálne, keďže toto palivo sa vyrába pomocou obnoviteľnej energie a uhlíka zachyteného zo vzduchu. EÚ sa s Nemeckom dohodla na konkrétnych procedurálnych krokoch a proces pre udelenie výnimky použitia e-paliva má byť dokončený do jesene 2024.
V prípade elektromobilov dochádza k najväčšej produkcii CO_2 v etape jeho výroby a recyklácie. Súčasne je možnosť redukcie CO_2 v etapa používania elektromobilu veľmi obmedzená predovšetkým vtedy, keď nabíjací prúd nie je vyrobený z obnoviteľných zdrojov energie. Na obr.1 je znázornená svetová produkcia elektriny podľa podielu jednotlivých zdrojov v roku 2021. Údaje vychádzajú z BP Statistical Review of World Energy 2022. Z analýzy vyplýva, že dominantným zdrojom pre výrobu elektrickej energie vo svete je uhlie a všeobecne fosílne palivá.



Obrázok 1. Svetová produkcia elektriny podľa podielu jednotlivých zdrojov [2]

Výročná správa o svetovej energetike [3] poskytuje aktualizovanú analýzu svetovej produkcie a spotreby uhlia, hodnotí budúce vyhliadky svetových dodávok uhlia a zvažuje dôsledky vrcholnej produkcie uhlia na globálny ekonomický rast. Obrázok 2 ukazuje historickú a predpokladanú svetovú produkciu uhlia. Predpokladá sa, že svetová produkcia uhlia dosiahne vrchol v roku 2028 na úrovni vyše 8000 miliónov ton a do roku 2050 klesne tesne nad 6000 miliónov ton.



Obrázok 2. Historická a predpokladaná svetová produkcia uhlia (v miliónoch ton) [3]

U spaľovacích motorov vzniká cca 70% emisií CO_2 z celého životného cyklu vozidla pri prevádzke automobilu [4]. Ostatných 30 % sa prerozdelí na dodávateľský reťazec zahŕňajúci výrobu a recykláciu vozidla a prípravu paliva. V najnepriaznivejšom prípade je podiel emisií v rámci celého životného cyklu elektromobilu takmer rovnaký ako u klasického automobilu. Preto zmena na elektrické pohony bude len vtedy účinná, keď sa bude optimalizovať celý životný cyklus. Strategickými oblasťami sú výroba batérii a výroba elektrického prúdu pre nabíjanie elektromobilov. S tým súvisí zatiaľ nedostatočná infraštruktúra v podobe siete nabíjacích staníc. Zároveň zatiaľ nie je plne doriešená bezpečnosť veľkokapacitný batérií. Vozidlá so spaľovacími motormi sú teda stále jednoznačne najobľúbenejšou voľbou z pohľadu zákazníkov. Výskum a vývoj v oblasti nových motorových technológii zostane teda aj naďalej z ekologického hľadiska zásadný. Okrem toho spaľovací motor predstavuje významný prvok v hybridných pohonoch a dieselové pohony majú veľkú výhodu hlavne v súvislosti s dosahovanými parametrami pre SUV automobily [5].

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3 STRATÉGIA NA DOSIAHNUTIE UHLÍKOVEJ NEUTRALITY

O roku 2035 sa síce hovorí ako o konci predaja áut so spaľovacími motormi, no to automaticky neznamená, že vozový park budú odvtedy tvoriť len elektrické autá. Na syntetických palivách pracujú mnohé výskumné inštitúcie, ale tiež ropné spoločnosti či samotné automobilky. Napríklad plány Porsche na výrobu syntetického paliva siahajú ešte do roku 2020. Už vtedy začalo s masívnou investíciou do novodobej rafinérie, ktorá nebude využívať ropu. Malo ísť o uhlíkovo neutrálnu továreň, ktorá bude vyrábať uhlíkovo neutrálne palivo s názvom eFuel. O dva roky neskôr už vznikla nielen prvá vzorka, ale celá prvá nádrž, ktorú načerpali priamo do legendy, Porsche 911. V priebehu troch rokov by cena tohto paliva na liter mala klesnúť na 2 doláre, no po prirátaní transportných nákladov a daní je cena v súčasnosti pomerne vysoká. Ak sa technológia uchytí, tovární pribudne a cena bude smerovať k plánovanému horizontu. Dnes zatiaľ jediné pôsobisko pre eFuel našla automobilka zo Stuttgartu vo svojej sérii Porsche SuperCup.

Alternatívu predstavuje tiež priame spaľovanie vodíka. S touto formou pohonu experimentuje napríklad Toyota, ktorá ju využíva aj v rámci motoršportu. Spolupracuje na ňom so spoločnosťou Yamaha. Tá vo februári ukázala experimentálny päťlitrový atmosférický osemvalec, čo je agregát vhodný na použitie v špičkových autách.

Tieto technológie naznačujú, že budúcnosť spaľovacích motorov je stále reálna. Kľúčové bude reálne zhodnotenie prínosov jednotlivých typov pohonu. Masová výroba syntetických palív s využitím „zelenej“ energie by mohla znamenať plnenie klimatických cieľov bez nutnosti výstavby obrovskej nabíjacej infraštruktúry a priemyslu vyrábajúceho i spracúvajúceho batérie. Finálne riešenie opatrení však môže mať nakoniec podobu kompromisu medzi rozvojom elektrickej mobility a udržaním spaľovacích motorov v prevádzke.

Obrázok 3. Stratégia zameraná na dosiahnutie uhlíkovej neutrality spaľovacích motorov

Na obr.3 je znázornená schéma prezentujúca stratégiu, ktorá by mohla pomôcť pri snahách o dosiahnutie uhlíkovej neutrality spaľovacích motorov.

4 ZÁVER

Podľa už overenej teórie sa syntetické palivo vyrába z vodíka a CO_2. Ak sa na výrobu vodíka používa elektrická energia z obnoviteľných zdrojov a CO_2 sa získava napríklad z okolitého vzduchu alebo priemyselného prostredia, syntetické palivo je v podstate bez emisií. Okrem toho by sa syntetické palivo mohlo používať ako priama náhrada dnes používaných fosílnych palív, a to aj v komerčne dostupných automobiloch. Na túto teóriu sa spoliehajú aj v F1. Spolu so saudskoarabskou štátnou spoločnosťou Aramco plánujú v roku 2026 predstaviť „100-percentne udržateľné palivo, ktoré sa bude používať nielen vo vozidlách F1, ale predovšetkým vo väčšine bežných vozidiel na celom svete“. Vzhľadom na to, že v roku 2026 bude vo Formule 1 prítomná podstatná časť veľkých svetových automobiliek (Audi, Ford, Honda, Renault, Ferrari a Mercedes), ich plán by mohol byť reálny. Budúcnosť syntetických alebo iných alternatívnych palív závisí aj od komerčného úspechu, a to nielen vo Formule 1. Jeho predstavitelia tvrdia, že napriek rozšíreniu elektrických vozidiel zostávajú na svete ešte približne dve miliardy automobilov, ktoré by mohli využívať alternatívu.

Poďakovanie

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Príspevok vznikol s podporou projektov: VEGA 1/0318/21 „Výskum a vývoj inovácií pre efektívnejšie využitie obnoviteľných zdrojov energie a znižovanie uhlíkovej stopy vozidiel.“ a KEGA 007TUKE-4/2023 „Transfer inovácií a pokročilých technológií pre ekologickejšie a efektívnejšie pohonné systémy vozidiel do edukačného procesu“.

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SUSTAINABLE FUELS FOR LOW TEMPERATURE COMBUSTION TECHNOLOGIES

Matúš Lavčák, Marieta Šoltésová, Pavol Tarbajovský

Abstract

The engine with advanced combustion technology uses compression ignition of a homogeneous mixture in low-temperature mode. This combustion method offers the advantage of higher thermal efficiency and low emissions, and the technology allows the use of different fuels, fuel combinations and alternative fuels. Synthetic fuels and hydrogen have been the most frequently cited fuels of the future in recent years.

Key words: *advanced fuels, low-temperature combustion technologies*

1 INTRODUCTION

Internal combustion engines have become very popular because of their wide use, but the emissions produced by these engines are no longer at such a satisfactory level. In order to reduce emission levels, researchers are looking for new combustion methods and associated new fuels, including hydrogen and synthetic fuels called eFuels. Hydrogen technology and eFuels (electric fuels) are two innovative areas in the energy sector that focus on reducing greenhouse gas emissions and finding sustainable alternatives to fossil fuels.

Since hydrogen is the most abundant element on Earth and can be synthesised by the decomposition of seawater, the use of these types of hydrogen-based fuels has enormous potential in industry or transport, where it may compete directly with fossil fuels in the future.

2 SYNTHETIC FUELS

eFuels stands for ecological fuels, which are synthetic liquids or gases produced mainly from renewable energy sources. Research into eFuels focuses on the development of new technologies and processes for the production of these fuels in order to reduce greenhouse gas emissions while meeting the energy demand of transport, which is one of the main areas of energy consumption.

Currently, eFuels are mainly made from hydrogen and carbon dioxide, which are converted into synthetic diesel, diesel fuel or gasoline. These fuels are produced from renewable energy sources such as solar or wind power and are therefore considered as potentially sustainable energy sources.

Research in the eFuels field is focused on addressing a number of technical challenges, including improving the efficiency of production processes, reducing production costs and improving fuel properties such as cetane number. At the same time, researchers are trying to find new ways to use eFuels in practical applications such as aviation and maritime transport.

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2.1. Usability of eFuels

eFuels are synthetic fuels that are produced from renewable energy sources such as solar, wind or biomass, and are used as an alternative to conventional fossil fuels such as petrol or diesel. The usability of eFuels depends on many factors, including price, production technology, environmental sustainability and efficiency.

Currently, eFuels are not widely used because they are relatively expensive to produce compared to fossil fuels. However, their usability may be increased in the future if production technologies are improved and their price drops to a more competitive level..

In addition, eFuels can be used as an alternative to fossil fuels in situations where it is difficult or impossible to replace them with other alternatives, such as in aviation or in some industrial processes. In these cases, eFuels could help reduce greenhouse gas emissions and improve the environmental sustainability of these sectors

Overall, the applicability of eFuels is dependent on many factors and so far they are only used on a limited basis, but they may have potential in the future as an alternative to fossil fuels in certain situations. [1,4]

2.2. eFuels production

eFuels, also called synthetic fuels, are artificial liquid fuels produced using electricity and CO_2 from the air or industrial sources. The production of eFuels typically consists of three steps: CO_2 capture, hydrogen production and fuel synthesis.

- CO_2 capture is the first step in the production of eFuels. CO_2 can be captured from the atmosphere using various technologies such as adsorption processes, absorption processes and electrochemical processes. CO_2 can also be captured directly from sources such as industrial emissions or natural gas.
- he second step is the production of hydrogen. Hydrogen is produced by water electrolysis, which splits water into hydrogen and oxygen using electricity. The electricity is usually obtained from renewable sources such as solar, wind or hydroelectric power.
- The third step is fuel synthesis. Hydrogen is mixed with CO_2 to synthesize a fuel that can be used as an alternative to conventional fossil fuels. The resulting fuel usually consists of hydrocarbons that are chemically similar to gasoline or diesel fuel. [2,4]

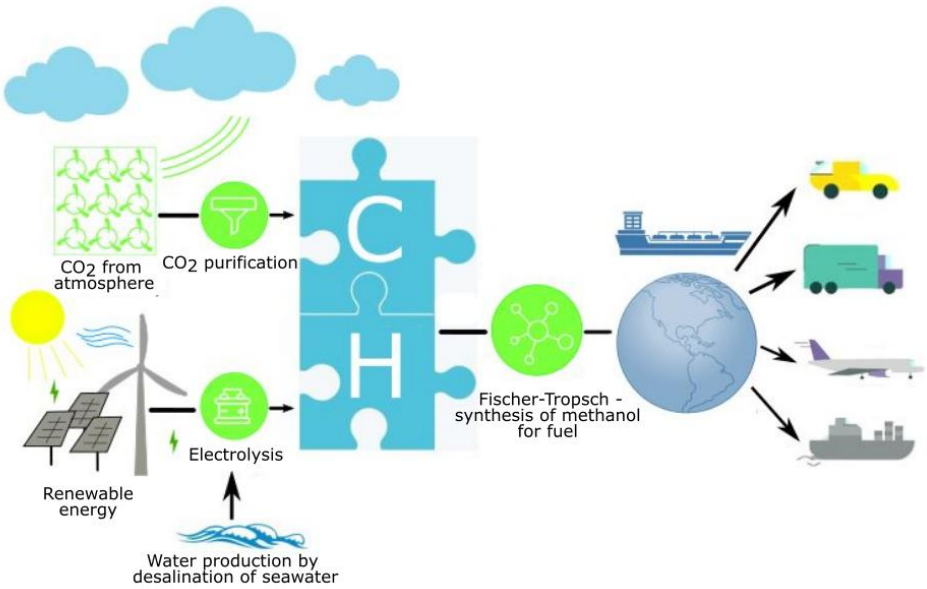

Figure 1 eFuels production

2.3.Advantages of eFuels

eFuels are synthetic fuels made from electricity, water and CO2, which means they are produced from renewable energy sources. Below are the main characteristics of eFuels:

- Renewability

eFuels are renewable fuels, which means they are produced from renewable energy sources such as wind, solar or hydro power. This means they are less harmful to the environment and help reduce dependence on fossil fuels.

- High energy densitye

eFuels have a high energy density, which means they can store and release large amounts of energy. This means they can be used to replace traditional fuels such as petrol and diesel without losing power.

- Compatibility with existing vehicles

eFuels are designed to be compatible with existing internal combustion engines in cars, ships and aircraft. This means that costly vehicle modifications may not be necessary.

- Lower emissions

eFuels produce fewer emissions than traditional fuels. When burned in the engine, only water and carbon dioxide are produced, reducing the overall carbon footprint.

- Production

The production of eFuels is quite expensive and requires large amounts of electricity. Nevertheless, eFuels can be advantageous in areas where renewable energy sources are available and fossil fuels are unavailable.

- Skladovanie

eFuels are easy to store and have a longer shelf life than traditional fuels, which means they can be stored without worrying about fuel quality deterioration. [1,2,3]

2.4. Disadvantages of eFuels

eFuels are fuels made from electricity using processes such as water electrolysis and Fischer-Tropsch synthesis, a chemical process that combines hydrogen and carbon dioxide at high temperatures and pressures to create liquid fuels that are similar to conventional petroleum fuels. However, there are also some drawbacks associated with the use of eFuels:

- Production costs

Producing eFuels is expensive and costs more than traditional petroleum-based fuels. The process of producing eFuels requires large amounts of electricity and other raw materials, which increases production costs.

- Energy

The production of electronic fuels consumes large amounts of electricity, which must be supplied from the electricity grid. If this electricity is produced from fossil fuels, the environmental benefits of eFuels are reduced.

- Efficiency

The energy put into the production of eFuels is greater than the energy these fuels provide when burned. This means that the production of eFuels can be less efficient than the production of traditional fuels.

- Storage

eFuels are liquid fuels and must be stored in tanks. These tanks are expensive and can be dangerous if stored incorrectly.

- Volume

eFuels have a lower energy density than traditional petroleum-based fuels. This means that more fuel has to be transported the same distance, which increases transport costs.

- Competitive ability

eFuels are a new technology and are still less competitive than traditional fuels. Because eFuels are more expensive and less efficient, they may be impractical for many people and businesses today. [2,4]
These, rather serious drawbacks, may hinder a faster uptake into real world use.

2.5. Types of eFuels

eFuels are synthetic fuels that are produced by electrolytic synthesis from water and carbon dioxide (CO2). There are different types of eFuels depending on the raw material used to produce them. The most common types of eFuels include:

- Methanol eFuels

It is produced from carbon sources such as biomass, wood waste and even water, using electrolytic synthesis.

- Ethanol eFuels

Similar to methanol, ethanol eFuel is produced by electrolytic synthesis, but its feedstocks are typically sugarcane, corn and other plant sources.

- Diesel eFuels

They are made from vegetable oils, fats and fatty acids.

- Kerosene eFuels

They are made from lignocellulosic sources such as wood residues. [3,4,5]

3 HYDROGEN TECHNOLOGY

Combustion of hydrogen in the automotive industry is one of the possible uses of hydrogen as a fuel for powering vehicles. Hydrogen fuel is used in engines with a combustion process similar to that of petrol or diesel.
When hydrogen is burned in vehicles, the hydrogen combines with oxygen from the air to form water (H_2O) as the only by-product. Hydrogen internal combustion engines have the potential to provide a cleaner, low-emission solution for transport as they emit no greenhouse gases or harmful emissions into the air.
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3.1. Hydrogen combustion

Toyota has pioneered the development of hydrogen fuel cell vehicles (FCVs), such as the Toyota Mirai, which use the combustion of hydrogen to generate electricity and power the vehicle. It is important to note that the actual combustion process takes place in the fuel cell.

In Toyota's FCVs, hydrogen gas (H_2) is stored in high-pressure tanks on board the vehicle. The hydrogen is then fed into the fuel cell tank, which consists of several fuel cells. In each fuel cell, the hydrogen gas is split into protons (H+) and electrons (e-) by a process called electrolysis. [8,9]

The protons pass through a membrane called a proton exchange membrane (PEM) while the electrons are conducted through an external circuit, creating an electric current. The flow of electrons through this circuit can be used to power the vehicle's electric motor, which provides propulsion.

On the other side of the PEM, oxygen from the air enters the fuel cell stack. It combines with the protons and electrons that have passed through the outer circuit and forms water vapour (H_2O) as a by-product. This process is known as an electrochemical reaction.[6,7]
The overall chemical equation for the electrochemical reaction in a fuel cell is:
2H2 (g) + O2 (g) → 2H2O (g).
As a result, Toyota FCVs use the combustion of hydrogen in the fuel cell stack to generate electricity that powers the vehicle's electric motor. The only by-product of this process is water vapour, making it a clean and environmentally friendly form of propulsion.
Toyota is actively working to develop the technology and infrastructure for hydrogen fuel cell vehicles to support the deployment of sustainable transport solutions. The company believes that hydrogen-powered vehicles can play an important role in reducing greenhouse gas emissions and promoting a low-carbon future. [5,6,9]

4 CONCLUSION

Hydrogen technologies and syntheticnic fuels (eFuels) represent a promising path to sustainable and low-carbon energy. The use of hydrogen and e-fuels in transport offers the potential to reduce greenhouse gas emissions, improve air quality and reduce dependence on fossil fuels.
However, it is important to stress that the use of hydrogen technology and eFuels is not entirely without its problems. Investments in infrastructure for the production, storage and distribution of hydrogen and eFuels are needed. The costs of these technologies are also still high.
However, with continued research and innovation, hydrogen technologies and eFuels have the potential to become important elements of the transition to sustainable and low-carbon energy. Their use in transport can contribute to achieving environmental goals and reducing dependence on fossil fuels, thus promoting a cleaner and more sustainable future.

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FOTOGRAFIA V ÉRE UMELEJ INTELIGENCIE

PHOTOGRAPHY IN THE ERA OF ARTIFICIAL INTELLIGENCE

Daniel Stehlík, Dominika Chládeková

Abstrakt

Cieľom príspevku je preskúmať vzťah medzi fotografiou a umelou inteligenciou. Taktiež zdôrazniť ich význam v súčasnom digitálnom svete. Fotografia, ako umelecká forma a prostriedok vizuálnej komunikácie sa stala neoddeliteľnou súčasťou nášho každodenného života. S nástupom umelej inteligencie, v oblasti fotografovania a spracovania obrazu, vzniká nová dimenzia, ktorá ovplyvňuje a transformuje spôsob, akým vnímame a interpretujeme svet okolo nás.

Kľíčová slova: *Fotografia, Umelá inteligencia, Spracovanie obrazu, Kreativita*

Abstract

The aim of the paper is to explore the relationship between photography and artificial intelligence. Also emphasize their importance in today's digital world. Photography, as an art form and a means of visual communication, has become an integral part of our everyday life. With the advent of artificial intelligence, in the field of photography and image processing, a new dimension is emerging that affects and transforms the way we perceive and interpret the world around us.

Key words: *Photography, Artificial Intelligence, Image processing, Creativity*

1 FOTOGRAFIA

Historický vývoj fotografie je považovaný za jedno z najrevolučnejších posunov v oblasti vizuálneho zaznamenávania. Od jej skromných začiatkov sa fotografia stala neodmysliteľnou súčasťou každodenného života, formujúc a dokumentujúc udalosti, kultúru a spoločnosť, v ktorej žijeme.

Fotožurnalistika, ako forma vizuálnej správy, má svoje korene v 19. storočí vo francúzskej Akadémii vied. Autormi tohto objavu sú Luis J.M. Daguerre a Joseph N. Niepce. Fotografia v tom čase vznikala prostredníctvom kovovej dosky, ktorá umožňovala vytvorenie jedinečného obrazu, nazývaného dagerotypia (Archambault 2015).

V prvých rokoch vývoja fotografií sa objavilo ilustrovanie príbehov prostredníctvom, najmä vojnových udalostí. V roku 1842 začal vychádzať týždenník Illustrated London News, ktorý sa stal prvým ilustrovaným periodikom. Zohral dôležitú úlohu v fotožurnalistike tým, že uverejňoval fotografie vojnových udalostí od fotografa Rogera Fentona z Krymskej vojny. V tomto období sa však ešte nepoužívala masová reprodukcia fotografií, preto redakcie často využívali drevoryt a kresličov na prekreslenie fotografií do dreva (Ácelová 2014).

V druhej polovici 19. storočia sa objavili fotografie, ktoré ukazujú statické zábery, štylizáciu a absenciu dynamického deja. To je dôsledkom nedostatočne vyvinutej techniky a potreby dlhšej expozície. Vojnovým fotografom tohto obdobia bol napríklad Matthew Brady, ktorý získal slávu vďaka fotografiám z americkej občianskej vojny (Ácelová 2014).

Medzivojnové obdobie, prvá polovica 20. storočia, je považovaná za obdobie, kedy sa oficiálne formovala reportážna fotografia. V Nemecku vychádzal časopis Berliner Illustrierter Zeitung, v ktorom pracovali známi fotografi Erich Salomon a Alfréd Eisenstaedt. Salomon sa

špecializoval na fotografovanie v diplomatických kruhoch, zatiaľ čo Eisenstaedt bol otvorený všetkým fotografickým príležitostiam (Lofaj 1984).
Po druhej svetovej vojne nastal obrovský rozmach fotožurnalistiky. Technologické pokroky, ako napríklad vývoj menších, prenosných fotoaparátov a farebných filmov, umožnili fotografiám väčšiu flexibilitu a rýchlosť. Fotografie sa stali dôležitým prostriedkom informovania verejnosti o udalostiach po celom svete.
Jeden z významných technologických prelomov v danej ére predstavoval prvý prototyp digitálneho fotoaparátu, ktorý bol predstavený v roku 1975. Tento inovatívny vývoj bol dielom amerického elektrotechnického inžiniera Stevena J. Sassona z firmy Eastman Kodak. Prototyp digitálneho fotoaparátu vážil približne 3,6 kg a disponoval rozlíšením obrazu 0,01 Mpx. Jeho schopnosťou bolo iba zaznamenávať čiernobiele snímky, ktoré boli následne ukladané na magnetofónové kazety. Jeho snímkovacia rýchlosť bola mimoriadne pomalá, vyžadovala až 23 sekúnd na zaznamenanie jednej fotografie. Pre prevádzku tohto prototypu bolo nutné využiť až 16 tužkových batérií, aby sa dosiahol dostatočný výkon na vykonávanie danej činnosti (Ácelová 2014).
V priebehu času sa fotožurnalistika stala neoddeliteľnou súčasťou nielen novinárskej práce, ale aj práce jednotlivcov, ktorí sa akýmkoľvek spôsobom podieľajú na vizuálnom prehĺbení momentov vo forme fotografie. Dôležitosť a vplyv fotografie sa ešte zvýšili s príchodom digitálnej fotografie a internetu. Fotografi majú teraz možnosť okamžite zachytiť a distribuovať zábery udalostí a aktuálnych správ. Súčasní fotožurnalisti pokračujú v tradícii ich predchodcov a snažia sa cez svoje snímky prinášať pravdivé, objektívne a silné vizuálne správy, ktoré majú moc ovplyvniť verejnú mienku a povedať príbehy, ktoré by inak mohli zostať nepovšimnuté.
S nástupom umelej inteligencie v oblasti fotografie sa otvárajú brány pre ďalšie prelomové inovácie, ktoré nám umožnia vytvárať a zdieľať snímky, ktoré sú ešte úchvatnejšie a emotívnejšie. Prichádzame do éry, kedy sa fotografický svet posúva do novej dimenzie, kde sa stretáva ľudská kreativita s výkonnosťou AI spracovania. Je to revolúcia, ktorá transformuje spôsob, akým vnímame a zachytávame svet okolo nás.
Žijeme v digitálnej dobe, kde máme ľahký prístup k fotografovaniu a k zdieľaniu fotografií prostredníctvom mobilných telefónov, sociálnych médií a online platforiem. Technologický vývoj pokračuje, a s ním aj nové možnosti a výzvy v oblasti fotografie.

2 UMELÁ INTELIGENCIA

Umelá inteligencia (AI) predstavuje jednu z najvýznamnejších technologických revolúcií 21. storočia. Jej históriu môžeme datovať do päťdesiatych rokov dvadsiateho storočia, kedy slávny anglický matematik Alan Turing začal preskúmavať, aké podmienky by musel výpočtový stroj splniť na to, aby sa považoval za inteligentný. Jeho myšlienky sa odrazili v článku s názvom *„ComputingMachinery and Intelligence“* (Turing 1950).
O pár rokov neskôr, v roku 1956, vytvoril JohnMcCarthy s kolektívom významný koncept na výskumnom projekte o umelej inteligencii, kde definoval AI ako *„vedu a inžinierstvo zameranú na tvorbu inteligentných strojov, najmä inteligentných počítačových programov“* (McCarthy 2006). V súčasnosti je AI neoddeliteľnou súčasťou technologického vývoja a využívania. Jeho vplyv sa prejavuje v každodenných situáciách, od jednoduchých, až po zložitejšie zamerania.
Veľmi podstatným je v spojitosti umelej inteligencie poukázať na definíciu inteligencie. Kedysi sa pojem inteligencia označoval ako: *„schopnosť dávať dobré odpovede z vecného hľadiska“* (Thorndike 1921), dnes však pod spomínaným pojmom nájdeme rôznorodé definície, ako napríklad: *„zmyslová kapacita, schopnosť vnímania, rýchlosti, rozsahu, resp. flexibilita alebo asociácia, schopnosť a predstavivosť, rozsah pozornosti, rýchlosť v reakcii“* (Sternberg 2011); alebo tiež *„...určitý súbor kognitívnych schopností, ktoré umožňujú*

jednotlivcovi prispôsobiť sa a prosperovať v akomkoľvek prostredí, v ktorom sa ocitnú, a tieto kognitívne schopnosti zahŕňajú veci ako pamäť, vyhľadávanie a riešenie problémov atď. Existuje skupina kognitívnych schopností, ktoré vedú k úspešnej adaptácii na širokú škálu prostredí..“ (Simonton 2018).Spomenuté definície poukazujú na to, že schopnosť učiť sa predstavuje zásadný faktor pri definovaní podstaty inteligencie.

Táto otázka je kľúčová v oblasti AI a vyvoláva širokú diskusiu medzi odborníkmi. Existuje niekoľko prístupov k riešeniu tejto problematiky. Niektorí tvrdia, že s dostatočným vývojom a zdokonalením algoritmov, počítačových systémov a výpočtových kapacít, je možné dosiahnuť rovnakú úroveň inteligencie ako u ľudskej bytosti. Tento názor sa opiera o predpoklad, že inteligencia je v podstate výsledkom správneho programovania a algoritmického spracovania informácií. Na druhej strane existujú aj skeptici, ktorí tvrdia, že ľudská inteligencia je oveľa viac než len schopnosť učiť sa a spracovávať informácie. Zdôrazňujú unikátne aspekty ľudskej skúsenosti, ako je emocionálna inteligencia, kreativita, introspekcia a vnímanie kontextu, ktoré nie sú jednoducho reprodukovateľné vo svete AI. Títo skeptici sa domnievajú, že technológia a algoritmy samy osebe nemôžu zachytiť komplexne ľudskú myseľ a všetky jej aspekty.

V odbornej oblasti AI prebiehajú intenzívne výskumy a experimenty s cieľom dosiahnuť čo najvyššiu úroveň AI. Aj keď sú dnes niektoré AI systémy schopné vykonávať úlohy, ktoré sa zdali byť výhradne ľudskými, dosiahnutie rovnakého množstva vedomostí a vnútorného prežívania ako u človeka zostáva otázkou.

3 STRETNUTIE UMENIA A TECHNOLÓGIE: FOTOGRAFIA VS. UMELÁ INTELIGENCIA

Umelá inteligencia nám poskytuje to, čo potrebujeme, stačí ju len požiadať. V oblasti fotografie používatelia/jednotlivci zadajú kľúčové slová, resp. popíšu, čo by radi videli, a umelá inteligencia vytvorí pixelový súbor, ktorý predtým zrejme nikdy nezachytili. Už nemusíme byť fyzicky prítomní na mieste, aby sme získali fotografický záznam rôznorodých pamiatok, alebo iných nami popísaných miest. Vďaka umelej inteligencii sa fotografický proces približuje skôr k imaginárnemu maľovaniu viac než ku klasickej tvorbe fotografie. To, čo vidíme, nie je skutočné, je to len výplod našej fantázie, ktorú dokážeme dostatočne popísať umelej inteligencií.

Vývoj umelej inteligencie prináša nové možnosti do sveta fotografie a otvára cestu ku kreatívnemu potenciálu jednotlivcov. Je to výzva pre umelcov, aby sa pohrávali s touto technológiou a objavovali nové spôsoby, ako zachytiť a interpretovať svet okolo nás. Fotografia a umelá inteligencia sa prelínajú a spolu prinášajú nové možnosti a perspektívy, ktoré rozhodne treba objaviť a preskúmať.

V základe je preto možné konštatovať, že umelá inteligencia dokáže v rámci fotografie nie len zlepšovať kvalitu samotných výstupov, ale tiež detegovať rôzne objekty na fotografiách, ale aj generovať fotorealistické zábery, v konečnom dôsledku prináša umelá inteligencia do tohto umeleckého odvetvia výhody, ale aj nevýhody (Adamčáková 2023).

V súvislosti s predchádzajúcimi informáciami je potrebné v prvom rade spomenúť kvalitatívne zlepšenie fotografií, ktoré umelá inteligencia umožňuje v rámci algoritmom strojového učenia, ktoré dokážu efektívne analyzovať dáta a identifikovať vzory, čo je nápomocné k navýšeniu rýchlosti a efektivity spracovania obrazu. V tomto smere môže byť umelá inteligencia použitá teda na odstránenie rušivých elementov z fotografií - od ľudí až po prach alebo môže pomôcť rovnako aj v smere zvýraznenia detailov a textúr na fotografiách. Ako príklad môžeme uviesť slabú ostrosť fotografie, saturáciu alebo nedostatočné rozlíšenie. Umelá inteligencia však stále obsahuje aj množstvo nedostatkov, ktoré sa môžu vyskytnúť pri úprave fotografií, preto je dôležité myslieť na fakt, že by nemala byť jediným východiskom (Adamčáková 2023).

Detekcia objektov na fotografiách patrí medzi ďalší efektívny nástroj umelej inteligencie, ktorý môže byť použitý pri práci so samotnými obrazovými výstupmi. UI, teda umelá inteligencia, dokáže pri danom kroku úpravy fotografií detegovať rôzne nežiaduce objekty a v postupných krokoch ich zoskupiť alebo vybrať ako osobitné prvky. Tento proces dokáže človeku pomôcť predovšetkým v tom smere, že ak je potrebné spracovať veľké množstvo fotografií a fotograf potrebuje na všetkých výstupoch rýchlo identifikovať presne špecifikované prvky. V súčasnosti sa používatelia s touto funkciou najčastejšie môžu stretnúť v prostredí sociálnej siete Facebook, ktorá dokáže jednoducho a rýchlo detegovať akúkoľvek tvár človek podľa definovaného algoritmu (Adamčáková 2023).
Najdiskutovanejšou funkciou, respektíve nástrojom umelej inteligencie, je schopnosť vytvárať fotorealistické zábery, ktoré je v mnohých prípadoch ťažké rozlíšiť, že či bola daná fotografia vytvorená fotografom alebo algoritmom. Tento proces je však v konečnom dôsledku veľmi zložitý a vyžaduje veľké množstvo vstupných dát v textovej podobe (alebo niekedy aj obrazovej) a výpočtovú silu, aby bol dosiahnutý požadovaný výsledok. Napriek tomu sa vytváranie fotorealistických záberov stáva čoraz populárnejšie. V tomto smere však existuje aj množstvo obáv smerujúcich k vytváraniu neetických alebo nezákonných fotografií, ktoré môžu byť využité na ohrozenie ochrany súkromia, dezinformácie či propagandu. Rozlíšiť autentickú fotografiu od tej, ktorá bola vytvorená umelou inteligenciou, tak je možné cez kontrolu samotného zdroja fotografie, kontrolu metadát, vyhľadávania obrázkov, kontroly kvality, overenie samotného prostredia fotografie či napokon aj konzultáciou s odborníkmi (Adamčáková 2023).
Umelá inteligencia je určite skvelým pomocníkom, ktorý by však mal byť stále len ako pomoc pri úprave samotných fotografií, ale nie úplne tým strojcom, ktorý by mal nahradiť autentickú fotografiu, respektíve byť zneužitý v prospech nejakého klamstva či falošnej tvorby v prípade fotografických súťaží.
V prípade falošnej tvorby fotografií sa v poslednej dobe stal najdiskutovanejším práve prípad, keď nemecký fotograf Boris Eldagsen zvíťazil v prestížnej fotografickej súťaži Sony World Photography Awards so snímkou vytvorenou práce umelou inteligenciou. Cieľom samotného fotografa bol údajný pokus otestovať fotografické súťaže, že či sú pripravené aj na rozpoznávanie fotografií vytvorených práve prostredníctvom UI. Nech by bol podnet akýkoľvek, tak minimálne otvoril diskusiu o budúcnosti fotografie (Ježková 2023).
Preto sa v konečnom dôsledku stal aj našim samotným cieľom výskumu porovnať pamiatky mesta Žilina v rámci skutočnej fotografie a fotografie generovanej prostredníctvom umelej inteligencie či už textovo alebo obrazovo.

4 METODOLÓGIA VÝSKUMU

Metodológia výskumu spočívala v realizácii fotografií pamiatok nachádzajúcich sa v Žiline a následnou komparáciou s umelou inteligenciou (AI). Nasledujúci opis predstavuje kroky, ktoré sme vykonali v rámci nášho metodologického postupu:

1. Výber pamiatok: Vykonali sme dôkladný výber pamiatok v Žiline, ktoré sme chceli zahrnúť do nášho výskumu. Tento výber bol založený na kultúrnom, historickom a architektonickom význame týchto pamiatok.
2. Príprava: Pred samotným fotografovaním sme sa venovali príprave a nastaveniu fotografií. To zahŕňalo správne nastavenie fotoaparátu, ako aj výber vhodných objektívov a nastavenie expozície, clony a ISO hodnoty. Na zabezpečenie rovnakých podmienok sme sa snažili dodržať konzistentný prístup voči všetkým pamiatkam.
3. Fotografovanie pamiatok: Každú pamiatku sme systematicky fotografovali s cieľom zachytiť jej architektúru, detaily a charakteristické prvky. Pri fotografovaní sme dbali na správne osvetlenie, kompozíciu a zorné pole. Každá fotografia bola odfotená z rôznych uhlov a perspektív.

4. Zhromažďovanie obrazových dát: Po dokončení fotografovania sme zhromaždili obrazové dáta vo formáte RAW, čo nám umožnilo pracovať s vyššou kvalitou a flexibilitou pri spracovaní.
5. Spracovanie obrazových dát pomocou AI: V ďalšom kroku sme použili metódy umelej inteligencie a to na spracovanie a analýzu obrazových dát. V zmysle daného kroku sme vykonali analýzu viacerých dostupných nástrojov umelej inteligencie na internete, ktoré by dokázali vygenerovať potrebnú fotografiu v optimálnej kvalite pre účel komparácie a umožnili takúto tvorbu fotografií ako prostredníctvom zadania požiadavky prostredníctvom textu, tak aj analýzy už vyhotovenej fotografie. Výsledkom je použitie nástroja GETIMG.AI, ktorý umožňuje jednoducho a rýchlo vygenerovať požadovaný obrázok či fotografiu. Zároveň umožňuje autorovi širokospektrálne pracovať s dátami bez výrazného obmedzenia aj v základnom režime.
6. Komparácia výsledkov: V záverečnom kroku sme porovnali výsledky získané pomocou AI s našimi pôvodnými fotografiami. Táto komparácia zahŕňala analýzu a vyhodnotenie podobností, rozdielov a presnosti v rozpoznávaní a zachytení charakteristických črtou pamiatok.

Táto metodológia nám umožnila systematicky skúmať a porovnávať fotografie pamiatok v Žiline s využitím AI.

5 VÝSLEDKY

V súvislosti so samotnou komparáciou sme sa rozhodli vybrať pre tento účel celkovo štyri kultúrne a historické pamiatky nachádzajúce sa v meste Žilina – Katedrálu Najsvätejšej Trojice, Kostol obrátenia sv. Pavla a kláštor, Novú Synagógu a napokon Budatínsky hrad, ktoré budú v rámci postupnosti práce porovnávané medzi autentickou fotografiou a fotografiou generovanou prostredníctvom nástroja umelej inteligencie internetového sídla GETIIMG.AI.

Obrázok 2 Katedrála Najsvätejšej Trojice (Daniel Stehlík)

Obrázok 1 Katedrála Najsvätejšej Trojice v AI

V súvislosti s cieľom komparácie sme sa v prvom rade zamerali na Kostol Najsvätejšej Trojice v Žiline. Autentická fotografia (obrázok č. 2) bola vytvorená počas slnečného dňa a zachytáva všetky dôležité detaily, respektíve elementy a samozrejme ešte pred začiatkom rekonštrukcie katedrály. Prostredníctvom textových hesiel v anglickom jazyku a obrazovej predlohy, bola umelej inteligencii zadaná úloha vytvoriť fotorealistický výstup požadovanej katedrály. Výsledok je viac než uspokojivý, na fotografii umelej inteligencie (obrázok č. 1)

dokážeme nájsť množstvo elementov, ktoré sú zhodné s autentickou predlohou, keď dokonca vygenerovala katedrálu s bielou farbou, ktorá je už v rámci súčasnej rekonštrukcie aktuálna.

Obrázok 3 Kostol obrátenia sv. Pavla a kláštor (Vegetator)

Obrázok 4 Kostol obrátenia sv. Pavla a kláštor v AI

Druhým v poradí bol Kostol obrátenia sv. Pavla a kláštor. Autentická fotografia (obrázok č. 3) bola vytvorená rovnako počas slnečného dňa a zachytáva všetky dôležité detaily už po dokončení rekonštrukcie, respektíve elementy. Prostredníctvom textových hesiel v anglickom jazyku a obrazovej predlohy ako v prvom prípade, bola umelej inteligencii zadaná úloha vytvoriť fotorealistický výstup požadovaného kostola s kláštorom. Výsledok je v tomto smere výborný, na fotografii umelej inteligencie (obrázok č. 4) dokážeme nájsť množstvo elementov, ktoré sú zhodné s autentickou predlohou. Rozdielom, ktorý si je možné všimnúť, tak je predovšetkým teplota farby fotografie, keď v autentickom prípade je teplejšia a v prípade umelej inteligencie chladnejšia.

Obrázok 6 Nová Synagóga v Žiline (MY Žilina)

Obrázok 5 Nová Synagóga v Žiline v AI

Treťou stavbou, ktorú sme podrobili komparácii je Nová Synagóga. Autentická fotografia (obrázok č. 6) bola vytvorená v horšom počasí, aby sme vyskúšali umelú inteligenciu a jej analýzu prostredia. Prostredníctvom textových hesiel v anglickom jazyku a obrazovej predlohy ako v obidvoch predchádzajúcich prípadoch, bola umelej inteligencii zadaná úloha

vytvoriť fotorealistický výstup požadovanej stavby. Výsledok je v tomto smere tiež zaujímavý, na fotografii umelej inteligencie (obrázok č. 5) dokážeme nájsť množstvo elementov, ktoré sú zhodné s autentickou predlohou. Najzásadnejším rozdielom je v tomto smere kamenné murivo, ktoré nedokázala vygenerovať a celkovo je budova aj užšia a vyššia.

Obrázok 8 Budatínsky hrad (kamnahory.sk)

Obrázok 7 Budatínsky hrad v AI

Posledným objektom, ktorý sme podrobili komparácii je Budatínsky hrad. Autentická fotografia (obrázok č. 8) bola vytvorená opäť za slnečného počasia a aj s určitou oblačnosťou. Prostredníctvom textových hesiel v anglickom jazyku a obrazovej predlohy ako vo všetkých prípadoch, tak aj v tomto bola umelej inteligencii zadaná úloha vytvoriť fotorealistický výstup požadovanej historickej stavby. Výsledok je v tomto smere výborný, na fotografii umelej inteligencie (obrázok č. 7) dokážeme nájsť množstvo rovnakých dôležitých elementov, ktoré sú zhodné s autentickou predlohou. Najzásadnejším rozdielom je v tomto smere predovšetkým hradná vež či úzkosť stavby, respektíve návrh stavby od umelej inteligencie vyznie viac rozprávkovo.

6 ZÁVER

Umelá inteligencia odštartovala v súčasnom svete nový a populárny trend nie len v rámci informácií, ale predovšetkým aj v odvetví fotografie, v ktorej je nie len skvelým pomocníkom, ale aj v poslednej dobe hlavným strojcom falošných či nerozpoznateľných fotografií, ktoré majú vplyv na rôzne smery spoločnosti. Preto aj cieľom nášho výskumu bolo zistiť, respektíve preskúmať možnosti a schopnosti umelej inteligencie pri tvorbe fotorealistických fotografií. V tomto smere je možné konštatovať, že z výsledkov sme boli viac než prekvapení a v mnohých prípadoch obraz pôsobil vierohodne a realisticky. Samozrejmosťou boli určité odchýlky, ktoré však mohli byť spôsobené buď zvoleným typom umelej inteligencie, respektíve nie úplne dostatočnými znalosťami v prípade presného zadávania textových príkazov umelej inteligencii pre tvorbu požadovaných obrazov. Výskum však splnil účel a priniesol vo viacerých smeroch zaujímavé poznania.

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PHILOSOPHY, HISTORY, LAW

QUAERE

THE GLOBAL MINIMUM TAX AND THE IMPACT OF THE UNDERTAXED PAYMENTS RULE

Pavlina Krausova

Abstract

The traditional international tax rules have been insufficient for today's globalized world. To address this issue, the OECD/G20 Inclusive Framework on BEPS has reached an agreement on the Two-Pillar Solution. The Pillar 2 introduces GloBE rules and provides a minimum 15% tax on corporate profits, putting a floor on tax competition. The implementation of Pillar 2 could remove ineffective tax systems. However, the compatibility of UTPR with international treaties may depend on their specific terms. UTPR may also conflict with other international law obligations. All countries should analyse possible impact and develop appropriate policy and legislative responses. As the Pillar 2 framework is essentially only a soft law instrument implemented domestically, a multilateral treaty may be the most straightforward solution.

Keywords*: Global Minimum Tax, UTPR, OECD, BEPS, Pillar 2, Multinational Enterprises, Tax Competition*

1 INTRODUCTION

The traditional international tax rules prove inadequate for today's globalised world. The growth of intangibles and companies' ability to shift profits to low-tax jurisdictions means that MNEs profits often escape taxation. Furthermore, many jurisdictions offer reduced or zero taxation to attract foreign direct investment.[1] The OECD estimates that corporate tax avoidance costs countries up to 10% of global corporate income tax revenues. The OECD's Base Erosion and Profits Shifting Actions has led to anti-avoidance legislation, but many concerns remain[2] especially regarding profit shifting, harmful tax competition, and a damaging 'race-to-the-bottom' on corporate tax rates.[3]

To tackle those issues, the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting ("IF") has reached an agreement. In July 2021, over 130 countries and jurisdictions joined the Statementon the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy ("Statement") [4]. A few months later in October 2021, the G20 Leaders Declaration[5] welcomed the Two-Pillar international tax package[6] and 136 members of the Inclusive Framework joined the Statement with a Detailed Implementation Plan and with the agreed components of each Pillar[7], seeking to respond to continued concerns.

Governments worldwide have therefore agreed to allow additional taxes on the foreign profits of MNEs headquartered in their jurisdiction, at least to the agreed minimum rate. Generally,

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[1] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 13

[2] Weybourne, J. (2021). Introducing a Global Minimum Corporate Tax Rate. *Solic. J.*, *164*, 38. (Solic. J.) pg. 39

[3] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 4

[4] OECD. (2021b). *Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy – 8 October 2021*. https://www.oecd.org/tax/beps/statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.pdf

[5] G20 Rome Leaders' Declaration available at https://www.consilium.europa.eu/media/52730/g20-leaders-declaration-final.pdf

[6] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 4

[7] The document has been discussed in the OECD/G20 Inclusive Framework on BEPS. 137 member jurisdictions have agreed to it as of 4 November 2021. It is noted that not all Inclusive Framework members have joined as of today.

Pillar Two provides a minimum 15% tax on corporate profits, putting a floor on tax competition. This means that tax competition will now be backstopped by a minimum level of taxation wherever an MNE operates.[8] The Undertaxed Payments rule is one of the rules introduce as part of the legal design and generates a controversial debate especially among lawyers, tax specialist and politicians.

2 PILLAR 2

2.1 Pillar 2 Design

Pillar 2 is proposing three new additional taxing rules to reduce the use of low-tax jurisdictions by large MNEs[9] and achieve a global minimum corporation tax rate. It is expected to generate 90% of the approximately $81 billion in new tax revenue based on the OECD's impact assessment that breaks down outcomes under the two pillars.[10] It consists of two rules intended for introduction in national domestic tax laws, and a treaty-based rule. The two domestic tax rules, the Income Inclusion Rule ("IIR") and its backstop, the Under Taxed Payments Rule ("UTPR") are known together as the Global anti-Base Erosion ("GloBE") rules. The Subject to Tax Rule ("STTR") is a treaty-based rule that allows source jurisdictions to impose limited source taxation on certain related party payments that are subject to tax below a minimum rate,[11] targeting risks to source countries posed by structures that take advantage of low nominal rates of taxation in the other contracting jurisdiction (that is the jurisdiction of the payee).[12]

The OECD released the Pillar Two Model Rules[13] covering the IIR and UTPR on 20 December 2021, just before the European Commission's draft EU minimum taxation Directive[14][15]. The Model Rules' Commentary[16] explains intended outcomes and clarifies terms, while examples illustrate the rules' application to certain fact patterns. The Commentary also should shed some light on the interpretation of the draft EU minimum taxation Directive, apart from areas where there are stated policy deviations.[17] Its noteworthy that some changes were made between the Pillar 2 blueprint released in 2020 and the

[8] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 15, pg. 4

[9] The definition of a large MNE is the same as used within OECD Transfer Pricing Guidelines for the purposes of Country-by- Country Reporting, and applies to groups with consolidated revenues over €750m.

[10] Mehboob, D. (2020). OECD's Blueprint on Global Minimum Tax Is a 'Compliance Monster' News Analysis. *Int'l Tax Rev.*, *31*, 8. (Int'l Tax Rev.) pg. 8

[11] European Comission (2021). *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups in the Union*. ({SWD(2021) 580 final}). Retrieved from https://ec.europa.eu/taxation_customs/system/files/2021-12/COM_2021_823_1_EN_ACT_part1_v11.pdfpg. 1

[12] OECD. (2020). *Tax Challenges Arising from Digitalisation – Economic Impact Assessment*. https://doi.org/doi:https://doi.org/10.1787/0e3cc2d4-en pg. 13

[13] OECD. (2021c). Tax Challenges Arising from the Digitalisation of the Economy – Global Anti-Base Erosion Model Rules (Pillar Two): Inclusive Framework on BEPS. *OECD, Paris*. https://www.oecd.org/tax/beps/tax-challenges-arising-from-the-digitalisation-of-the-economy-global-anti-base-erosion-model-rules-pillar-two.pdf

[14] European Comission (2021). *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups in the Union*. ({SWD(2021) 580 final}). Retrieved from https://ec.europa.eu/taxation_customs/system/files/2021-12/COM_2021_823_1_EN_ACT_part1_v11.pdfpg. 1

[15] The Directive (2022/2523) on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the EU entered into force on 23 December 2022. The Directive requires Member States to transpose the rules into domestic law by 31 December 2023

[16] OECD. (2022a). *Tax Challenges Arising from the Digitalisation of the Economy – Commentary to the Global Anti-Base Erosion Model Rules (Pillar Two), First Edition*. https://doi.org/doi:https://doi.org/10.1787/1e0e9cd8-en

[17] PwC. (2022). OECD releases Pillar Two Commentary and launches public consultation on the Implementation Framework. In.

documents released over a year later as the Model Rules and Commentary.[18] Examples for illustrative purposes have been developed in 2022.[19] The GloBE rules are not prescribed by a treaty and states are not obliged to adopt them,[20] as they will have a status of a common approach. However, if the IF Members adopt the rules, but if they do, they must implement them consistently with the outcomes under Pillar Two and accept the application of the rules by other members, including agreement as to rule order and the application of any agreed safe harbours. Government entities, international organisations, non-profit organisations, pension funds or investment funds that are Ultimate Parent Entities („UPE“) or any holding vehicles used by such entities, organisations or funds are not subject to the GloBE rules.[21]

2.2 GloBE Rules

Under the GloBE Rules, Top-up Taxes are collected under a system composed by the Income Inclusion rule (IIR) and the Undertaxed Payments Rule (UTPR), unless low-tax profits are taxed under a qualified domestic minimum tax. [22] Therefore, under Pillar Two, a multinational group's parent entity or subsidiary may be held liable for taxes on profits earned by another group entity in a different jurisdiction if the latter has not been "sufficiently" taxed in its own jurisdiction.

The IIR is levied by the home jurisdiction of the ultimate parent entity on a jurisdiction-by-jurisdiction basis. The UTPR is levied by the jurisdiction of a constituent entity that is a member of a group with affiliates with income in other jurisdictions taxed at a rate less than 15 percent. The Qualified Domestic Minimum Top-Up Tax (“QDMTT”) is levied by jurisdictions on their domestic corporations (and local branches of foreign corporations) to bring the domestic tax liability up to the 15-percent rate.[23]

With the incoming rules and related disclosure and reporting obligations, MNE Groups preparing for the impact welcome every relief. In December 2022, the OECD issued guidance which included a transitional country-by-country reporting, safe harbour and a leverage of existing transfer pricing/transparency legislation to support administrative simplifications to enter into pillar two taxation.[24] Exclusions for mining companies, shipping, regulated financial services, and pension funds are provided because their profit is already tied to the place where the income is earned or because they benefit from different taxation regimes due to their specific nature. These businesses are still subject to other international tax standards on transparency and BEPS to ensure effective taxation.[25]

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[18] Christians, A., & Shay, S. (2023). The Consistency of Pillar 2 UTPR With U.S. Bilateral Tax Treaties. *Taxnotes*. https://www.taxnotes.com/featured-analysis/consistency-pillar-2-utpr-us-bilateral-tax-treaties/2023/01/20/7fvmc

[19] OECD. (2022b). Tax Challenges Arising from the Digitalisation of the Economy –Global Anti-Base Erosion Model Rules (Pillar Two) Examples. *OECD, Paris*. https://www.oecd.org/tax/beps/tax-challenges-arising-from-the-digitalisation-of-the-economy-global-anti-base-erosion-model-rules-pillar-two-examples.pdf

[20] Sadowsky, M., & et coll. . (2023). White Paper 12 on Taxation: Taxing the Future. *ILA*, 144. https://www.ilaparis2023.org/en/white-paper/taxation/ pg. 44

[21] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 8

[22] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 26

[23] Joint Committee on Taxation (2023). Possible Effects of Adopting the OECD’s Pillar Two Both Worldwide and in the United States. *Congress of United States*. https://media.licdn.com/dms/document/media/D561FAQEFqFOx9Zy8og/feedshare-document-pdf-analyzed/0/1687320859596?e=1687996800&v=beta&t=qm4Hr8vA6IReh1yCerWX-Bb03RsN7YYWn4wm9dmd9yw pg. 3

[24] Krivinskas, M., & Stutzmann, D. (2023). *The Swiss ‘Push’ to Implement the Global Minimum Tax*. International Tax Review. Retrieved 22.5 from https://www.internationaltaxreview.com/article/2bjzdzfahirpipech0p34/expert-analysis/special-focus/the-swiss-push-to-implement-the-global-minimum-tax

[25] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 20

2.3 Income Inclusion Rule

An IIR aims to tax the ultimate parent entity for income earned by constituent entities[26] in low-taxed jurisdictions. It is applied by the entity at the top of the ownership chain, but if not applied by the UPE, then one or more intermediate parent entities will apply it.[27] It is complemented by a switch-over rule that removes treaty obstacles from its application to certain branch structures and applies where an income tax treaty otherwise obligates a contracting state to use the exemption method. [28]

2.4 Under Taxed Payments Rule

An UTPR aims to tax constituent entities whose ultimate parent entity or affiliates are in low-taxed jurisdictions and not otherwise subject to a top-up tax. The rule provides for top-up tax to be collected by countries in which the MNE does business through one or more local taxpayer entities, through the denial of deductions for outbound payments or an equivalent adjustment under local law.[29]

An illustrative analogy for the economic rules of Pillar 2 could a cartel in a private market. Cartels are unstable because participants have incentives to reduce prices and gain a larger market share. To prevent price undercutting, it is essential to establish a system that incentivizes participants to follow the rules. The UTPR was developed to prevent states from agreeing to untaxed income. [30] It is triggered only where the IIR has not worked, to disallow the deductibility of intra-group payments[31] or similar actions. The UTPR is therefore a backstop rule that ensures that the Top-up Tax is collected in cases where it is not collected under the IIR[32]. It allocates it based on a two-factor formula, carrying value of tangible assets in the jurisdiction and number of employees in the jurisdiction.[33] In basing the formula on the relative proportion of employees and tangible assets in each jurisdiction, it effectively allocates it where the company operates. It was designed to ensure a level playing field and addresses inversion risks that might otherwise arise. [34] For example, if a foreign subsidiary of an MNE pays tax at a rate below the agreed minimum rate, then the parent company would be required to pay the difference in tax to the home country. The UTPR would apply to payments such as royalties, interest, and service fees.

The minimum tax rate used for purposes of the IIR and UTPR will be 15%.[35] The UTPR is expected to apply significantly less than the IIR and will apply where payments are made from a high-tax-rate jurisdiction to a low-tax-rate jurisdiction.[36]

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[26] Constituent Entity is any separate business unit that is included (on a line-by-line basis) in the consolidated financial statements of the MNE Group.

[27] The IIR is subject to a split-ownership rule for shareholdings below 80%, meaning partially-owned parent entities will apply it to their controlled subsidiaries in priority to the UPE.

[28] OECD. (2020). *Tax Challenges Arising from Digitalisation – Economic Impact Assessment*. https://doi.org/doi:https://doi.org/10.1787/0e3cc2d4-en pg. 13

[29] VanderWolk, J. (2022b). The UTPR is Inconsistent with the Nexus Requirement of Tax Treaties. *Kluwer International Tax Blog*. https://kluwertaxblog.com/2022/10/26/the-utpr-is-inconsistent-with-the-nexus-requirement-of-tax-treaties/

[30] Sadowsky, M., & et coll. . (2023). White Paper 12 on Taxation: Taxing the Future. *ILA*, 144. https://www.ilaparis2023.org/en/white-paper/taxation/ pg. 84

[31] Ibid.pg. 44

[32] Grant Thornton (2022). *Update on Pillar 2 implementation | Grant Thornton Insights*. https://www.grantthornton.global/en/insights/articles/implications-of-pillar-2/

[33] European Comission (2021). *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups in the Union*. ({SWD(2021) 580 final}). Retrieved from https://ec.europa.eu/taxation_customs/system/files/2021-12/COM_2021_823_1_EN_ACT_part1_v11.pdf pg. 6

[34] OECD. (2020). *Tax Challenges Arising from Digitalisation – Economic Impact Assessment*. https://doi.org/10.1787/0e3cc2d4-en pg. 13

[35] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 9

Importantly, the OECD's Commentary on Pillar Two reinforces that there need not be a connection or transaction between entities. However, Commentary is vague on the 'equivalent adjustment' and leaves it to the UTPR jurisdictions to determine how the additional tax may be collected. This approach provides an uncertainty to taxpayers and may give rise to questions concerning the legal basis for the tax under the application of tax treaties. As discussed below, an international agreement or multilateral instrument to implement the GloBE rules may be preferred and/or required.[37]

For example, if a country has not enacted the GloBE rules, then a low-taxed income of its MNE group will give rise to top-up tax to be allocated among countries that have enacted the GLoBE rules, on the basis of the group's employees and tangible business assets in those countries. No economic or transactional connection is required between the UTPR taxpayers and the foreign affiliates earning the low-taxed income. Nevertheless, the UTPR provides for each jurisdiction to collect its share of the MNE group's global top-up tax liability from the locally resident group company, simply because it is part of the MNE group.[38]

2.5 QDMTT

QDMTT is a domestic minimum tax that may cancel out the top-up tax entirely by determining low-taxed excess profits in a manner equivalent to GloBE. [39] Countries have a strong incentive to introduce a QDMTT as it collects revenue that would otherwise have been collected by another country under Pillar 2 through the IIR or UTPR[40] without impinging[41] on their competitive position.[42] The QDMTT thus changes the politically sensitive rule order of Pillar 2. If a MNE is taxed below the minimum tax rate in a particular country, the missing revenue will now be collected through the QDMTT, the IIR or the UTPR, in that order. The addition of QDMTT in Pillar 2 should address concerns that previous versions would have resulted in revenue gains for only a few countries where large MNEs are headquartered. [43]

2.6 Comparison to existing CFC rules

The newly proposed system differs from existing Controlled Foreign Company (CFC) and anti-avoidance rules, as the top-up tax may be due by a group entity with no direct or indirect participation in the low-taxed entity or its transactions.[44] Some authors argue that the economic rationale for attributing profits of a controlled affiliate to the parent company under CFC rules is lacking in the case of the UTPR. The rationale behind CFC is that the parent has the power to obtain the affiliate's profits and indeed to control every aspect of the affiliate's business and this may be lacking in the case of the UTPR. The UTPR departs from

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[36] Dourado, A. P. (2023). Editorial: Pillar Two and the Principles of Ability-to-Pay, Legality, and Symmetry. *Intertax*, 448-450. http://www.kluwerlawonline.com/api/Product/CitationPDFURL?file=Journals\TAXI\TAXI2023049.pdf pg. 450

[37] PwC. (2022). OECD releases Pillar Two Commentary and launches public consultation on the Implementation Framework. In.pg. 3

[38] VanderWolk, J. (2022b). The UTPR is Inconsistent with the Nexus Requirement of Tax Treaties. *Kluwer International Tax Blog*. https://kluwertaxblog.com/2022/10/26/the-utpr-is-inconsistent-with-the-nexus-requirement-of-tax-treaties/

[39] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 26

[40] If the QDMTTT is equal to the top-up rate multiplied by the Excess Profit (as it would be in most cases) it will cancel out the top-up tax entirely.

[41] The top-up tax would be collected by another country if it is not collected through the QDMTT.

[42] Devereux, M., Vella, J., & Wardell-Burrus, H. (2022). Pillar 2: Rule Order, Incentives, and Tax Competition. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4009002 pg. 4

[43] Ibid.pg. 4

[44] Dourado, A. P. (2023). Editorial: Pillar Two and the Principles of Ability-to-Pay, Legality, and Symmetry. *Intertax*, 448-450. http://www.kluwerlawonline.com/api/Product/CitationPDFURL?file=Journals\TAXI\TAXI2023049.pdf pg. 448

international tax norms by providing for top-up taxation in UTPR jurisdictions for nonresidents' income with no connection (no nexus) to the taxing jurisdiction.[45] Therefore, the resident taxpayer who's being taxed may have absolutely no ownership or indirect interest in the company whose profits are being taxed to that resident (for example brother-sister company relationship.[46]

3 RESPONSE OF COUNTRIES

3.1 European Union

The European Union (EU) had committed to being at the forefront of the implementation of the global tax reform.[47] The Directive implements the GloBE Model Rules only. The STTR is naturally suited to be addressed in bilateral tax treaties. The Directive reflects the global OECD agreement, with some necessary adjustments, to guarantee conformity with EU law.[48] The UTPR in the EU Directive requires that constituent entities of a MNE group in jurisdictions with an appropriate UTPR framework will be subject to the UTPR if the UPE is located outside the EU in a jurisdiction that does not apply a qualifying IIR. The UTPR will also apply if the UPE, together with its subsidiaries located in the same jurisdiction, are low-taxed, even if the jurisdiction of the UPE operates a qualifying IIR. The top-up tax corresponding to the low-taxed UPE and its domestic subsidiaries will be charged through the UTPR to all eligible entities across the MNE Group, including to entities located in a Member State. [49]

3.2 United Sates of America

In May 2023, the US House Republican tax writers proposed legislation discouraging countries from adopting the UTPR, reflecting concern about the potential impact of the UTPR on US MNEs that have an effective tax rate of less than 15% because they have availed themselves of US tax incentives. The legislation would increase taxes on US income of companies headquartered in countries that enact the UTPR.[50] The tax rate on the US income of wealthy investors and corporations in jurisdictions identified as having “extraterritorial taxes or discriminatory taxes” such as UTPRs would increase by 5 percentage points each year for four years, to a maximum of 20 percentage points above the base, and would remain at that level as long as the UTPR or similar discriminatory taxes are in effect. [51] US MNEs

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[45] VanderWolk, J. (2022a). The UTPR Is Far From Becoming Part of Customary International Tax Law. *Tax Notes International*. https://www.squirepattonboggs.com/-/media/files/insights/publications/2022/11/the-utpr-is-far-from-becoming-part-of-customary-international-tax-law/the-utpr-is-far-from-becoming-part-of-customary-international-tax-law(003).pdf?rev=9003444732d0409482e2787e29c418b6 pg. 1069

[46] Goulder, R., & VanderWolk, J. (2023). Challenging The Undertaxed Profits Rule. *Forbes*. https://www.forbes.com/sites/taxnotes/2023/02/24/challenging-the-undertaxed-profits-rule/amp/

[47] Dourado, A. P. (2022a). Debate: Is There A Need for A Directive on Pillar Two? [pre-publication]. *Intertax*, 1-6. http://www.kluwerlawonline.com/api/Product/CitationPDFURL?file=Journals\TAXI\TAXI2022056.pdf pg. 521

[48] European Comission (2021). *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups in the Union*. ({SWD(2021) 580 final}). Retrieved from https://ec.europa.eu/taxation_customs/system/files/2021-12/COM_2021_823_1_EN_ACT_part1_v11.pdf pg. 1

[49] Ibid.pg. 8

[50] EY. (2023). The Latest on BEPS and Beyond. https://media.licdn.com/dms/document/media/D561FAQEj_uUkcC44tQ/feedshare-document-pdf-analyzed/0/1687320573123?e=1687996800&v=beta&t=tSaCGUWegAgnhbofdvT1LEuydV_l-xVGb2UqKk1w2Ec

[51] DeHoff, M., & Sixeas, S. (2023). Ways and Means Republican proposal takes aim at Pillar Two’s undertaxed profits rule. https://www.taxathand.com/article/29969/United-States/2023/Ways-and-Means-Republican-proposal-takes-aim-at-Pillar-Twos-undertaxed-profits-rule

may also be subject to tax under both GILTI[52] and Pillar Two (whether IIR or UTPR), with neither system providing credit for taxes paid under the other.[53]

3.3 Developing Countries

A country's competitiveness is determined by various factors, including workforce skills, education, research and development spending, infrastructure, property rights, institutional stability, and macroeconomic indicators. While addressing tax competition can shift policy focus back to other factors, it is important to consider the context and demands of developing countries.[54] Fairness may sometimes be difficult to measure. The economic contributions that MNEs provide or collect in each local jurisdiction in which they operate include many other taxes and payments.[55] Overall, the GloBE rules reduce the need for developing countries to offer excessive tax incentives for foreign investment, while still providing carve outs for activities with substance. In the past, jurisdictions have sought to attract investment through tax incentives, many of which have been found to be wasteful and ineffective, particularly in developing countries.[56] Specific rules aiming to benefit the developing countries include the Subject to Tax Rule[57], or a simplified approach to transfer pricing for low-capacity countries[58]. The OECD will also provide technical assistance for implementation. [59] Specifically, the OECD Secretariat has launched nine pilot programs to help developing countries analyze the impacta nd develop appropriate policy and legislative responses. The pilots will assist countries in understanding how their corporate income tax system compares to the GloBE tax base, analyzing tax incentives, and understanding MNE activity in their jurisdiction.[60] On 13 June 2023, the OECD announced that its Pillar Knowledge Sharing Network[61] had just held its first virtual meeting.

However, the proposed global minimum tax rate of fifteen percent may also disproportionately harm developing countries. [62] When tax havens will increase to 15%, and those beyond will decrease to 15%, this minimum standard of 15% will put the emphasis on

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[52] GILTI is a category of income earned abroad by U.S.-controlled foreign corporations subject to tax treatment to prevent erosion of the U.S. tax base.

[53] Joint Committee on Taxation (2023). Possible Effects of Adopting the OECD's Pillar Two Both Worldwide and in the United States. *Congress of United States*. https://media.licdn.com/dms/document/media/D561FAQEFqFOx9Zy8og/feedshare-document-pdf-analyzed/0/1687320859596?e=1687996800&v=beta&t=qm4Hr8vA6IReh1yCerWX-Bb03RsN7YYWn4wm9dmd9yw pg. 5

[54] Tandon, S. (2022). Policy Note: Assessing the Impact of Pillar Two on Developing Countries. *Intertax*, 923-935. http://www.kluwerlawonline.com/api/Product/CitationPDFURL?file=Journals\TAXI\TAXI2022094.pdf (Intertax) pg. 935

[55] Coder, J., & Brown, P. (2021). Searching for Shangri-La: Reflections on the OECD's Digital Tax Project: Analysis Begins and Ends with Discussion of Two Pillars. *Tax Executive*, *73*, 26-35. pg. 30

[56] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 4

[57] STTR aims to prevent companies from avoiding tax on their profit earned in developing countries by making deductible payments such as interest or royalties that benefit from reduced withholding tax rates under tax treaties and which are not taxed (or taxed at a low rate) under the tax laws in the treaty partner.

[58] The simplified and streamlined approach to the application of the arm's length principle to in-country baseline marketing and distribution activities, as low-capacity countries often struggle to administer transfer-pricing rules and will benefit from a formulaic approach in those cases.

[59] OECD. (2021a). *Brochure: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy, October 2021*. pg. 5

[60] OECD. (2023). *2023 Progress Report on Tax Co-operation for the 21st Century*. https://doi.org/10.1787/d29d0872-en pg. 26

[61] OECD Forum on Tax Administration launches peer-to-peer support for developing countries on the implementation of the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy available on https://www.oecd.org/tax/administration/oecd-forum-on-tax-administration-launches-peer-to-peer-support-for-developing-countries-on-the-implementation-of-the-two-pillar-solution.htm

[62] Avi-Yonah, R., & Young Ran, K. (2022). Tax Harmony: The Promise and Pitfalls of the Global Minimum Tax. *Mich. J. Int'l L.*, *43*, 505. (Mich. J. Int'l L.) pg. 555

the base, and therefore on aids and incentives [63] Furthermore, substance carve-outs may maintain some double non-taxation.[64] The fact that the STTR takes precedence over the IIR and the UTPR is positive in terms of international tax justice. However, it will not allocate sufficient tax revenue to developing countries, among other reasons, due to the substance-based carve outs and to the fact that base erosion and profit shifting (BEPS) are still major challenges there.[65]

While the membership in the IF remains high, governments are making more demands outside of it. For example, some countries such as in Latin America are proposing their own solutions, and the African Tax Administration Forum is very much in favor of a stronger role of the United Nations.[66] The language of the recent resolution of the General Assembly of the United Nations from 30 December 2022 clearly indicates a renewed will to renegotiate the structure of international cooperation on tax matters.

Despite voiced concerns of developing countries, the political support of the GloBE rules remains and in May 2023, the G7 Leaders met in Japan and their official communiqué reaffirmed the commitment by the G7 Finance Ministers and Central Bank Governors to the swift global implementation of Pillar Two.[67]

4 IMPACT ON EXISTING OBLIGATIONS

4.1 Tax Treaties

Some authors claim that essentially, the UTPR rule is an expression of the "use-it-or-lose-it principle". If a country chooses not to collect taxes, another country will collect them within a coordinated regime. There is however a debate whether the UTPR could be inconsistent with existing bilateral tax treaties.[68]

While the opinions vary, this it will most likely depend on the design of a given UTPR in relation to the specific terms of a given tax treaty. The proponents say that the UTPR tax amount may be even properly excluded from the scope of taxes covered by existing bilateral income tax treaties. [69] The compatibility of the UTPR with treaties may depend on whether it will be viewed similar to CFC rules and whether treaties have a savings clause. Some treaties can be overridden by domestic laws, but parties are expected to carry out treaties in good faith. Violations of this principle can be addressed through the IF or resolved through the built-in treaty dispute mechanism. [70] However, the OECD's justification for the saving clause in bilateral tax treaties as a basis for Pillar 2 may not be sufficient, as negotiators never considered this scenario and may not agree that it's an appropriate exercise of taxing

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[63] Sadowsky, M., & et coll. . (2023). White Paper 12 on Taxation: Taxing the Future. *ILA*, 144. https://www.ilaparis2023.org/en/white-paper/taxation/ pg. 86

[64] Avi-Yonah, R., & Young Ran, K. (2022). Tax Harmony: The Promise and Pitfalls of the Global Minimum Tax. *Mich. J. Int'l L.*, *43*, 505. (Mich. J. Int'l L.) pg. 555

[65] Dourado, A. P. (2022b). Pillar Two Model Rules: Inequalities Raised by the GloBE Rules, the Scope, and Carve-Outs. *Intertax*, *50*(4), 282. pg. 282

[66] Goulder, R., & VanderWolk, J. (2023). Challenging The Undertaxed Profits Rule. *Forbes*. https://www.forbes.com/sites/taxnotes/2023/02/24/challenging-the-undertaxed-profits-rule/amp/

[67] Group of Seven (2023). *Hiroshima Leaders' Communiqué*. https://www.consilium.europa.eu/en/press/press-releases/2023/05/20/g7-hiroshima-leaders-communique/

[68] Goulder, R., Christians, A., & Magalhães, T. D. (2023). Defending The Undertaxed Profits Rule. *Forbes*. https://www.forbes.com/sites/taxnotes/2023/01/11/defending-the-undertaxed-profits-rule/amp/

[69] Christians, A., & Shay, S. (2023). The Consistency of Pillar 2 UTPR With U.S. Bilateral Tax Treaties. *Taxnotes*. https://www.taxnotes.com/featured-analysis/consistency-pillar-2-utpr-us-bilateral-tax-treaties/2023/01/20/7fvmc

[70] Goulder, R., Christians, A., & Magalhães, T. D. (2023). Defending The Undertaxed Profits Rule. *Forbes*. https://www.forbes.com/sites/taxnotes/2023/01/11/defending-the-undertaxed-profits-rule/amp/

jurisdiction. A multilateral convention may be needed for a legally defensible backstop to the Undertaxed Profits Rule.[71]

4.2 Tax Incentives

The implementation of Pillar Two could present an opportunity to remove ineffective and often wasteful tax incentives, such as tax holidays commonly used in developing countries.[72] However, the impact of the GloBE rules on tax incentives will vary depending on the jurisdiction, investors, and types of tax incentives. Certain tax instruments may be impacted less, and the overall impact will depend on factors such as the type of MNE, activities performed, level of substance, and design of tax incentives offered. Comprehensive reform will take time and must be undertaken carefully. Governments should reassess tax incentives, carefully consider tax reform proposals, and exercise caution before introducing new incentives or agreements. They should also consider introducing a QDMTT to collect Top-up Taxes and reform broader aspects of their tax policy landscape, including anti-avoidance rules and tax capacity, to prepare for the implementation of the GloBE Rules. [73]

Furthermore, state sovereignty is another important aspect to consider. For example, while Switzerland has eliminated local incentives through a constitutional amendment, other, especially developing countries may face challenges in doing so.[74]

Specifically, the UTPR interaction with domestic tax incentive regimes is generating some political concern. The issue relates to the effect of the UTPR, especially in the UPE jurisdiction, when that UPE has availed itself of non-qualified tax incentives or credits that reduce covered taxes, which may end up reducing the ETR of the UPE in its home country below 15%, even though for local tax purposes it may be well above 15%, especially in the area of research and development, social incentives, or credits for renewable energy. [75] Ultimately, it is likely that under GloBE rules, tax incentives will become less attractive.

4.3 UTPR and Other International Law Obligations

Furthermore, there are some concerns that UTPR might conflict with a number international law obligations. Apart of tax treaties and bilateral investment treaties or friendship agreements, which will have to be examined individually, they may also impact prohibition of extraterritorial taxation or even a right to property according to the European Court of Human Rights. It is key that states review these potential conflicts before the implementation and seek for potential mitigation strategies. For example, by signing an international treaty to implement the UTPR/IIR).[76]

Especially interesting debate is held in the area of customary international law. In international tax doctrine, it is generally accepted that the principle of a 'nexus' must be satisfied in order for a state to exercise its tax jurisdiction, i.e., that a certain (genuine or sufficient) connecting factor to a person or income exists. This rule has attained the status of

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[71] Goulder, R., & VanderWolk, J. Ibid.Challenging The Undertaxed Profits Rule. https://www.forbes.com/sites/taxnotes/2023/02/24/challenging-the-undertaxed-profits-rule/amp/

[72] OECD. (2022c). Tax Incentives and the Global Minimum Corporate Tax. pg. 47-48

[73] Ibid.pg. 47-48 and OECD (2015), *Policy Framework for Investment, 2015 Edition*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264208667-en.

[74] Tandon, S. (2022). Policy Note: Assessing the Impact of Pillar Two on Developing Countries. *Intertax*, 923-935. http://www.kluwerlawonline.com/api/Product/CitationPDFURL?file=Journals\TAXI\TAXI2022094.pdf (Intertax) pg. 934

[75] PwC. (2022). OECD releases Pillar Two Commentary and launches public consultation on the Implementation Framework. In.pg. 7

[76] Hongler, P. (2023). Five Possible Violations of International Law by the UTPR. https://www.linkedin.com/posts/peter-hongler-27781625_utpr-activity-7035843611451637760-2CXv?utm_source=share&utm_medium =member_desktop

international customary law.[77] Nexus is an essential element in the establishment of taxing rights with regard to nonresidents' income and the UTPR likely departs from it,[78] even if we accept the connection of individual entities within the MNE. It also remains uncertain whether such a violation of the nexus rule by the UTPR may be justified by a common interest.[79]
Finally, the Pillar 2 framework should be seen as a legal recommend dation or soft law.[80] In order to consider that UTPR might become part of the customary international tax law, wider domestic rule implementation would be necessary, even if many countries entered into a high-level political agreement. [81] In any case, again, the adoption of a multilateral treaty would be the most straightforward solution.[82]

5 CONCLUSION

The traditional international tax rules have been insufficient for today's globalized world, leading to corporate tax avoidance. To address this issue, the OECD/G20 Inclusive Framework on BEPS has reached an agreement on the Two-Pillar Solution. The Pillar 2 introduces GloBE rules and provides a minimum 15% tax on corporate profits, putting a floor on tax competition. The implementation of Pillar 2 could remove ineffective tax systems, but the impact will vary. The compatibility of UTPR with treaties may depend on the design of a given UTPR in relation to the specific terms of a given tax treaty. UTPR may also conflict with a number of other international law obligations. All countries should analyse possible impact and develop appropriate policy and legislative responses. As the Pillar 2 framework should be seen as a legal recommendation or soft law, a multilateral treaty may be the most straightforward solution.

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[80] Ibid.pg. 905

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PRÁVNÍ MOŽNOSTI ODSTRANĚNÍ SEXUÁLNĚ EXPLICITNÍHO OBSAHU Z PROSTŘEDI INTERNETU

LEGAL MEANS TO REMOVING SEXUALLY EXPLICIT CONTENT FROM THE INTERNET

Marek Pačmag

Abstrakt

Příspěvek má za cíl analyzovat aktuálně účinnou legislativu v České republice, Evropské unii a v mezinárodním právu a definovat dostupné právní možnosti k odstranění sexuálně explicitního materiálu z prostředí Internetu, respektive Clear webu. Jednotlivé možnosti budou pro přehlednost demonstrovány na příkladech z aplikační praxe.

Klíčová slova: *dětská pornografie, legislativa, odstranění obsahu, sociální sítě*

Abstract

The aim of the article is to analyze the currently effective legislation in the Czech Republic, the European Union and international law in order to define available legal means to removing sexually explicit content from the Internet or more precisely Clear web. For the sake of clarify the individual alternatives will be demonstrated through examples from relevant application cases.

Key words: *child pornography, legislation, content removal, social networks*

ÚVOD

Tvrzení, že v současné době se nemůže již společnost obejít bez Internetu, se neoddiskutovatelně zakládá na pravdě. Při rozhlédnutí se na různých veřejných místech, v prostředcích veřejné dopravy, posilovnách, na přednáškách ve školách a dalších, lze spatřit značné množství lidí, zejména z řad mládeže, kteří vykonávají jednotlivé činnosti pouze s mobilním telefonem v ruce. Popularita se v dnešní době měří v podobě počtu followers a s tím spojeného dosahu příspěvků u jednotlivých účtů na sociálních sítích. Historie však již mnohokráte ukázala, že prakticky každý „*vynález*“ je zneužitelný.

V poslední době slouží Internet, mimo dostupnosti legální pornografie, kterou lze definovat jako vyobrazení konsensuálních, sexuálních aktivit dospělých osob, i například k pomstychtivým útokům například bývalých partnerů či partnerek v podobě zveřejnění sexuálně explicitních fotografií či videí, které vznikly za doby společného soužití. Cílem takového útoku je zdiskreditovat bývalého partnera a ztížit mu další život takřka ve všech směrech.[1, s.24] V celosvětovém měřítku pak rezonuje i problematika sexuálního zneužívání dětí na Internetu. Uvedené tvrzení potvrzuje statistika neziskové organizace National Center for Missing & Exploited Children (dále jen „NCMEC“) za období roku 2022, ve kterém bylo přijato od různých poskytovatelů služeb (Facebook, TikTok, Snapchat, Google a další) více než 32 milionů hlášení o závadovém obsahu v podobě materiálů zobrazující sexuální zneužívání dětí.[2] Je nezbytné připomenout, že dětská pornografie představuje pojem mnohem širší, než se ve skutečnosti může zdát. Málokdo si například uvědomuje, že fotografie obnažené šestnáctileté spolužačky ve vyzývavých polohách, uložené ve stolním počítači, tabletu nebo mobilním telefonu, bude také po formální stránce naplňovat znaky trestného činu výroby a jiného nakládání s dětskou pornografií.

Cílem příspěvku je analyzovat aktuálně účinnou legislativu v České republice, Evropské unie a v mezinárodním právu. Na podkladě provedené analýzy pak definovat dostupné právní možnosti k odstranění sexuálně explicitního materiálu z prostředí Internetu, respektive Clear webu. Jednotlivé možnosti budou pro přehlednost demonstrovány na příkladech z aplikační praxe. Příspěvek je určen jak široké veřejnosti, tak i zástupcům orgánů činných v trestním řízení. Provedenou literární rešerší bylo zjištěno, že ucelené pojednání na zvolené téma dosud absentuje.

1. CHARAKTER SEXUÁLNĚ EXPLICITNÍHO OBSAHU

Předně je nezbytné uvést, že Internet je klasifikován na dvě primární oblasti, a to Clear web (Surface web) a Deep web. Příspěvek se zaměřuje na oblast Clear webu, který lze zjednodušeně charakterizovat jako indexovanou část Internetu, kterou lze vyhledat prostřednictvím standardních vyhledávačů například Googlu.[3,s.622] Předmětem příspěvku tedy nebude prostředí Deep webu, byť jej lze považovat za část nesporně významnou, avšak značně náročnější z pohledu jeho fungování a mechanismu odstraňování sexuálně explicitního materiálu. Zejména pak Dark web, jakožto část Deep webu, představuje frekventovaně využívané prostředí pro sdílení například dětské pornografie.

V prostředí Clear webu lze sexuálně explicitní materiál zveřejnit prakticky kdekoliv, počínaje nejrůznějšími sociálními sítě, přes seznamky až po volně přístupné webové stránky. V úvodu je nezbytné vyřešit dvě základní roviny sexuálně explicitního materiálu,

1. zdali je předmětem trestního řízení,
2. zdali je umístěn u českého či zahraničního poskytovatele služeb,

neboť u každé bude následovat odlišný postup, jež povede k jeho odstranění.

1.1 Závadový materiál je předmětem trestního řízení

V úvodu příspěvku byl užit a paralelně vymezen pojem tzv. legální pornografie. V odborné literatuře se vedle legální pornografie vyskytuje i pornografie nelegální. Pod nelegální pornografií lze subsumovat pornografii tvrdou, jejíž výroba a jiná manipulace je trestně postihována ustanovením § 191 zákona č. 40/2009 Sb., trestní zákoník, ve znění pozdějších změn a doplnění (dále jen „tr.zákoník“), a pornografii dětskou, která je trestě postihována hned několika ustanoveními například § 192, § 193, § 193a tr.zákoníku. K názvu dětské pornografie je důležité zmínit, že se celosvětově od jeho používání postupně upouští a je nahrazován termínem „child sexual abuse material“ tzv. CSAM. [4] Z logického hlediska vyplývá, že nelegální pornografie bude vždy předmětem trestního řízení, pokud se o tomto materiálu pochopitelně orgány činné v trestním řízení dozví.

I sexuálně explicitní materiály se zapojením zletilých osob mohou být předmětem trestního řízení. Příkladem může být případ, ve kterém muž po rozchodu se svou partnerkou vytvořil účet na erotické seznamce, na kterém vyplnil osobní údaje bývalé partnerky, včetně kontaktního telefonního čísla, na profil vložil intimní fotografie, které získal v rámci například dřívějšího sextingu, a na profil uvedl, že má chuť se seznámit za účelem sexuálních hrátek. U takového jednání pachatele je dáno podezření ze spáchání přečinu poškození cizích práv podle § 181 odst. 1 písm. a) tr.zákoníku.

Zákon č. 141/1961 Sb., o trestním řízení soudním, ve znění pozdějších změn a doplnění (dále jen „tr.řád“) v případech nelegální pornografie či jiných sexuálně explicitních materiálů, které jsou předmětem trestního řízení, a jsou ve spojení s českým poskytovatelem služeb spočívajících v ukládání informací poskytnutých uživatelem (například české erotické seznamky a sociální sítě) poskytuje procesní instrument pro zabránění pokračování v trestné činnosti nebo jejímu opakování. Podle ustanovení § 7b tr. řádu lze nařídit „*osobě, která drží nebo má pod svojí kontrolou data, která jsou uložena v počítačovém systému nebo na nosiči informací, aby znemožnila přístup jiných osob k takovým datům*“.

K vydání zmíněného příkazu si musí policejní orgán vyžádat předchozí souhlas státního zástupce v souladu s ustanovením § 7b odst. 2 tr.řádu. Příkaz lze vydat i v neodkladných případech, jestliže nelze předchozího souhlasu dosáhnout. V příkazu musí být konkrétně označena data, na která se příkaz vztahuje, důvod, pro který k nim má být znemožněn přístup, a informace, po jakou dobu k nim má být znemožněn přístup, která nesmí být delší než 90 dnů. Pokud uplyne lhůta 90 dní pro znepřístupnění, web se zpřístupní. V této souvislosti je nasnadě návrh *de lege ferenda* k změně právní úpravy, a to možnosti v odůvodněných případech prodloužit tuto lhůtu, neboť ve většině trestních věcí bude stanovená lhůta nedostatečná.
Jedná-li se o zahraničního poskytovatele služeb (v zahraniční literatuře označován také jako online service provider či electronic service provider), který však má sídlo v rámci Evropské unie, tak v takovým případech lze vydat cestou dozorového státního zástupce v dané trestní věci evropský vyšetřovací příkaz. Evropský vyšetřovací příkaz je založen na vzájemném uznávání. Vykonávající orgán je povinen uznat žádost jiné země a zajistit její výkon. Příkaz je třeba vykonat stejným způsobem a za stejných podmínek, jako by daný vyšetřovací úkon byl nařízen orgánem vykonávajícího státu.[5]
U poskytovatelů služeb, jež nemají sídlo v členských státech Evropské unie, například Facebook, TikTok, Snapchat, Youtube a dalších, bude nezbytné postupovat v souladu s příslušnými ustanoveními Úmluvy o počítačové kriminalitě č. 104/2013 Sb.m.s..

1.2 Závadový materiál není předmětem trestního řízení

V případech, ve kterých se nekoná trestní řízení, nejsou procesní instrumenty z trestního řádu aplikovatelné. Základní otázkou bude, na jakém právním základě bude odstranění či znepřístupnění provedeno. Bude-li se opětovně jednat o českého poskytovatele služby, je třeba připomenout, že poskytovatelé služeb spočívající v ukládání informací poskytnutých uživatelem (například webhosting nebo sociální sítě) nemají podle ustanovení § 6 písm. a), b) zákona č. 480/2004 Sb., o některých službách informační společnosti, stanovenou povinnost dohlížet na obsah své síť či aktivně vyhledávat protiprávní obsah. Takový postup se však neuplatní v případech podle ustanovení § 5 písm. a), b) téhož zákona, ve kterých mohl poskytovatel „vzhledem k předmětu své činnosti a okolnostem a povaze případu vědět, že obsah ukládaných informací nebo jednání uživatele jsou protiprávní, nebo dozvěděl-li se prokazatelně o protiprávní povaze obsahu ukládaných informací nebo o protiprávním jednání uživatele
a neprodleně neučinil veškeré kroky, které lze po něm požadovat, k odstranění nebo znepřístupnění takovýchto informací“.
Z uvedeného vyplývá možnost obrátit se se svým oznámením (žádostí) na dotčeného poskytovatele služby. Případná oznámení (žádosti) by měla být prokazatelně doručena poskytovateli, tedy zpravidla do datové schránky či doporučenou poštovní zásilkou. V současné době většina poskytovatelů služeb umožňuje nahlásit závadový obsah prostřednictvím formulářů dostupných v rámci služby. Takové oznámení může učinit například i Policie České republiky v rámci své zákonné kompetence.
V České republice není stanoven časový horizont, ve kterém musí být závadový materiál znepřístupněn. V České republice neexistuje konkrétní právní prostředek, na základě něhož, jsou poskytovatelé služeb povinni k nenávratnému odstranění závadového materiálu z webových portálů. V případech, ve kterých nebylo učiněno žádné opatření v podobě odstranění či znepřístupnění takového obsahu, je dáno v krajním případě i podezření ze spáchání trestného činu výroby a jiného nakládání s dětskou pornografií podle ustanovení § 192 odst. 3, případně 4 písm.b) tr. zákoníku ve formě pomoci podle ustanovení § 24 písm. c) tr.zákoníku.

Zveřejňování sexuálně explicitních materiálů bez souhlasu zobrazené osoby lze postihnout nejen v rámci trestně právních norem, ale rovněž i v rámci správního trestání, popřípadě na úrovni občanskoprávní, a to při nedosažení potřebné míry společenské škodlivosti, která je vyžadována trestním zákoníkem. Zákon č. 250/2016 Sb., o odpovědnosti za přestupky a řízení o nich, v § 5 stanoví, že „přestupkem je společensky škodlivý protiprávní čin, který je v zákoně výslovně za přestupek označen a který vykazuje znaky stanovené zákonem, nejde-li o trestný čin“. Nedovolené šíření shora uvedených materiálů, které by naplnily znaky přestupku, lze právně kvalifikovat jako přestupky proti občanskému soužití, které jsou upraveny v § 7 zákona č. 251/2016 Sb., o některých přestupcích, ve znění pozdějších změn a doplnění. In concreto fyzická osoba se takového přestupku může dopustit tím, že „*jinému ublíží na cti zesměšněním anebo hrubým urážením jiným způsobem*“ nebo „*se vůči jinému dopustí jiného hrubého jednání*“. Dotčená osoba je oprávněna se u správního orgánu domáhat nejen prošetření protiprávního jednání za účelem potrestání pachatele, ale je oprávněna po pachateli požadovat i náhradu vzniklé škody.
Jak již bylo uvedeno výše, nedosahuje-li protiprávní jednání intenzity trestného činu nebo přestupku, je možné domáhat se ochrany cestou občanskoprávní. Právní úpravu osobnostních práv je zakotvena v zákoně č. 89/2012 Sb., občanský zákoník, ve znění pozdějších změn a doplnění, v oddíle 6 hlavy II v části první nazvané „Osobnost člověka“. Občanský zákoník v § 81 upravuje generální klauzuli, která stanoví, že osobnost člověka je chráněna, přičemž ochrany požívají zejména život a důstojnost člověka, jeho zdraví a právo žít v příznivém životním prostředí, jeho vážnost, čest, soukromí a jeho projevy osobní povahy. Právní úpravu podoby a soukromí osoby, které jsou pro tuto problematiku stěžejní, pak nalezneme v druhém pododdíle (§ 84 až § 90). Proti tomu, kdo neoprávněně naruší přirozená osobnostní práva člověka, se může dotčená osoba domáhat u příslušného civilního soudu toho, aby od neoprávněného zásahu upustil (žaloba negatorní) a aby následek neoprávněného zásahu odstranil (žaloba restituční). V rámci civilní žaloby je možné žádat i kumulaci nároku, a to jak majetkové, tak i nemajetkové povahy (žaloba satisfakční). Vzhledem k tomu, že v praxi projednání žaloby na ochranu osobnosti trvá zpravidla delší dobu, má možnost dotyčná osoba podat k soudu, ještě před zahájením řízení ve věci samé, návrh na uložení předběžného opatření, které musí soud ve smyslu § 75c odst. 2 zákona č. 99/1963 Sb., občanský soudní řád, nařídit do 7 dnů. Předběžným nařízením soud narušiteli zakáže další zásah do osobnostních práv. Výhodou tohoto právního institutu je rychlost jeho vydání, což je v případě neoprávněného sdílení sexuálního materiálu po Internetu více než žádoucí.
U popsaného způsobu ochrany práv není rozhodné, zdali zahraniční poskytovatelů služeb, má sídlo v rámci Evropské unie nebo mimo Evropskou unii. Pro názornost bude postup osvětlen na poskytovateli služby Facebook, a to společnost Meta Platforms Ireland Limited, která i v současné době má nejvíce aktivních uživatelů. [6] Souhlas s licenčními podmínkami ze strany uživatelů umožňují týmu o celkovém počtu přibližně 15.000 osob, kontrolovat každý den obsah Facebooku za účelem zajištění bezpečnější platformy. Při vlastním vyhledání obsahu se zakázanou sexualitou Facebook přistoupí k nahlášení takového obsahu, kdy „*abychom ochránili oběti, odebíráme také obrázky znázorňující případy sexuálního násilí a intimní obrázky sdílené bez souhlasu vyobrazených osob. Jak jsme již uvedli v úvodu, spolupracujeme také s externími odborníky na bezpečnost, se kterými probíráme a vylepšujeme naše zásady a jejich uplatňování ve vztahu k bezpečnosti na internetu. Pokud nám sdělí, že se určitý obsah pojí se škodlivou činností, tento obsah odebereme*“.[7] Facebook postoupil již tak daleko, že se zavazuje odebrat „*relativně neškodné*“ materiály nahých dětí, které nebyly vytvořeny primárně k sexuálním účelům, a to s odkazem na následující sdělení v licenčních podmínkách „*Jsme si vědomi, že lidé někdy sdílí fotky svých vlastních nahých dětí s dobrými úmysly. Obecně však tyto fotky odebíráme kvůli potenciální hrozbě zneužití*

jinými osobami a abychom pomohli zabránit tomu, aby jiní lidé tyto fotky opakovaně nebo nevhodně nevyužili“.[8]
Druhou alternativou odstranění sexuálně explicitního materiálu je tzv. nahlášení ze strany uživatelů. Každý uživatel zpravidla disponuje možností se obrátit na poskytovatele služby, v prezentovaném případě Facebook, aby přezkoumal a případně odstranil obsah, který porušuje zásady komunity. Výsledek takového nahlášení není žádným způsobem garantován, nicméně zpravidla bude opodstatněným nahlášením vyhověno.

2. MOŽNOSTI ODSTRANĚNÍ SEXUÁLNÍHO OBSAHU Z POHLEDU NOVĚ PŘIPRAVOVANÉ LEGISLATIVY EVROPSKÉ UNIE

Evropská komise dne 11. května 2022 předložila návrh nařízení Evropského parlamentu a Rady, kterým se stanoví pravidla pro předcházení pohlavnímu zneužívání dětí a boj proti němu (dále jen „návrh nařízení“).[9] Návrh nařízení bude významným způsobem *pro futuro* změnit dosavadní snahy o potlačení sexuálního zneužívání dětí v prostředí v Clear webu. Mimo mnoho připravovaných změn, se jedna vztahuje k posílení práva dětských obětí být v prostředí Internetu tzv. „*zapomenut*“.
Podle dostupné důvodové zprávy k návrhu nařízení bude mít za povinnost nově vzniklé Evropské centrum pro předcházení pohlavnímu zneužívání dětí a boj proti němu (dále jen „EUC“) usnadnit odstranění sexuálně explicitního materiálu tím, že v určitých případech oznámí poskytovatelům služeb výskyt uvedených materiálů a požádá je o odstranění, jakož i navazující kroky v návaznosti na tyto žádosti.[10] Podle článku 20 návrhu nařízení bude obětem poskytnuto právo obdržet od EUC prostřednictvím koordinačního orgánu v místě jejich bydliště informace o oznámeních známého materiálu, jež se týká pohlavního zneužívání dětí, který je znázorňuje. Výsledkem takového mechanismu bude podpora obětí, které požadují nebo se dozví o skutečnosti, že se v kyberprostoru vyskytují sexuálně explicitní materiály, které je vyobrazují.
V současné době na území Evropské unie žádná taková služba není k dispozici. EUC na podkladě návrhu nařízení bude disponovat právními prostředky ke kontrole, zda k odstranění skutečně došlo. V případě, že nebude odstranění provedeno ve lhůtě, EUC bude oprávněno přijmout opatření nebo odkázat na vnitrostátní orgány (například k vydání příkazů k odstranění).
Z uvedeného vyvěrá stěžejní otázka, zdali v případě, že dívka ve věku devatenáct let (byť ve videu věk vyobrazené dívky lze jen těžko posoudit), která byla zachycena na videu při dobrovolném pohlavním styku (bez viditelného obličeje) se svým bývalým přítelem, které bylo bez jejího souhlasu zveřejněno na pornografických stránkách, bude mít možnost k požádání o odstranění takového videa? V popsané věci nepůjde o podezření ze spáchání trestného činu poškození cizích práv podle § 191 tr. zákoníku, neboť ve videu není znatelný obličeje, a proto se nepředpokládá způsobení vážné újmy na právech. Nicméně zastávám názor, že v takovém případě i s ohledem na důraz, který je v rámci návrhu nařízení kladen na samotné oběti, by měla být taková žádost úspěšně vyřízena, tedy video by bylo odstraněno z předmětných pornografických stránek.
Další otázkou bude, zdali dívka ve věku 16 let, která pořídila a následně poslala své intimní fotografie svému příteli, se po jejich rozchodu bude mít právo obrátit na EUC, aby tyto fotografie, které ještě nikde v kyberprostoru zveřejněny nebyly, preventivně byly vloženy do hash listu CSAM. Tím by došlo k efektivnímu znemožnění tyto fotografie ze strany bývalého přítele do budoucna zneužít. Na tuto otázka poskytuje řešení článek 44 písm. b) návrhu nařízení, který stanoví, že se musí jednat o známý materiál, tedy materiál, kterému byl status známého materiálu ze strany EUC již přiřazen. Nový, dosud neznámý materiál, tímto způsobem nebude podle aktuálního znění návrhu nařízení možno odstranit.

V této souvislosti je však vhodné zmínit novou možnost z dílny NCMEC s názvem „*Take it down*“. Služba byla spuštěna v lednu roku 2023. Lze ji využít výhradně na veřejných nebo nešifrovaných platformách u poskytovatelů služeb, které souhlasily se spoluprací. V současné době není k dispozici seznam zapojených poskytovatelů služeb. Samotná služba spočívá v poskytnutí preventivního opatření nezletilým vztahující k jejich nahým, částečně nahým nebo jinak sexuálně explicitním materiálům, jež byly pořízeny před dosažením osmnáctého roku věku obětí, u kterých mají podezření na jejich zveřejnění online. Popsaným materiálům se přiřazuje jedinečný digitální otisk, tzv. hash hodnotu, a to bez nutnosti, aby materiál opustil zařízení uživatele. Poskytovatelé služeb mohou pomocí hodnot hash tento materiál ve svých službách případně detekovat a tento obsah následně odstranit. Národnímu centru pro pohřešované a vykořisťované děti je poskytována pouze hodnota hash. [11]

3. ZÁVĚR

Příspěvek se zabýval právními možnostmi odstranění sexuálně explicitního materiálu z prostředí Internetu, konkrétněji z Clear webu. Cílem seminární práce bylo v této oblasti analyzovat aktuálně účinnou legislativu v České republice, Evropské unie a v mezinárodním právu s cílem popsat dostupné právní možnosti odstranění výše definovaných materiálů.

V první řadě bylo stěžejní definovat rozdíly v postupu u odstranění materiálů, které jsou předmětem trestního řízení, u ostatních materiálů, které naplňují „*pouze*“ skutkovou podstatu přestupku nebo jiná jednání v rozporu s občanským právem. Další významnou okolností pro odstranění materiálů, které jsou předmětem trestního řízení, je skutečnost, zdali se takový obsah nachází ve službách u českého poskytovatele služby, popřípadě u poskytovatele v rámci Evropské unie nebo u poskytovatele mimo Evropskou unii.

V souvislost s § 7b odst. 4 tr.řádu byl nabídnut návrh *de lege ferenda* k změně současné právní úpravy ve vztahu k poskytnutí možnosti v odůvodněných případech prodloužit lhůtu v délce 90 dní, neboť ve většině trestních věcí bude s ohledem k mezinárodnímu prvku tato lhůta nedostatečná.

Významnou částí příspěvku bylo pojednání o centru Evropské unie proti sexuálnímu zneužívání dětí, jehož vznikem budou mimo jiné posílena práva jednotlivců být v prostředí Internetu tzv. „*zapomenut*“. Zejména byla přiblížena garantovaná procesní práva se současným upozorněním na rizikové momenty při budoucím výkladu uvedeného nařízení.

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ZÁKLADNÉ POJMY SÚVISIACE S TRESTNÝMI ČINMI EXTRÉMIZMU[1]

TERMILOGY RELATED TO THE CRIMES OF EXTREMISM

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Abstrakt

Trestné činy extrémizmu z hľadiska štatistík kriminality nepatria medzi najrozšírenejšie formy kriminality, avšak v poslednom období je možné badať progres tohto druhu kriminality. Tento druh kriminality je determinovaný viacerými faktormi, či už nedostatočným vzdelávaním, politickou situáciou, neobmedzeným prístupom na internet, či sociálnymi sieťami, ale aj prebiehajúcim vojenským konfliktom na Ukrajine. Z rozmachom nenávistných konaní preto prichádza aj potreba trestnoprávnej reakcie zo strany štátu. Vzhľadom na špecifickosť tohto druhu kriminality je potrebné pochopiť jej pojmológiu. Autori sa preto v tomto príspevku zaoberajú základnými pojmami nevyhnutnými pre pochopenie trestných činov extrémizmu.

Kľúčová slova: *extrémizmus, xenofóbia, rasizmus*

Abstract

From the point of view of crime statistics, crimes of extremism are not among the most widespread forms of crime, but in the last period it is possible to observe the progress of this type of crime. This type of crime is determined by several factors, be insufficient education, politic situation, unrestricted access to the Internet or social networks, but also the ongoing military conflict in Ukraine. The rise of hateful acts therefore also brings the need for a criminal law response on the part of the state. Given the specificity of this type of crime, it is necessary to understand its terminology. Therefore, in this paper, the authors deal with the basic concepts necessary for understanding the criminal acts of extremism.

Key words: *extremism, xenophobia, racism, hatred*

1 ÚVOD

Trestné činy extrémizmu sú príznačné svojim špecifických charakterom. Ich špecifický charakter vyplýva z toho, že existuje veľmi tenká hranica medzi tzv. slobodou prejavu a nenávistnými prejavmi názoru, ktoré už napĺňajú objektívnu stránku niektorého z trestných činov extrémizmu. S rozmáhajúcim sa technickým pokrokom, neobmedzeným prístupom na internet, či k sociálnym sieťam, sú jednotlivé prejavy nenávisti, či inej formy extrémizmu na vzostupe. Trestné činy súvisiace s najrozmanitejšími formami nenávisti a neznášanlivosti sú frekventovane páchané na internete, predovšetkým na sociálnych sieťach. Táto protiprávna činnosť, ktorá má aj trestnoprávny prvok je páchaná napríklad aj prostredníctvom nenávistných statusov alebo komentárov produkovaných na sociálnych sieťach. Rozvoj tohto druhu trestnej činnosti sa však neupína výlučne na sociálne siete. Neobvyklé nie je ani zasielanie e-mailových správ s problematickým obsahom alebo prezentovanie rôznorodých

[1] Tento príspevok vznikol s podporou a je výstupom riešenia výskumného projektu VEGA v rámci projektu: Eliminácia rasizmu, xenofóbie a ostatných foriem intolerancie prostriedkami trestného práva; VEGA č. 1/0333/23.

extrémistických názorov na rozličných portáloch v elektronickom prostredí. Pochopiteľne uvedenými spôsobmi nie sú vyčerpané všetky formy extrémizmu, ktorých je veľké množstvo. Formy extrémizmu považujeme vskutku za rôznorodé. Z uvedeného dôvodu si za cieľ tohto príspevku kladieme definovanie a vyčerpávajúce vysvetlenie základných pojmov, ktoré sú neodmysliteľne späté s jednotlivými skutkovými podstatami trestných činov extrémizmu a znalosť ktorých je nevyhnutná na objektivizovanie znakov objektívnej stránky tej ktorej skutkovej podstaty trestných činov extrémizmu a správnu právnu kvalifikáciu.

2 ZÁKLADNÉ POJMY

2.1 Extrémizmus

Pojem „extrémizmus“ je vo veľkej miere používaný skrz celé spoločenské spektrum, no aj napriek tomu jeho legálnu definíciu nenájdeme v našom Trestnom zákone č. 300/2005 Z. z. (ďalej len „Trestný zákon“). Môžeme preto v podstate extrémizmus označiť za žurnalistický alebo politologický pojem, ktorý sa veľmi úzko prelína aj so sociologickým pohľadom. Charakterizuje ho proti-systémový postoj krajnej vyhrotenej, demokratickému systému nepriateľskej ideológie, postojov a názorov, ktoré sa objavujú v pozadí deštruktívnych aktivít. (...) Cieľom a dôsledkom takýchto aktivít je zničiť demokratický systém.[2] Rôzne skupiny osôb, organizácie, či štáty nemajú jednotný názor na definíciu pojmu extrémizmus. Práve preto nie je jednoduché upraviť jednotnú definíciu, ktorá by uspokojila všetky subjekty, ktoré tento pojem používajú. Napríklad v Nemecku rozumejú pod pojmom extrémizmus všetky iniciatívy a aktivity politických strán, skupín, hnutí a jednotlivých osôb, ktoré vystupujú legálnymi aj násilnými prostriedkami proti nemeckej ústave. Naopak vo Veľkej Británii nepožívajú pojem „extrémizmus“, pretože ho považujú za nepresný a namiesto neho používajú presne definované výrazy ako napr. terorizmus, subverzia, sabotáž a pod...[3]

Slovenská právna úprava nedefinuje extrémizmus, len trestné činy extrémizmu, kde trestné činy extrémizmu sú trestný čin založenia, podpory a propagácie hnutia smerujúceho k potlačeniu základných práv a slobôd podľa § 421, prejavu sympatie k hnutiu smerujúcemu k potlačeniu základných práv a slobôd podľa § 422, výroby extrémistického materiálu podľa § 422a, rozširovania extrémistického materiálu podľa § 422b, prechovávania extrémistického materiálu podľa § 422c, popierania a schvaľovania holokaustu, zločinov politických režimov a zločinov proti ľudskosti podľa § 422d, hanobenia národa, rasy a presvedčenia podľa § 423, podnecovania k národnostnej, rasovej a etnickej nenávisti podľa § 424, apartheidu a diskriminácie skupiny osôb podľa § 424a a trestný čin spáchaný z osobitného motívu podľa § 140 písm. e).[4]

Definíciu pojmu extrémizmu v rámci nášho územia nájdeme v Koncepcii boja proti radikalizácii a extrémizmu do roku 2024, ktorá bola schválená uznesením vlády Slovenskej republiky č. 22 zo dňa 13.01.2021. V intenciách tejto koncepcie za extrémizmus označujeme prejavy a konania vychádzajúce z postojov ideológie krajne vyhrotenej k princípom demokratického právneho štátu, ktoré priamo alebo v určitom časovom horizonte, úmyselným verbálnym alebo fyzickým konaním pôsobia deštruktívne na existujúci demokratický systém a jeho základné atribúty, s cieľom presadiť vlastné ideologické ciele.[5] Podľa tejto koncepcie

[2] MILO, D.: Rasistický extrémizmus v Slovenskej republiky, Bratislava: Ľudia proti rasizmu, 2004, 13 s.
[3] Pozri bližšie MILO, D.: Rasistický extrémizmus v Slovenskej republiky, Bratislava: Ľudia proti rasizmu, 2004, 14 s.
[4] Ust. § 140a Trestného zákona
[5] Koncepcia boja proti radikalizácii a extrémizmu do roku 2024 str. 10. online: https://prevenciakriminality.sk/pdf/view/48/%7B%22Domov%22:%7B%22route%22:%22index%22%7D,%22Dokumenty%22:%7B%22route%22:%22menu_article_view%22,%22params%22:%7B%22slug%22:%22dokumenty%22%7D%7D%7D.

medzi charakteristické črty extrémizmu, možno zaradiť útok na systém základných práv a slobôd, ako aj jeho snahu obmedziť a potlačiť, výkon základných práv a slobôd pre určité skupiny obyvateľstva definované ich skutočnou alebo domnelou príslušnosťou k niektorej rase, národu, národnosti, etnickej skupine alebo pre ich skutočný alebo domnelý pôvod, farbu pleti, pohlavie, sexuálnu orientáciu, politické presvedčenie alebo náboženské vyznanie.[6]

Aj keď nová koncepcia boja proti extrémizmu je už spojená aj s bojom proti radikalizácii potrebujeme pre úplnosť dodať, že pojmy extrémizmus a radikalizmus nie sú totožné. Radikalizmus je množina myšlienok, názorov a prejavov, ktoré smerujú k zásadným zmenám v určitých oblastiach v rámci spoločnosti. Kľúčovým faktorom je to, že radikalizmus sa nepokúša o zmenu ústavného zriadenia (teda od demokracie k diktatúre), ale ostáva v rámci súčasného ústavného zriadenia.[7]

Nariadenie o postupe v oblasti boja s extrémizmom a o úlohách monitorovacieho strediska rasizmu a xenofóbie okrem uvedeného obsahovalo aj definíciu ďalšieho významného pojmu a tým je „extrémista“. Extrémistami sa rozumejú osoby alebo skupiny osôb, ktoré sa vyznačujú najmä a) odmietaním platných všeobecne záväzných právnych predpisov a vysokou mierou názorovej, rasovej alebo etnickej neznášanlivosti, b) absenciou hmotných pohnútok a motiváciou protiprávneho konania s prvkami agresivity a brutality, c) agresívnym správaním prejavujúcim sa fyzickými aktivitami (diváckym násilím) v súvislosti s konaním spoločenských podujatí, ktoré smerujú k spôsobeniu fyzickej ujmy osobám, škode na majetku, alebo ktoré sú spôsobilé narušiť verejný poriadok.[8]

Prvotne však definovala Slovenská republika pojem „extrémizmus“ odlišne. Konkrétne v nariadení ministra vnútra SR č. 45/2004 o postupe v oblasti boja s extrémizmom a o úlohách monitorovacieho strediska rasizmu a xenofóbie, bolo uvedené, že sa pod ním rozumejú verbálne, grafické, fyzické alebo iné aktivity spojené spravidla s vyhraneným ideologickým alebo iným kontextom, zväčša s absenciou hmotnej pohnútky, ktoré vyvíjajú jednotlivci alebo skupiny osôb s názormi výrazne vybočujúcimi zo všeobecne uznávaných spoločenských noriem so zreteľnými prvkami netolerancie, najmä rasovej, národnostnej, náboženskej alebo inej obdobnej neznášanlivosti, ktoré útočia proti demokratickým princípom, spoločenskému usporiadaniu, životu, zdraviu, majetku alebo verejnému poriadku.[9]

V praxi je dôležité rozlišovať smery extrémizmu. Najčastejšie ide o rasový, náboženský, či politický extrémizmus. Motívom rasového extrémizmu je rasová, etnická alebo národnostná neznášanlivosť. Genocída a rasovú neznášanlivosť sú dôsledkom rasového extrémizmu. Naproti tomu prejavy náboženského extrémizmu sa sústreďujú na určitú náboženskú ideológiu. Autoritatívne vedenie krajných frakcií cirkví, siekt, kultov a hnutí tak podsúva svojim členom a členkám radikálne názory a formy riešenia problémov, ktoré pramenia z nábožensky-patologických prejavov vnímania reality. Pre politický extrémizmus je jeho motívom najmä nepriateľstvo voči určitým skupinám ľudí v spoločnosti. Rozlišujeme pritom ľavicový politický extrémizmus, ktorý je motivovaný nepriateľstvom voči sociálnym a

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[6] Pozri bližšie Koncepcia boja proti radikalizácii a extrémizmu do roku 2024 str. 10, online: https://prevenciakriminality.sk/pdf/view/48/%7B%22Domov%22:%7B%22route%22:%22index%22%7D,%22Dokumenty%22:%7B%22route%22:%22menu_article_view%22,%22params%22:%7B%22slug%22:%22dokumenty%22%7D%7D%7D.

[7] SMIEŠKO, I.: *Internet a trestné činy extrémizmu*. Plzeň: Aleš Čeněk, 2017. ISBN 978-80-7380-691-0, *str. 47.*

[8] Čl. 2 ods. 3 nariadenia ministra vnútra č. 45/2004.

[9] Čl. 2 ods. 1 nariadenia ministra vnútra č. 45/2004.

triednym rozdielom a pravicovým politický extrémizmus, ktorý je charakteristický nepriateľstvom voči rasám, národnostným, etnickým a iným skupinám.[10]

2.2 Ďalšie zásadné pojmy

Medzi prvky, ktoré výrazne ovplyvnili extrémistické správanie patrí najmä xenofóbia a antisemitizmus. Preto považujeme za dôležité poukázať aj na ďalšie pojmy, ktoré úzko súvisia s extrémizmom.

Xenofóbia znamená strach z cudzincov. Toto slovo sa obvykle používa na označenie neznášanlivosti k ľuďom z iných krajín alebo iných etnických skupín, rovnako ako aj nedostatok rešpektu pre ich tradície a kultúru.[11] Môžeme ju teda pokladať za akýsi základ sociálnej nenávisti, ktorá súvisí či už s fyzickými alebo verbálnymi útokmi a prenasledovaním menšín.

Rasistický extrémizmus predstavuje takú časť protispoločenského konania s extrémistickými rysmi, ktorého motívom je rasová, národnostná, či etnická nenávisť a chýba pri ňom iná hmotná pohnútka konania. Rasistický extrémizmus sa často prekrýva s extrémizmom pravicovým, čo do ideológie aj čo do okruhu svojich stúpencov.[12] Páchatelia trestných činov extrémizmu sa dopúšťajú protiprávneho konania vo väčšine prípadov práve z dôvodu rasovej diskriminácie, ktorú možno opísať ako akékoľvek vylučovanie, zvýhodňovanie alebo obmedzovanie založené rase, pleti, farbe, rodovom, etnickom, národnostnom pôvode, ktorej cieľom je obmedzenie uskutočňovania základných ľudských práv.

Antisemitizmus, ako pojem vyjadrujúci nenávisť voči ľudom židovského pôvodu, bol síce často spájaný najmä s hrôzami druhej svetovej vojny, no aj v dnešných časoch Európska komisia zdôrazňuje dôležitosť boja proti jeho názorom. Podľa prieskumov Agentúry EÚ pre ľudské práva až 85 percent európskych židov považuje antisemitizmus za najväčší spoločenský alebo politický problém vo svojej domovskej krajine. Prieskum tiež naznačil, že antisemitizmus je všadeprítomný a má vplyv na každodenný život európskych Židov vo všetkých členských krajinách Únie.[13]

V praxi dochádza často k zámene pojmov radikalizmus a extrémizmus. Radikalizmus môžeme označiť ako myšlienkový prístup, ktorý vyhľadáva cestu k určitej zmene. Radikalizmus je vnímaný ako šedá zóna prechodu medzi demokratickým a extrémistickým politickým spektrom názorov a postojov. Radikalizmus možno definovať ako kritické spochybňovanie reality, ktoré hlása reformy alebo zrušenia všetkého, čo tvorí túto realitu. Rozdiel medzi radikalizmom a extrémizmom v politickej rovine je veľmi jemný a ťažko uchopiteľný. Politológia zatiaľ nedospela k definovaniu rozdielu medzi radikálnymi a extrémistickými politickými zoskupeniami. Radikalizmus označuje politické postoje, ktoré sú na hrane demokratického politického a právneho systému, ale nie sú zamerané na jeho odstránenie. Naopak, politický extrémizmus odmieta demokratický právny štát a snaží sa ho výrazne modifikovať alebo odstrániť.[14] Jav radikalizácie je najčastejšie označovaný ako dynamický a multifaktoriálny proces, ktorého výsledkom je práve extrémistické správanie sa

[10] Pozri bližšie LICHNER, D. a spol: *Extrémizmus a radikalizácia v sociálnych kontextoch*. Košice: UPJŠ v Košiciach, 2018. ISBN 978-80-8152-659-6, str. 56.
[11] MILO, D.: Rasistický extrémizmus v Slovenskej republiky, Bratislava: Ľudia proti rasizmu, 2004, 19 s.
[12] MILO, D.: Rasistický extrémizmus v Slovenskej republiky, Bratislava: Ľudia proti rasizmu, 2004, 16 s.
[13] Európska komisia. Podľa prieskumu je antisemitizmus na vzostupe. Komisia to nenechá bez odpovede. Brusel, 10. december 2018. dostupné na: http://europa.eu/rapid/press-release_IP-18-6724_sk.htm.
[14] LICHNER, D. a spol: *Extrémizmus a radikalizácia v sociálnych kontextoch*. Košice: UPJŠ v Košiciach, 2018. ISBN 978-80-8152-659-6, str. 58.

jednotlivcov. Globálne, sociologické a politické faktory vzniku sú rovnako významné ako ideologické a individuálne, ktoré sa taktiež označujú za psychologické.[15]

Vláda v najnovšej koncepcii boja proti radikalizácii a extrémizmu do roku 2024 definovala aj pojem politického extrémizmu ako politickej ideológie, ktorá spochybňuje a odmieta niektorý zo základných princípov demokratického právneho štátu, trojdielnej štátnej moci či všeobecného volebného práva. Politický extrémizmus namiesto rovnakých práv pre všetkých presadzuje politický a hodnotový systém, v ktorom hodnotu človeka a jeho práva určuje jeho „pôvod" (rasový, etnický či triedny) alebo sa snaží o obmedzenie výkonu základných ľudských práv. Využíva pritom nástroje demokracie, ako napríklad právo na zhromažďovanie, právo na združovanie, slobodu slova (čím ďalej tým častejšie v online priestore) s cieľom ich zneužitia na odstránenie demokratických princípov zo spoločnosti alebo na útoky a zastrašovanie svojich oponentov.[16]

S trestnými činmi extrémizmu je často spájaný aj pojem nenávistný prejav. Odporúčanie ministrov Rady Európy z roku 1997 definuje prejavy nenávisti ako všetky formy vyjadrenia, ktoré rozširujú, podnecujú, podporujú alebo ospravedlňujú rasovú nenávisť, xenofóbiu, antisemitizmus či iné formy diskriminácie a nenávisti založené na neznášanlivosti, vrátane neznášanlivosti prejavujúcej sa agresívnym nacionalizmom a etnocentrizmom, diskrimináciou a nevraživosťou voči menšinám, migrantom a ľuďom imigračného pôvodu.[17] Toto znenie definície si osvojila aj vláda Slovenskej republiky a zakomponovala ho do Koncepcie.[18] Nenávistný prejav však definoval aj Medzinárodný trestný tribunál pre Rwandu, ktorý pod týmto pojmom rozumel diskriminačnú formu agresie, ktorá ničí dôstojnosť osoby v napadnutej skupine, zároveň vedie k ponižovaniu statusu osoby nielen v očiach členov skupiny, ale tiež v očiach ostatných, ktorí pozerajú a zachádzajú s takouto osobu ako s menejcenným človekom.[19] Možno zhodnotiť, že pojem „trestné činy z nenávisti", v angličtine známe ako „hate crimes" sú širším pojmom ako pojem „nenávistný prejav". Existuje niekoľko definícií pojmu „hate crimes". Za najširšiu z nich možno označiť definíciu od Levina a McDevitta, ktorí ich definujú ako trestné činy motivované úplne alebo z časti na základe skutočnosti alebo predpokladu, že sa obeť líši od páchateľa.[20] Dôraz je kladený na určitou odlišnosť obeti, pre ktorú sa stáva terčom predsudku a následného útoku páchateľa, ktorý ma za cieľ nie len poškodenie daného jednotlivca, ale i skupiny s takouto (obdobou) kolektívnou odlišnosťou.[21]

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[15] TÓTHOVÁ, L. a ŠLOSÁR, D.: *Prejavy radikalizmu a extrémizmu v sociálnych vzťahoch*. Košice: UPJŠ v Košiciach, Filozofická fakulta, 2018. ISBN 978-80-8152-640-4, str. 64.

[16] Koncepcia boja proti radikalizácii a extrémizmu do roku 2024 str. 10, online: https://prevenciakri minality.sk/pdf/view/48/%7B%22Domov%22:%7B%22route%22:%22index%22%7D,%22Dokumenty%22:%7B%22r oute%22:%22menu_article_view%22,%22params%22:%7B%22slug%22:%22dokumenty%22%7D%7D%7D.

[17] COUNCIL OF EUROPE: Recommendation No. R (97) 20 of the Committee of Ministers to Member States on "hate speech", 30 October 1997.

[18] Pozrie bližšie Koncepcia boja proti radikalizácii a extrémizmu do roku 2024 str. 12, online: https://preven ciakriminality.sk/pdf/view/48/%7B%22Domov%22:%7B%22route%22:%22index%22%7D,%22Dokumenty%2 2:%7B%22route%22:%22menu_article_view%22,%22params%22:%7B%22slug%22:%22dokumenty%22%7D %7D%7D.

[19] The Prosecutor v. Ferdinand *Nahimana, Jean-Bosco Barayagwiza, Hassan Ngeze* (Judgement and Sentence), ICTR-99-52-T, International Criminal Tribunal for Rwanda (ICTR), 3 December 2003, § 1072. Dostupné online na: https://ucr.irmct.org/scasedocs/case/ICTR-99-52#trialJudgement.

[20] Pozri bližšie LEVIN, J. and MCDEVITT, J.: Hate Crimes, In: Kurtz, L. R. (Ed.): *The Encyclopedia of Peace, Violence, and Conflict*. 2nd edition. Amsterdam: Elsevier, 2008, str, 915. ISBN 9780123695031.

[21] JELÍNEK, J. a kolektív: Kriminologie. Praha: Leges, 2021, 509 s.

Rovnako sa problematike trestných činov z nenávisti venuje aj Organizácia pre bezpečnosť a spoluprácu v Európe (ďalej len „OBSE“), ktorá je najväčšou existujúcou regionálnou bezpečnostnou organizáciou zahrňujúcou oblasť Európy, Kaukazu, Strednej Ázie a severnej Ameriky. Slovenská republika vstúpila do OBSE 1. januára 1993 a práve v roku 2019 naša krajina tejto organizácií predsedá. Spoločným cieľom všetkých účastníckych krajín OBSE je na základe vzájomnej spolupráce udržiavať mier a bezpečnosť v geografickom priestore OBSE. Štáty sa zaviazali rešpektovať ľudské práva a základné slobody, demokraciu a princípy právneho štátu. V rámci svojej činnosti okrem iného vypracoval v roku 2017 Úrad OBSE pre demokratické inštitúcie a ľudské práva, odbor pre toleranciu a nediskrimináciu školiaci materiál s názvom „Prokuratúra a súdy a trestné činy z nenávisti“. V tomto materiáli sa nachádza aj úprava problematiky trestných činov z nenávisti, ktoré sú často výsledkom extrémistického správania. Pri trestnom čine z nenávisti je dôležitý okrem samotného konkrétneho trestného činu aj motív zaujatosti, ktorým je cieľ trestného činu na základe niektorých tzv. chránených charakteristík. Takáto charakteristika je kľúčovým znakom, ktorú zdieľa určitá skupina, napríklad rasa, náboženstvo, sexuálna orientácia.[22]

V súčasnom znení Trestného zákona okrem spomínaných trestných činov extrémizmu, nájdeme možnosť spáchania trestného činu z osobitného motívu, konkrétne z dôvodu nenávisti voči skupine osôb alebo jednotlivcovi pre ich skutočnú alebo domnelú príslušnosť k niektorej rase, národu, národnosti, etnickej skupine, pre ich skutočný alebo domnelý pôvod, farbu pleti, pohlavie, sexuálnu orientáciu, politické presvedčenie alebo náboženské vyznanie.[23] Súčasné znenie Trestného zákona teda rozšírilo spáchanie trestného činu z osobitného motívu aj z dôvodu nie len skutočnej, ale i domnelej príslušnosti, resp. pôvodu, čím došlo k rozšíreniu ochrany záujmov chránených Trestným zákonom.

3 ZÁVER

Účelom tohto príspevku bolo upriamiť pozornosť na terminológiu esenciálne prepojenú s trestnými činmi extrémizmu, poznanie a ovládanie ktorej je zásadné pre pochopenie podstaty trestných činov extrémizmu aj napriek pomerne rozšírenej forme a spôsoboch ich páchania.

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[22] Školiaci materiál s názvom „Prokuratúra a súdy a trestné činy z nenávisti. Varšava: OBSE/ODIHR, 2016, 17 s.
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NIEKOĽKO ÚVAH K VONKAJŠEJ A VNÚTORNEJ DIFERENCIÁCII VÝKONU TRESTU ODŇATIA SLOBODY

A FEW THOUGHTS ON THE EXTERNAL AND INTERNAL DIFFERENTIATION OF IMPRISONMENT

Jakub Kántor

Abstrakt

Otázky vonkajšej diferenciácie výkonu trestu v podmienkach Slovenskej republiky sú plne v kompetencii súdu. V prípade, ak súd odsudzuje páchateľa za nepodmienečný trest odňatia slobody, povinnou súčasťou je aj rozhodnutie o spôsobe výkonu trestu. Trestný zákon stanovuje pravidlá pre zaraďovanie odsúdeného do výkonu trestu, ktorými však v niektorých prípadoch viazaný nie je. O vnútornej diferenciácii rozhoduje výlučne ústav na základe interných postupov posudzovania rizikovosti, možnej resocializácie a potenciálnych nástrojov potrebných na nápravu odsúdeného. Príspevok sa venuje sumarizácii podmienok a pravidiel pre zaraďovanie odsúdeného do vonkajšej/vnútornej diferenciácie výkonu trestu s poukazom na niekoľko problematických miest právnej úpravy a aplikačnej praxe.

Kľúčové slová: *vonkajšia diferenciácia výkonu trestu, vnútorná diferenciácia výkonu trestu, penitenciárna starostlivosť.*

Abstract

Questions of external differentiation of the execution of the sentence in the conditions of the Slovak Republic are fully within the competence of the court. In the event that the court sentences the offender to an unconditional prison sentence, the decision on the method of execution of the sentence is also a mandatory part. The Criminal Code lays down rules for placing a convicted person in prison, but in some cases he is not bound by them. Internal differentiation is decided exclusively by the institution based on internal procedures for assessing risk, possible resocialization and potential tools needed to correct the convict. The paper is dedicated to summarizing the conditions and rules for classifying a convicted person in the external/internal differentiation of serving a sentence, pointing out several problematic areas of legal regulation and application practice.

Key words: *external differentiation of punishment, internal differentiation of punishment, penitentiary care.*

1. SPÔSOB VÝKONU TRESTU

V prípade, ak súd odsudzuje obžalovaného k výkonu nepodmienečného trestu odňatia slobody, či už formou trestného rozkazu, alebo odsudzujúcim rozsudkom, vždy obligatórne musí rozhodnúť aj o spôsobe, akým sa trest odňatia slobody vykoná. Spôsob výkonu trestu je vonkajšou diferenciáciou výkonu trestu tak, ako ju upravujú ustanovenia Trestného zákona, Zákona o výkone trestu a v konečnom dôsledku tak, ako ju konkretizujú ustanovenia Poriadku na výkon trestu.

Nie je možné neuviesť, že vonkajšia diferenciácia tak, ako je upravená v našej úprave, nemá obdobu v okolitých krajinách. Od nej sa odvíja nie len bezpečnostný režim, ale aj na stavenie samotného zaobchádzania a možnosti odsúdených uplatňovať svoje práva (v konkrétnom rozsahu podľa kombinácie vonkajšej a vnútornej diferenciácie výkonu trestu). Od tej

vonkajšej sa prirodzene odlišuje vnútorné diferenciácia a to tak z hľadiska subjektu, ktorý o nej rozhoduje, ako aj z hľadiska významu, ktorý pre reálny výkon a podmienky výkonu trestu má.

Kým vonkajšia diferenciácia výkonu trestu odňatia slobody je spôsobom výkonu trestu, o ktorom rozhoduje trestný súd, vnútorná diferenciácia výkonu trestu odňatia slobody je ponechaná na samotný ústav na výkon trestu (na základe posúdenia Komisie, na základe odporúčania psychológa) a má odrážať potrebu individualizovaného prístupu ku každému odsúdenému. Stupne vonkajšej diferenciácie, ktoré spočívajú v stupni stráženia, sú permanentne kritizované v správach Európskeho výboru pre zabráneniu mučenia, krutého a neľudského zaobchádzania, viaceré problémy vznikajú pri presudzovaní rozhodnutí iných členských štátov (pri uznávaní a výkone cudzích – európskych rozhodnutí na našom území) na základe zákona č. 549/2011 Z. z. o uznávaní a výkone rozhodnutí, ktorými sa ukladá trestná sankcia spojená s odňatím slobody v Európskej únii a o zmene a doplnení zákona č. 221/2006 Z. z. o výkone väzby v znení neskorších predpisov vzhľadom na to, že slovenská úprava vonkajšej diferenciácie je v porovnaní s rovnakými úpravami veľmi jedinečná (v iných úpravách s takouto diferenciáciou nestretneme).

Vnútorná diferenciácia výkonu trestu odňatia slobody, ktorá je v kompetencii samotných ústavov, sa spravuje zákonnými a podzákonnými pravidlami (Zákon o výkone trestu odňatia slobody v platnom a účinnom znení, Poriadok na výkon trestu), často však aj internými pravidlami, ktoré idú nad rámec zákonných a podzákonných noriem a pravidiel resp. tieto právne limity rozširujú podľa individuálneho nastavenia v konkrétnom ústave. Často je veľmi problematické identifikovať dôvody pre konkrétne zaradenie resp. dôvody pre zaradenie do konkrétnych stupňov v rámci vnútornej diferenciácie výkonu trestu. Odporúčania psychológa sú univerzálnym nástrojom, za ktorý sa dá skryť v podstate každé interné začlenenie odsúdeného, hoci reálne na takúto vnútornú diferenciačnú skupinu iný zákonný dôvod nie je.[1]

Zhodne ale treba povedať, že popri programe zaobchádzania a jeho komponentoch, je vonkajšia a vnútorná diferenciácia výkonu trestu to, čo má vhodným, optimálnym spôsobom nastaviť pravidlá a spôsob výkonu trestu odňatia slobody tak, aby smeroval k dosiahnutiu svojho účelu trest ako aký, a aby prostredníctvom nich bol dosiahnutý aj účel výkonu trestu odňatia slobody v nepodmienečnej podobe.

Pre každého odsúdeného sa stanovuje individuálne program zaobchádzania, na základe posúdenia Komisiou a odporúčaní psychológa.[2] V programe zaobchádzania je však možné vidieť úplne štandardné prvky, o resocializačnom potenciály niektorých z nich skutočne možno polemizovať.[3] To, že zaradenie na výkon prác má nepochybne mať pozitívny vplyv na správanie a na osvojovanie si potrebných návykov odsúdeným, nie je možné spochybniť. Podmienky výkonu prác, hlavne spôsob obmeňovania a absencia minimálnych pracovnoprávnych nárokov často smerujú k tomu, že výkon prác je skôr to, čo namiesto výchovného účelu má opačný efekt. Veľmi podobne je tomu v prípade disciplinárnej zodpovednosti, ktorá zahŕňa tak prvky disciplinárneho trestania, ako aj prvky disciplinárneho odmeňovania. Systém voľno-časových aktivít je v našich podmienkach významne obmedzovaný dostupnými možnosťami jednotlivých ústavov a rovnako tak k procesu resocializácie prispievajú aj samotné podmienky výkonu trestu odňatia slobody, ktoré tiež často predmetom kritiky Európskeho výboru pre zabráneniu mučenia, krutého a neľudského zaobchádzania (napr. ubytovania a ubytovacie podmienky). Možnosti resocializácie

[1] Banský, J., Kačáni, P. a kol.: Penitenciárna psychológia. 2. prepracované a doplnené vydanie. Bratislava: Akadémia PZ, 2016, s. 38 - 41

[2] Brunová, M.: Novodobý vývoj a stav vězenství v České a Slovenské republice. Praha: Leges, 2020, s. 121 a nasl.

[3] Špániková, M.: Resocializácia odsúdených v podmienkach mimovládnej organizácie. Zborník príspevkov k výročiu 50rokov ZVJS „Resocializácia odsúdených a jej perspektívy, 2019, Bratislava, 2019, s. 72 a nasl.

odsúdených sú tak sústavne aktuálnou a otvorenou otázkou, ktorej je nutné venovať pozornosť a to cestou skúmania podmienok výkonu trestu odňatia slobody v konkrétnych ústavoch.

2. VONKAJŠIA DIFERENCIÁCIA VÝKONU TRESTU

Možnosti nápravy, prevýchovy a celkovo resocializácie sú značne ovplyvnené radom subjektívnych, ako aj objektívnych skutočností. Významnou mierou sa do nich premieta samotná vonkajšia diferenciácia výkonu trestu odňatia slobody tak, ako ju upravuje § 48 TZ a nadväzne § 12 a nasl. Zákona o výkone trestu odňatia slobody v platnom a účinnom znení. V tomto smere sa uplatňujú pravidlá časovo obmedzenej kriminálnej recidívy (pre rozlíšenie umiestnenia do minimálneho a stredného stupňa stráženia) a zhodnotenie závažnosti trestného činu (v prípade umiestnenia do maximálneho stupňa stráženia). V prvom momente je to teda časovo obmedzená kriminálna recidíva, teda kritérium, či sa obžalovaný v predošlých 10 rokoch nachádzal vo výkone trestu. V prípade, ak v posledných 10 rokov vo výkone trestu bol, na výkon sa zaraďuje do stredného stupňa stráženia resp. ústavu so stredným stupňom stráženia. Ak v predošlých 10 rokov vo výkone trestu odňatia slobody nebol, zaraďuje sa na výkon do minimálneho stupňa stráženia resp. do ústavu s minimálnym stupňom stráženia.[4] Osobitne, v prípadoch, ak sa schvaľuje dohoda o vine a treste, alebo obdobne v prípade vyhlásenia obžalovaného o vine (kedy sa analogicky postupuje ako v prípade uzatvárania dohody o vine a treste) má súd možnosť aj inak určiť spôsob vykonania trestu, teda môže odsúdeného zaradiť aj do iného ústavu – ústavu s iným stupňom stráženia, ako by podľa naznačených kritérií mal byť zaradený. V týchto prípadoch sa neuplatnia pravidlá o vonkajšej diferenciácii, a neplatia ani v prípade, ak sú postupom podľa § 39 TZ mimoriadne znižuje trest pod dolnú hranicu. Vtedy má súd k dispozícii voľnú úvahu s ohľadom na podmienky a okolnosti prípadu, osobu odsúdeného a potreby dosahovania účelu trestu i účelu výkonu trestu pri ňom.

Ďalšia úprava pre iné zaraďovanie odsúdených je obsiahnutá v § 48 ods. 4 a 5 TZ, kde sa uvádzajú možnosti zaradenia do ústavu s iným stupňom stráženia, ak:[5]

a.) má za to, že v inom ústave (s iným stupňom stráženia) je lepšie možno dosiahnuť nápravu odsúdeného vzhľadom k povahe a závažnosti činu, vzhľadom k miere narušenia odsúdeného

b.) Do ústavu s najnižším stupňom stráženia môže zaradiť aj takého odsúdeného, ktorý síce bol v posledných 10 rokoch vo výkone trestu, ale len za prečin (navyše úmyselný); v tomto prípade ho teda nemusí zaradiť do ústavu so stredným stupňom stráženia, ak to vzhľadom na závažnosti činu a mieru narušenia nie je potrebné na dosiahnutie účelu trestu

Jediným limitom pre súd, ak rozhoduje o inom spôsobe vykonania trestu (v ústave s iným stupňom stráženia) je, že do minimálneho stupňa stráženia nemôže zaradiť takého odsúdeného, ktorého odsudzuje na doživotný trest alebo trest v trvaní na 15 rokov (a viac).[6]

Z hľadiska väzenskej štruktúra a infraštruktúry potom možno povedať, že v našich podmienkach prichádzajú v závislosti od jednotlivých stupňov stráženia do úvahy rôzne ústavy tak, ako to vyplýva z nasledujúcej schémy: organizačné členenie jednotlivých ústavov na výkon trestu na Slovensku:[7]

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[4]Mencerová, I., Tobiášová, L., Turayová, Y. a kol.: Trestné právo hmotné. Všeobecná časť. Šamorín: HEURÉKA, 2015, s. 300 a nasl.

[5] Burda, E., Čentéš, J., Kolesár, J., Záhora, J. a kol.. Trestný zákon. Komentár. Všeobecná časť. Praha. C.H.BECK, 2010, s. 347 - 349

[6] Burda, E., Čentéš, J., Kolesár, J., Záhora, J. a kol.. Trestný zákon. Komentár. Všeobecná časť. Praha. C.H.BECK, 2010, s. 349 - 350

[7] Tittlová, M.: Zákon o výkone trestu odňatia slobody. Komentár. Bratislava: Wolters Kluwer, 2017, s. 48 a nasl.

*zdroj: https://www.zvjs.sk/sk

Okrem toho, že v mnohých prípadoch sa ústavy na výkon trestu kombinujú priamo s ústavmi na výkon väzby, z hľadiska vonkajšej diferenciácie sa v jednom ústave môžu kombinovať viaceré stupne stráženia (v podstate aj všetky, hoci skôr dochádza ku kombinácii 1. a 2. stupňa stráženia, alebo len 2. a 3. stupňa stráženia). V priebehu vývoja pritom došlo k reprofilácii viacerých ústavov. Výhradne pre výkon trestu mladistvých slúži ústavu Sučany. Výhradne pre výkon trestu odsúdených žien slúži ústav Nitra – Chrenová a Levoča, no z kapacitných dôvodov sa odsúdené ženy nachádzajú aj v iných ústavoch (napr. Nitra mesto, Košice mesto, Košice Šaca a pod.).

Všeobecne platí pravidlo, že čím vyšší stupeň stráženia, tým sa zvyšuje rozsah obmedzení, povinností, ktoré sa na odsúdených vzťahujú.[8] Od tohto sa odvíja rozsah a možnosti uplatňovania konkrétnych práv (rozsah jednotlivých práv) odsúdenými. To vyplýva prirodzene aj z potreby ochrany spoločnosti, nápravy a prevýchovy odsúdených –vytvárania podmienok pre ich dosahovanie. Iný rozsah obmedzení sa bude vzťahovať naprvo-trestné osoby resp. iný rozsah obmedzení bude pri týchto osobách dostačujúci, iný rozsah obmedzení bude potrebný na účely možnej nápravy a prevýchovy v prípade časovo obmedzenej recidívy.

Aj uvedené pravidlá a najmä režim ich nastavenia v kontexte vonkajšej diferenciácie, by mal smerovať k náprave a prevýchove odsúdeného – k vhodnému nastaveniu pravidiel výkonu trestu odňatia slobody v nepodmienečnej podobe. Predpokladá sa, že u recidivistov, ktorí sa dopúšťajú akejkoľvek recidívy v časovo obmedzenom horizonte (10rokov), je potrebné nastaviť prísnejšie pravidlá stráženia, ale aj pravidlá zaobchádzania (v programe starostlivosti), nakoľko predošlé trestné postihy odňatím slobody (v podmienečnej či nepodmienečnej podobe) neviedli k dosiahnutiu svojho účelu. Je celkom logické, že v prípade časovo obmedzenej kriminálnej recidívy (v období 10 rokov), je nutné inak –prísnejšie nastaviť pravidlá zaobchádzania, pravidlá pre podporu a rozvoj pozitívnych osobnostných rezerv s cieľom vyvolať záujem a podporiť záujem viesť riadny život, osvojovať si základy spoločensky konformného spôsobu života.[9] Veľmi dobre je to vidieť aj v kontexte zaraďovania odsúdených do ústavov s maximálnym stupňom stráženia, čo sú prípady obzvlášť závažných zločinov alebo odsúdených na doživotné tresty odňatia slobody, na ktorých sa vzťahuje najviac obmedzení, najviac povinností a najprísnejší režim stráženia.

Samotný stupeň vonkajšej diferenciácie teda má primárne smerovať k zaradeniu odsúdeného do takého ústavu, v ktorom bude z nastaveného stupňa stráženia plynúť pre odsúdeného najvhodnejší režim starostlivosti, režim pravidiel a povinností, ktoré ho majú smerovať k náprave, prevýchove, podpore pozitívnych a nekriminálnych vzorcov správania, k odmietavému postoju k trestnej činnosti, celkovo k resocializácii. Len stručne, pokiaľ ide o konkrétne rozdiely medzi stupňami stráženia z hľadiska ubytovania a z hľadiska možností

[8] Tittlová, M.: Zákon o výkone trestu odňatia slobody. Komentár. Bratislava: Wolters Kluwer, 2017, s. 45 a nasl.
[9] Brunová, M.: Novodobý vývoj a stav vězenství v České a Slovenské republice. Praha: Leges, 2020, s. 121 a nasl.

výkonu prác a pohybu odsúdených v rámci ústavu a v jeho priestoroch, ako aj mimo ústavu, tak spravidla platí, že:

V ústave s minimálnym stupňom stráženia:

a.) Ubytovanie prebieha izbovým systémom
b.) Ubytovacie zariadenia sa od budíka do večierky nezamkýnajú, lebo ak by to bolo potrebné z bezpečnostných dôvodov (bezpečnosť, poriadok) alebo z iných vážnych dôvodov; potom je možné uzamykať ubytovacie priestory aj počas dňa
c.) V rámci určených priestorov v ústave sa môžu odsúdení pohybovať v zásade voľne
d.) Do práce sú odsúdení zaraďovaní aj na nestrážené pracoviská nachádzajúce sa mimo ústavu
e.) Ak je to potrebné na výkon prác, potom sa odsúdení môžu voľne a aj bez stráženia pohybovať mimo ústavu.

V ústave so stredným stupňom stráženia sa:

a.) Ubytovanie realizuje celovým alebo izbovým systémom
b.) Ubytovacie priestory sú uzamknuté, ale nezamkýnajú sa izby alebo cely; vždy v odôvodnených prípadoch je možné uzamknutie ciel alebo izieb a to aj počas dňa (ak tak rozhodne riaditeľ ústavu)
c.) Mimo ubytovacieho zariadenia sa môžu odsúdení pohybovať výhradne s dozorom
d.) Výkon prác je možný na strážnom pracovisku priamo v danom ústave alebo mimo ústav (rovnako tak na stráženom pracovisku)
e.) Nepovoľuje sa, aby sa odsúdení pohybovali mimo ústavu.

V ústave s maximálnym stupňom stráženia sa:

a.) Ubytovanie realizuje celovým systémom
b.) V rámci ubytovne sa cely, ako aj samotné ubytovne zamkýnajú
c.) Výkon prác prebieha len v rámci ústavu a len na strážených pracoviskách (dozor vykonávajú príslušníci ZVJS); výkon prác prebieha priamo na cele
d.) Mimo priestory ubytovne a mimo ciel sa môžu pohybovať, ale len s dozorom.

Uvedené naznačenie rozlišuje tri stupne stráženia hlavne z hľadiska možnosti voľného pohybu, druhu ubytovania a možností výkonu prác, možností dozoru. Ide o pravidlá, ktoré sa uplatňujú spravidla a teda v konkrétnych a odôvodnených prípadoch sa môžu taktiež aj tieto pravidlá modifikovať (naposledy v dôsledku prevencie šírenia covid 19 väčšina ústavov prešla na režim uzamykania ciel aj izieb, zásadne sa obmedzil pohyb odsúdených na jednotlivých oddieloch, ako aj mimo ústavu a podstatne viac sa posilnil režim kontroly odsúdených.

Zaujímavosťou je, že Európsky výbor proti mučeniu vo svojej správe z roku 2019 sa úplne kriticky stavia k vonkajšej diferenciácii tak, ako je upravená v našom Trestnom zákone (teda, že je v kompetencii súdu rozhodnúť o zaradení odsúdeného do ústavu s určitým stupňom stráženia podľa pravidiel obsiahnutých v § 48 TZ[10]). Podľa Európskeho výboru predurčuje táto úprava zaobchádzanie s väzňami k momentu spáchania skutku, resp. k momentu jeho odsúdenia. Pritom, táto vonkajšia diferenciácia predurčuje rozsah práv, povinností, obmedzení, možnosti uplatňovania konkrétnych práv (telefonický styk, režim návštev a pod.). Doslova správa hovorí o vytváraní akejsi „snímky“ odsúdeného z času páchania trestného činu a k momentu rozhodovania súdu o vine a o treste, nie o poznávaní odsúdeného, jeho prejavov, osobnosti podľa jeho aktuálneho správania a postoja k trestnej činnosti priamo v ústave.

Tým, že trestnému súdu je zverená rozhodujúca úloha pri určovaní vonkajšej diferenciácie (o spôsobe výkonu trestu odňatia slobody rozhoduje súd), tým rozhodnutie súdu determinuje podmienky výkonu trestu jednotlivých odsúdených. V tomto smere väzenská správa zohráva

[10] Ivor, J., Polák, P., Záhora, J.: Trestné právo hmotné I. Všeobecná časť. Bratislava: Wolters Kluwer, 2017, s. 380 a nasl.

iba pasívnu úlohu, resp. úlohy sú jej zverené len v kontexte vnútornej diferenciácie, nakoľko o tej vonkajšej rozhodovať nemôže.
Možno vychádzať z premisy, že personál konkrétneho ústavu, ktorý je v dennom kontakte s osobou odsúdeného, má možnosť podstatne lepšie poznať osobu odsúdeného než súd, ktorý má rozhodovať o vine a treste na podklade posúdenia splnenia formálnych znakov skutkovej podstaty trestného činu, na podklade zhodnotenia pomeru poľahčujúcich a priťažujúcich okolností, v kontexte zvyšných zásad trestania. Je to personál konkrétneho ústavu, ktorý je v dennom styku s odsúdenými, pozná možnosti a situáciu v konkrétnom zariadení a súčasne, vie určiť podstatne primeranejšie a hlavne individualizovanejšie potrebnosť konkrétneho stupňa stráženia, určitého režimu bezpečnostných opatrení pre každého odsúdeného.[11] S tým, že tento režim bezpečnostných prvkov a opatrení je možné ústavom a jeho personálom stanoviť podstatne lepšie a individualizovanejšie v porovnaní s týmito možnosťami na strane súdu, možno len a len súhlasiť. Súd nemá k dispozícii množstvo hodnotiacich nástrojov, súd nemá možnosť posudzovať správanie sa odsúdeného vo výkone trestu či väzby, súd nedokáže zhodnotiť osobnostné rezervy a potreby odsúdeného. Všetky tieto otázky vzťahujúce sa na osobu odsúdeného, jeho osobnosť hodnotí len a len v kontexte naplnenia formálnych a prípadne iných znakov trestného činu a v kontexte najvhodnejšieho trestného postihu.
O vonkajšej diferenciácii a s tým spojenými bezpečnostnými opatreniami, obmedzeniami práv a povinností odsúdeného vo výkone trestu rozhoduje súd na základe všeobecného, neosobného posúdenia registra trestov, bez ohľadu na osobu a osobnosť, správanie sa odsúdeného.
Aj vonkajšiu diferenciáciu by preto mal zabezpečovať resp. rozhodovať o nej konkrétny ústav na základe individuálneho posúdenia rizika a potrieb vo svetle správania sa každého odsúdeného po nástupe na výkon trestu a nie v štádiu vynášania rozsudku súd. Aj preto sa sústavne objavujú názory a konkrétne legislatívne zámery smerujúce k eliminácii takejto štruktúry vonkajšej diferenciácie výkonu trestu, s akou sa stretávame v našej právnej úprave. Jednoznačne možno vysloviť názor o potrebe zredukovania stupňov vonkajšej diferenciácie na jeden, maximálne dva stupne a plné zachovanie, dokonca posilnenie vnútornej diferenciácie výkonu trestu odňatia slobody.
Len pre úplnosť možno uviesť, že takú štruktúru vonkajšej diferenciácie, akú má v právnej úprave zakotvenú Slovenská republika, nemá Česko, Rakúsko, ani Nemecko.[12]
Problémy týkajúce sa vonkajšej diferenciácie je možné vidieť aj v súvislosti s uznávaním a výkonom cudzích (európskych) trestných rozhodnutí na našom území podľa zákona č. 549/2011 Z. z. o uznávaní a výkone rozhodnutí, ktorými sa ukladá trestná sankcia spojená s odňatím slobody v Európskej únii a o zmene a doplnení zákona č. 221/2006 Z. z. o výkone väzby v znení neskorších predpisov. Ide výhradne o uznávanie a výkon takých cudzích trestných rozhodnutí, ktoré sa týkajú trestnoprávnej sankcie – trestu odňatia slobody v trvaní nad tri roky. V zmysle § 17 ods. 2 Zákona č. 549/2011 Z. z. o uznávaní a výkone rozhodnutí, ktorými sa ukladá trestná sankcia spojená s odňatím slobody v Európskej únii v účinnom znení nemôže uložená sankcia zhoršiť postavenie odsúdeného. Ak prihliadame na podmienky výkonu trestu odňatia slobody na Slovensku v porovnaní s okolitými krajinami EÚ, je zrejmé, že vo viacerých prípadoch uznanie a výkon trestnej sankcie zhorší postavenie odsúdeného. Podmienky výkonu trestu vo väčšine európskych krajín podstatne viac rešpektujú požiadavku na resocializáciu odsúdených, pracovné zapojenie, vytvárajú lepšie podmienky pre nápravu a prevýchovu odsúdených.

[11] Mamojková, E., Novák I.: Základy penológie. 2. doplnené a prepracované vydanie. Bratislava: Akadémia Policajného zboru, 2015, s. 61 a nasl
[12] Brunová, M.: Novodobý vývoj a stav vězenství v České a Slovenské republice. Praha: Leges, 2020, s. 161 a nasl.

Možno preto povedať, že uznanie a výkon trestu v našich podmienkach zhorší postavenie a možnosti nápravy aj resocializácie odsúdeného a teda sám o sebe tento postup síce zákonným podmienkam presúdenia neodporuje, no súčasne potláča dosahovanie účelu výkonu trestu odňatia slobody. Ide o vykonávaciu rovinu, nie trestnoprávnu a vykonávacej roviny sa právna úprava ako transpozícia smernice podstatnejším a účelnejším spôsobom nedotkala. Už sporné je samotné zachovanie procesných aspektov (lehoty podmienečného prepustenia), však o rovine vykonávacej možno priamo povedať, že právna úprava takúto rovinu postavenia odsúdených nezohľadňuje.
Paradoxne, zákonná úprava nepamätá na uvedené skutočnosti a viaže sa výhradne na to, že uznanie a výkon trestu nesmú zhoršiť postavenie odsúdeného. Ide teda o trestnoprávnu rovinu, nie o rovinu vykonávaciu, v rámci ktorej by sa mohli posúdiť aj podmienky pre nápravu, prevýchovu a resocializáciu odsúdeného. Pritom, aj v prípade trestnoprávnej úpravy je možné maximálne polemizovať, či je tomu tak, alebo nie je a to v kontexte možností podávania návrhov na podmienečné prepustenie z výkonu trestu po uplynutí určitého času. Zahraničné (rakúske, české) trestné úpravy totiž môžu mať (a aj majú) inak nastavený systém a možnosti podávania návrhov na podmienečné prepustenie z výkonu trestu z hľadiska časových súvislostí. Keďže zákonodarca nedovoľuje zohľadniť vykonávacie aspekty, paradoxne sa dostávame do situácie, že výkon trestu je odovzdaný do krajín EÚ s horšie nastaveným systémom nástrojov nápravy a prevýchovy, resocializácie. Týmto spôsobom negatívne zasiahne dosahovanie účelu výkonu trestu odňatia slobody. Ak má byť dosiahnutie účelu výkonu trestu nosným a vrcholovým cieľom trestného postihu (ochrana spoločnosti, postih páchateľa, resocializácia, individuálne a generálna prevencia), tak je potrebné prihliadať na to, kde a v akých podmienkach sa tento účel lepšie dosiahne. Zákonná úprava, ktorá je transpozíciou európskej smernice, však tieto otázky zohľadňovať nedovoľuje. Okrem iného sa v tejto súvislosti otvára problém odlišnosti právnych úprav výkon trestu odňatia slobody – vonkajšej diferenciácie, kedy rôzne európske krajiny majú nastavený odlišne systém stráženia (väčšina okolitých krajín nemá nastavený systém vonkajšej diferenciácie tak ako Slovensko). Systémy stráženia prirodzene nie sú kompatibilné a vzhľadom na zákonné pravidlo, že trestom odňatia slobody nemožno zhoršiť postavenie odsúdeného, všetky presudzované rozhodnutia smerujú do minimálneho stupňa stráženia.[13] To by samo o sebe nemusel byť všeobecne problém, problém nastáva v momente, kedy sa do minimálneho stupňa stráženia vďaka tomuto pravidlu dostávajú všeobecní recidivisti z pohľadu nášho právneho poriadku, alebo páchateľa obzvlášť závažných zločinov v tomto poňatí, u ktorých systém bezpečnostných opatrení v minimálnom stupni stráženia, nie je dostačujúci na ich nápravu a na ich prevýchovu. Účel trestu tak dosiahnutý byť v ich prípade ani len nemôže.
Uvedená infraštruktúra väzenského systému (sústava väzenských zariadení) aktuálne pokrýva (aj keď hranične) potreby umiestňovania väzenskej populácie na Slovensku.
Nepochybne, najvyťaženejšími sa stávajú ústavy na výkon trestu s minimálnym a stredným stupňom stráženia, čo je vidieť na skladbe väzenskej populácie (aj podľa pohlavia) podľa zaradenia do jednotlivých stupňov stráženia k mesiacu máj 2021 a začiatku mesiaca jún 2021. Z uvedeného prehľadu je zrejmé, že mužská väzenská populácia jednoznačne prevažuje nad ženskou, čomu zodpovedá zameranie jednotlivých ústavov na Slovensku (len dva ústavy sú profilované výhradne pre odsúdené ženy; z toho jeden je reprofilovaný[14]) a zvyšok väzenských zariadení (okrem Sučian) je určený pre odsúdených mužov. K začiatku mesiaca jún 2021 sa vo väzenských zariadeniach nachádzalo celkovo 8148 dospelých mužov a celkovo 666 odsúdených dospelých žien. Z celkového počtu odsúdených mužov sa v zariadenia profilovaných ako ústavy s minimálnym stupňom stráženia nachádzalo 3854

[13] Griger, J., Kramračíková, L, Ľorko, J.: Metodika určovania penitenciárnej recidívy. Zborník príspevkov k výročiu 50rokov ZVJS „Resocializácia odsúdených a jej perspektívy, 2019, Bratislava, 2019, s. 54 a nasl.
[14] Fábry, A.. Väznenie. História a súčasnosť. Plzeň: Aleš Čeněk, 2012, s. 19 a nasl.

odsúdených mužov, čo predstavuje 47,3% mužskej väzenskej populácie, v strednom stupni stráženia sa nachádzalo len o niečo menej odsúdených mužov, konkrétne 3669, čo predstavuje 45,03% väzenskej mužskej populácie a 625 mužov vykonávalo trest odňatia slobody v ústavoch s maximálnym stupňom stráženia (OZZ, doživotné tresty), čo predstavuje 7,7% mužskej väzenskej populácie. Najvyťaženejšími ústavmi v tomto smere teda sú ústavy s minimálnym a stredným stupňom stráženia, kde však existujú len malé percentuálne odchýlky. Aj to do veľkej miery vypovedá o miere recidívy u odsúdených a o tom, akým spôsobom sa dosahuje, resp. nedosahuje účel trestu a účel výkonu trestu takmer až u polovice väzenskej mužskej populácie.

Väzenskej infraštruktúre, v ktorej sú dva ústavy na výkon trestu odňatia slobody pre ženy, zodpovedajú reálne počty odsúdených žien (dospelých žien). Z celkového počtu 666 odsúdených žien k začiatku júna 2021 bolo najviac zaradených v ústave s minimálnym stupňom stráženia (konkrétne 441 odsúdených žien, čo predstavuje 66,2% ženskej väzenskej populácie), ďalej 210 odsúdených žien vykonávalo trest odňatia slobody v strednom stupni stráženia, čo predstavuje 31,53% celkovej ženskej väzenskej populácie a len 15 žien vykonávalo trest odňatia slobody, čo predstavuje 2,25% väzenskej ženskej populácie. Je tak vidieť, že v strednom stupni stráženia a teda z hľadiska miery recidívy, približne 1/3 odsúdených žien sa v určitom časovom horizonte do výkonu nepodmienečného trestu vracia.

To sú z hľadiska účelu trestu a dosahovania účelu výkonu trestu taktiež ukazovatele, ktorým treba venovať pozornosť v kontexte zmeny a lepšej individualizácie, cielenia nástrojom penitenciárnej starostlivosti.[15]

Samostatnou zložkou je väzenská populácia mladistvých, nakoľko ústav na výkon trestu pre mladistvých je jediný – Sučany. Navyše, mladiství vykonávajú trestu odňatia slobody v zásade v ústave s minimálnym stupňom stráženia, čo znemožňuje posúdiť mieru recidívy u nich.[16] Navyše, aj v prípade recidívy v dospelom veku, neexistujú samostatné štatistické ukazovatele, ktoré by hovorili o tom, koľko mladistvých, ktorí boli zaradení na výkon trestu v nepodmienečnej podobe, v neskoršom – dospelom veku recidivuje a teda aká je miera efektívnosti a účinnosti resocializačných nástrojov, aká je miera účelnosti nástrojov penitenciárnej starostlivosti v prípade mladistvých odsúdených. K začiatku júna 2021 sa vo výkone trestu nachádzalo celkovo 40 mladistvých jedincov, z toho 39 mužov a 1 žena.

3. VNÚTORNÁ DIFERENCIÁCIA VÝKONU TRESTU ODŇATIA SLOBODY

Vnútorná diferenciácia výkonu trestu odňatia slobody predstavuje umiestňovanie odsúdených do oddielov a skupín v rámci určitého stupňa vonkajšej diferenciácie (minimálny až maximálny stupeň stráženia). Zmyslom vnútornej diferenciácie výkonu trestu má byť podporenie efektívnosti a účinnosti nástrojov penitenciárnej starostlivosti z hľadiska dosahovania účelu – vytvorenia podmienok pre resocializáciu odsúdených.

Zaraďovanie odsúdených sa realizuje v závislosti o ich osobnostných predpokladov, identifikovaných nedostatkov v správaní, podľa identifikovaných potrieb a limitov odsúdených. Štandardne sa vykonáva trest odňatia slobody v troch diferenciačných (vnútorných) skupinách A – C a výkon doživotných trestov v skupinách D1 – D2. Popri vnútornej skupine A – C sa môže trest vykonávať aj v špecializovanom oddiele a v tomto sa nestanovuje žiadna vnútorná skupina (všetky ostatné osobitné aj špecializované oddiely výkonu majú nastavenú vnútornú skupinu).[17]

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[15] Griger, J., Kramračíková, L, Ľorko, J.: Metodika určovania penitenciárnej recidívy. Zborník príspevkov k výročiu 50rokov ZVJS „Resocializácia odsúdených a jej perspektívy, 2019, Bratislava, 2019, s. 54 a nasl.

[16] Griger, J., Kramračíková, L, Ľorko, J.: Metodika určovania penitenciárnej recidívy. Zborník príspevkov k výročiu 50rokov ZVJS „Resocializácia odsúdených a jej perspektívy, 2019, Bratislava, 2019, s. 54 a nasl.

[17] Brunová, M.: Novodobý vývoj a stav vězenství v České a Slovenské republice. Praha: Leges, 2020, s. 121 a nasl.

Konkrétna diferenciačná skupina sa určuje riaditeľom ústavu, ktorý akceptuje na tieto účely návrh Komisie, závery psychológa a jeho odporúčania (po psychologickom vyšetrení)[18], zhodnotiť určite treba správanie sa odsúdeného vo výkone väzby, ak táto predchádzala výkonu trestu, treba poznávať a zhodnotiť aj stav osobnostného narušenia odsúdeného a postoje odsúdeného k podmienkami výkonu trestu, nastavenie vo vzťahu k plneniu úloh a povinností plynúcich z programu zaobchádzania.[19]

Odsúdení zaradení do konkrétneho stupňa vonkajšej diferenciácie a rovnakého stupňa vnútornej diferenciácie sa spoločne podieľajú podľa určenia na jednotlivých aktivitách programu zaobchádzania. Zaobchádzanie má povahu skupinového pôsobenia, ktoré usmerňuje pedagóg pre spravidla odsúdených do jedného oddielu (pri mladistvých cca pre 15 odsúdených). V špecializovaných oddieloch pracuje pedagóg približne so skupinou 20 odsúdených.

Výkon trestu odňatia slobody v minimálnom stupni stráženia má povahu výkonu trestu v otvorenom oddelení (zmiernený režim, diferenciačná skupina 1/A) alebo v uzavretom ústave.

Do otvoreného oddielu sa umiestňuje odsúdený na základe odporúčania psychológa po psychologickom vyšetrení, ak to navrhne komisia a osobnostné predpoklady na strane odsúdeného tomu nebránia. Do tohto stupňa možno odsúdeného preradiť aj po vykonaní časti trestu v diferenciačnej skupine 1/B, ak tak navrhne pedagóg pri určovaní programu zaobchádzania alebo pri hodnotení programu zaobchádzania.

Do otvoreného oddelenia sa nemôže umiestniť odsúdený, u ktorého to opakované psychologické vyšetrenie neodporúča, pri ústavnej forme ochranného liečenia, ak sa pokúsil o útek z výkonu trestu alebo výkonu väzby, alebo ak opakovane závažne porušil ústavný poriadok vo výkone trestu alebo vo väzbe a posledný disciplinárny trest nebol zahladený.[20]

Taktiež sa môže stať, že na otvorenom oddelení si odsúdený neplní úlohy plynúce z programu zaobchádzania, preto pedagóg môže podávať návrh na preradenie odsúdeného z otvoreného oddelenia do uzavretého ústavu.[21]

Inak, hoci otvorené oddelenia nemajú povahu špecializovaného výkonu trestu, často sa v tejto súvislosti spomínajú, lebo aj zákonodarca upravuje tento spôsob výkonu trestu v súvislosti alebo pri špecializovanom výkone trestu. Otvorené oddelenia, ako najmiernejšia forma výkonu trestu odňatia slobody, sú charakteristické tým, že v nich dochádza k celému radu zmiernení štandardných podmienok výkonu trestu. Konkrétne v zmysle § 76 Zákona o výkone trestu odňatia slobody v platnom a účinnom znení platí, že oproti klasickému (štandardnému) režimu výkonu trestu v uzavretom ústave, v prípade otvoreného oddelenia dochádza k zmierneniam podmienok výkonu trestu:[22]

a.) Výkon prác na nestrážnom pracovisku mimo ústavu
b.) Pohyb na otvorenom oddelení nie je nijako obmedzovaný, ani izby a ani
c.) ubytovňa nie je zamkýnaná (pohyb odsúdených sa neobmedzuje)
d.) V mimopracovnom čase je možné, aby riaditeľ ústavu povolil odsúdenému
e.) pohyb aj mimo ústav – mimo otvorené oddelenie
f.) Mimo pracovného času môže odsúdený používať svoj vlastný civilný odev
g.) Odsúdení disponujú peňažnou hotovosťou na účely nákupov mimo ústav
h.) Návštevy je možné prijímať každý týždeň
i.) Mimo ústav je možné povoliť vychádzku riaditeľom ústavu na účely vykonania

[18] Balko, E. a kol.: Penitenciárna pedagogika, Druhé, prepracované vydanie. Bratislava: Akadémia Policajného zboru v Bratislave, 2015, s. 73 a nasl.
[19] Mamojková, E., Novák I.: Základy penológie. 2. doplnené a prepracované vydanie. Bratislava: Akadémia Policajného zboru, 2015, s. 61 a nasl.
[20] 47
[21] Balko, E. a kol.: Penitenciárna pedagogika, Druhé, prepracované vydanie. Bratislava: Akadémia Policajného zboru v Bratislave, 2015, s. 73 a nasl
[22] Tittlová, M.: Penológia. Bratislava: Wolters Kluwer, 2017, s. 145 a nasl.

j.) návštevy blízkych; vychádzka môže byť povolená až na 48 hodín
k.) Telefonické hovory sa nijako neobmedzujú.

Diferenciačná skupina 1/B je určená pre odsúdených, ktorí aktívne spolupracujú, ktorí sa aktívne podieľajú na plnení úloh plynúcich z programu zaobchádzania, s kritickým postojom k protiprávnej činnosti, po preradení z diferenciačnej skupiny 1/C pri dlhodobom plnení programu zaobchádzania. Zaobchádzanie má povahu aktivít v rámci voľného času, ktoré rozvíjajú osobnostné rezervy, má povahu výkonu práce na nestráženom pracovisku a to aj mimo ústavu s tým, že ubytovanie má podobu izbového systému.

Do diferenciačnej skupiny 1/C sa umiestňujú odsúdení, ktorí program zaobchádzania dlhodobo neplnia, opakovane sa dopúšťajú disciplinárnych previnení, alebo ak to odporúča psychológ. Režim zaobchádzania má povahu dôsledného a striktného plnenia a rešpektovania práv a povinností.50 Odsúdený síce môže pracovať, ale len v ústave, alebo mimo ústavu na stráženom pracovisku. Odsúdený si má osvojiť pracovné návyky, pracovné zručnosti, ako aj správnu hodnotovú orientáciu. Vzdelávacie a ďalšie voľnočasové aktivity sú dostupné v závislosti od plnenia úloh plynúcich z programu zaobchádzania.

Výkon trestu odňatia slobody v strednom stupni stráženia má povahu výkonu v uzavretom ústave s tým, že diferenciačná skupina 2/A sa umiestňuje oddelene od zvyšných ubytovacích priestorov. Zaradenie odsúdeného sem spravidla odporúča psychológ a ak tomu nebránia bezpečnostné dôvody. Zaobchádzanie má povahu zaradenia do práce (možnosť aj na nestrážené pracovisko mimo ústavu). Odsúdeným sa vytvára ponuka voľnočasových aktivít, vzdelávacích či osvetových aktivít.[23]

Diferenciačná skupina 2/B je pre odsúdených, ktorí majú kritický postoj k svojej trestnej činnosti, plnia si program zaobchádzania v skupine C a z toho dôvodu boli preradení do vyššej skupiny. Nástroje zaobchádzania sa zameriavajú na osobnostné rezervy, rovnako tak sa vytvára ponuka voľnočasových aktivít, vzdelávacích či osvetových aktivít. Ubytovanie však už môže mať podobu celového systému.

Diferenciačná skupina 2/C je určená pre odsúdených, ktorí si neplnia úlohy plynúce z programu zaobchádzania, opakovane sa dopustili disciplinárneho previnenia, alebo ak to odporúča psychológ. V programe zaobchádzania dominuje rešpektovanie ústavného poriadku, dodržiavanie disciplíny. Výkon prác sa realizuje výhradne na strážených pracoviskách, režim návštev je nekontaktný a ubytovanie má povahu celového systému.

Ústavy s maximálnym stupňom stráženia majú povahu uzavretých ústavov, v ktorých je zaobchádzanie orientované na dodržiavanie ústavného poriadku a pracovné zaradenie. Do diferenciačnej skupiny 3/A sa umiestňuje odsúdený na odporúčanie psychológa, ak tomuto nebránia bezpečnostné dôvody, v prípade plnenia programu zaobchádzania a ak osoba má kritický postoj k svojej trestnej činnosti. Dosahovanie účelu výkonu trestu má povahu obmedzovania negatívneho vplyvu dlhodobého výkonu trestu, u odsúdených je potrebné rozvíjať pozitívne osobnostné danosti a vlastnosti, eliminovať subjektívny dôvody, ktorý viedol (alebo viedli) k páchaniu trestnej činnosti. Ubytovanie má povahu celového systému (bez denného uzamykania cieľ), návštevy majú kontaktnú povahu, pracovné zaradenie je možné aj mimo ústavu, ale iba ojedinele na nestrážené pracovisko.

Pre odsúdených, ktorí majú kritický postoj k svojej trestnej činnosti, a plnia si program zaobchádzania, je určená diferenciačná skupina 3/B. Zaobchádzanie je zamerané na obmedzovanie subjektívnych príčin páchania trestnej činnosti, je tu vidieť snahu eliminovať negatívne dopady dlhodobého výkonu trestu odňatia slobody. Výkon práce sa realizuje v ústave a na stráženom pracovisku, odsúdení sú ubytovaní v celovom systéme.

Vytvára sa vhodná ponuka voľnočasových aktivít, vzdelávacích či osvetových aktivít. Diferenciačná skupina 3/C predstavuje skupinu odsúdených, ktorí si neplnia úlohy plynúce z

[23] Tittlová, M.: Zákon o výkone trestu odňatia slobody. Komentár. Bratislava: Wolters Kluwer, 2017, s. 66 a nasl.

programu zaobchádzania, opakovane sa dopúšťajú disciplinárnych previnení, alebo v prípade, ak takéto zaradenie odporúčal psychológ. Režim zaobchádzania má povahu dodržiavania ústavného poriadku, k výkonu prác dochádza priamo na cele alebo v ústave s režimom stráženia. Celový systém ubytovania je doplnený o uzamykanie ciel, o pohyb mimo cely a vo vymedzených priestoroch je možný len s dozorom.[24]

Možno povedať, že vnútorná diferenciácia výkonu trestu je plne v kompetencii konkrétneho ústavu a ide o členenie vnútorných diferenciačných skupín. Zaraďovanie prebieha na podklade rozhodnutia Komisie a odporúčania psychológa. Všeobecne platia pravidlá, že so znižujúcou sa vnútornou diferenciačnou skupinou sa na odsúdených vzťahuje viac povinností a obmedzení, ich izolácia od denného a spoločenského života ústavu je podstatne intenzívnejšia a účasť na aktivitách ústavu závisí od rozhodnutia vedúceho oddelenia a podľa toho, ako si odsúdení plnia program zaobchádzania. Hoci má rozdelenie do konkrétnych skupín svoj zákonný a podzákonný základ a život odsúdeného v podmienkach výkonu trestu intenzívne ovplyvňuje, pravidlá pre vnútorné rozdeľovanie nie sú celkom jednotné. Konkrétne zdôvodnenie sa však v písomnej podobe odsúdenému neodovzdáva. Mnohí odsúdení z toho dôvodu sami nevedia o dôvodoch, ktoré viedli k ich zaradeniu, alebo sa im len rámcovo tieto dôvody naznačujú.[25]

Zákon o Výkone trestu a Poriadok na VTOS stanovujú pravidlá a podmienky pre zaraďovanie do jednotlivých skupín – ale aj tu je celý rad interných pravidiel pre zaraďovanie, takže niekedy je možné konkrétne vnútorné zaradenie len predpokladať –napríklad hoci C-skupiny sú spravidla tie, kedy odsúdený neplní program zaobchádzania, dopúšťa sa disciplinárnych previnení, odporúča to psychológ, do tejto skupiny sa zaraďujú aj recidivisti, osoby s krátkym zostatkom výkonu trestu po započítaní väzby a pod.

V mnohých prípadoch sú C-skupiny priamo zamerané tak, že nosným penitenciárnym nástrojom je zaraďovanie do práce, vytváranie pracovnoprávnych návykov, osvojovanie si pracovných zručností. A celkom paradoxne, práve tieto C-skupiny, ktoré by pre problematickosť správania zrejme mali mať v programe zaobchádzania nastavené pracovné zaradenie, štandardne v C-skupine nepracujú. Už mnohí odsúdení v B-skupine vnútornej diferenciácie nemajú možnosť vykonávať práce resp. pracovne sú nezaradení.

Tam, kde by to malo asi najväčší význam z hľadiska vytvárania systému hodnôt, tam, kde je potrebné vytvoriť pracovnoprávne návyky, osvojiť si pracovné zručnosti, podporovať vznik a rozvoj pocitu zodpovednosti, tak tieto skupiny odsúdených nie sú zaradené do práce, teda nepracujú. Okrem iného, v mnohých prípadoch nie sú na výkon prác zaradení ani odsúdení z vnútorných skupín B a to z dôvodov na strane ústavov (obmedzené pracovné možnosti a limitované pracovné kapacity). Tak sa ukazuje, že zaradenie do práce je vlastne nástroj resocializácie len pri tých najlepších odsúdených, nie tam, kde by to bolo potrebné.

Vnútorná diferenciácia výkonu trestu odsúdených mužov, i žien sa kombinuje v jednotlivých stupňoch stráženia. Viaceré ústavy na výkon trestu sú profilované pre jeden, ale aj viac stupňov stráženia a pre rôzne vnútorné diferenciačné skupiny. Väčšina ústavov nemá obmedzenie pre vnútornú diferenciácia, mnohé z ústavov sa osobitne špecializujú len na prácu s niektorými vnútornými diferenciačnými skupinami podľa potrieb a požiadaviek na režim zaobchádzania s týmito skupina. Uvedený prehľad vnútornej diferenciácie, v kombinácii s diferenciáciou vonkajšou obsahuje nasledujúca tabuľka:

[24] Tittlová, M.: Zákon o výkone trestu odňatia slobody. Komentár. Bratislava: Wolters Kluwer, 2017, s. 66- 67

[25] Balko, E. a kol.: Penitenciárna pedagogika, Druhé, prepracované vydanie. Bratislava: Akadémia Policajného zboru v Bratislave, 2015, s. 73 a nasl.

Prehľad o počte odsúdených podľa jednotlivých stupňov stráženia

Stupeň stráženia	Počet k 01.05.2021		Počet k 01.06.2021		Rozdiel	
	Muži	Ženy	Muži	Ženy	Muži	Ženy
Mladiství	40	1	39	1	-1	0
Minimálny	3824	435	3854	441	+30	+6
Stredný	3646	210	3669	210	+23	0
Maximálny	620	17	625	15	+5	-2
Spolu	8130	663	8187	667	+57	+4

*zdroj: https://www.zvjs.sk/file/29bb3358-cd50-4253-b11f-0e8c304d49f4.pdf

Stav k 1.6.2021	**MinSS**	**%**	**SSS**	**%**	**MaxSS**	**%**
Muži	3854	47,3	3669	45,03	625	7,7
Ženy	441	66,2	210	31,55	15	2,25
mladiství	40					

*vlastné spracovanie; kde MinSS = minimálny stupeň stráženia; SSS = stredný stupeň stráženia; MaxSS = maximálny stupeň stráženia

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ZÁSADY SMLUVNÍHO PRÁVA

PRINCIPLES OF CONTRACT LAW

Jiří Novotný

Abstrakt

Na úrovni Unie se již před přelomem tisíciletí pracovalo na smluvních pravidlech pro řádné fungování vnitřního trhu, jejichž výsledkem byla publikace návrhu společného referenčního rámce (DCFR) v roce 2008. DCFR obsahuje zejména zásady, definice a modelová pravidla. Obsah návrhu odpovídá schématu nastaveným Komisí v rámci Akčního plánu v roce 2003, jehož cílem bylo především zvýšit soudržnost acquis Společenství v oblasti smluvního práva, podporovat vypracování obecných smluvních podmínek pro celou EU a dále zkoumat, zda problémy v oblasti evropského smluvního práva mohou vyžadovat řešení, která nejsou specifická pro daný sektor, jako volitelný nástroj. Tento příspěvek se věnuje otázkám, na jakých základních zásadách autoři DCFR jimi předložená pravidla v rámci DCFR sestavili.

Klíčová slova: *Civilní právo, EU, DCFR, smluvní právo, principy, zásady, vzorová pravidla.*

Abstract

At the Union level, before the turn of the millennium, work was already underway on contractual rules for the proper functioning of the internal market, which resulted in the publication of the draft Common Framework of Reference (DCFR) in 2008. The DCFR mainly contains principles, definitions and model rules. The content of the proposal corresponds to the scheme set by the Commission as part of the Action Plan in 2003, the main objective of which was to increase the coherence of the Community acquis in the field of contract law, to support the development of general contractual conditions for the entire EU and to further examine whether problems in the field of European contract law may require solutions. which are not sector specific, as an optional tool. This contribution is devoted to the questions on which basic principles the authors of the DCFR compiled the rules presented by them within the framework of the DCFR.

Key words: *Civil law, EU, DCFR, contract law, principles, principles, model rules*

ÚVOD

Komise již v roce 2001 poukazovala na skutečnost, že Smlouva o ES poskytla evropským institucím pravomoci realizovat vnitřní trh spojený s volným pohybem zboží, osob, služeb a kapitálu, což umožnilo Unii (tedy Evropskému společenství) eliminovat překážky vzájemného obchodu mezi členskými státy. Ačkoli se podařilo zavést i společnou měnu pro dvanáct členských států, nadále v rámci vnitřního trhu dle Komise přetrvávaly problémy spojené s výměnou zboží a služeb, a to z tohoto důvodu, že je tato spojena s prodejem, pronájmem či výměnou realizovanou na základě smlouvy, která se však řídí právním řádem a soudním rozhodnutími určitého členského státu. Komise přímo poukazovala na skutečnost, že ačkoli obecně vnitrostátní režimy smluvního práva stanoví zásadu smluvní svobody, a smluvní strany se mohou svobodně dohodnout na svých vlastních smluvních podmínkách, kdy některá z těchto vnitrostátních pravidel nejsou povinná, jiná vnitrostátní pravidla však povinná jsou, zejména tam, kde existují významné rozdíly mezi postoji smluvních stran, jako jsou smlouvy s nájemci nebo spotřebiteli, a smluvním stranám nezbývá jinak než se těmto podřídit. Komise

v rámci úvah zdůrazňovala, že různé vnitrostátní právní řády nezpůsobují závažné překážky pro přeshraniční transakce, neboť strany mohou rozhodnout, které právo bude upravovat jejich smlouvu.
Dále Komise poukazovala na skutečnost, že rozdílné vnitrostátní právní předpisy mohou vést k vyšším transakčním nákladům, zejména pak k případným nákladům na soudní spory, kterými by byly v tomto ohledu nejvíce postiženi malé a střední podniky a spotřebitelé. Další překážkou pak pro zmíněné subjekty byly dle Komise i náklady spojené se získáním informací o výkladu a uplatňování neznámého cizího práva. V konečném souhrnu mohou být tyto vyšší transakční náklady navíc konkurenční nevýhodou, například v situaci, kdy zahraniční dodavatel soutěží s dodavatelem usazeným ve stejné zemi jako potenciální zákazník. Dle Komise použití společných zásad by mohlo vést k vytvoření obvyklého práva za předpokladu dlouhé a trvalé aplikace a společného sdílení přesvědčení, což by ovlivnilo stávající obchodní praxi v členských státech, a eliminovalo překážky fungování vnitřního trhu. V popisu přínosu společných zásad Komise pracovala s principem dobrovolnosti při jejich uplatňování po předchozím odsouhlasení zásad ve členských státech.[1] Sdělení Komise o evropském smluvním právu z července 2001 zahájilo proces konzultací a diskusí o způsobu, jakým by měly být problémy v důsledku rozdílů mezi vnitrostátními smluvními právními předpisy členských států na úrovni společenství řešeny.
Akční plán z roku 2003 navrhoval zmíněné problémy vyřešit prostřednictvím neregulačních a regulačních opatření, které budou zohledňovat společný referenční rámec, jakožto společné zásady a terminologii v oblasti evropského smluvního práva, který by měl pomoci orgánům Unie (tehdy ES) při zajišťování větší soudržnosti stávajících a budoucích acquis v oblasti evropského smluvního práva. Podkladem pro společný referenční rámec (CFR), který byl požadován akčním plánem Evropské komise v roce 2004[2], je akademický návrh společného referenčního rámce (DCFR) publikovaný v roce 2008.[3] Návrh společného referenčního rámce je akademickým nepolitickým výsledkem spojení výstupů Studijní skupiny pro evropský civilní zákoník založené v roce 1999 (vedoucí skupiny Christian v. Bar)[4] a Evropské skupiny pro stávající soukromé právo ES (vedoucí skupiny Hans Schulte-Nöltke).[5] Ačkoli návrh společného referenčního rámce není právní normou, sleduje jeho obsah požadavky akčního plánu na vytvoření principy, definice a vzorová pravidla koncipovaná ve smyslu požadavků Komise ve sdělení z roku 2004.

1 DRAFT COMMON FRAMEWORK OF REFERENCE

Na obsahu návrhu společného referenčního rámce je kromě skutečnosti, že je tento významným akademickým počinem, podstatná i skutečnost, že autoři návrhu, resp. členové jednotlivých studijních a pracovních skupin, nebyli přímo spojeni s určitým státem či mezinárodní organizací, ale pocházeli z různých míst a působili na univerzitách v různých členských státech Unie. Tato důležitá skutečnost dovolila v podobě návrhu společného referenčního rámce sumarizovat principy, definice a vzorová pravidla smluvního práva, na základě zkušeností a znalostí členů komice z platných norem, soudních rozhodnutí, obyčejů a zvyklostí z území několika evropských států. Sumarizace a vznik koncepce principů, které v sobě spojuje průnik norem, obyčejů, soudních rozhodnutí principů a pravidel z několika členských států dává pře-

[1] Communication from the Commission to the Council and the European Parliament on european contract law.
[2] Communication from the Commission to the European Parliament and the Council – A more coherent European contract law – An action plan. Úř. věst. C 63, 15. 3. 2003, s. 1–44.
[3] BAR, Christian von, CLIVE, Eric M., SCHULTE-NÖLKE, Hans, BEALE, Hugh. *Principles, definitions and model rules of European private law: draft common frame of reference (DCFR)*. Outline ed. Munich: Sellier, European Law Publishers, 2009. ISBN 978-3-86653-097-3.
[4] Study group on a European Civil Code navázala na práci Commision on Europen Contract Law (PECL) založené v roce 1980 a označované jako tzv. Landova komise.
[5] European Research Group on Existing EC Private Law.

dem zřetelnou naději, že návrh společného referenčního rámce bude obsahovat principy a pravidla přijatelné pro širší evropskou populaci.
Obsah návrhu společného referenčního rámce je rozdělen do deseti knih, které obsahují kromě úvodu a obecných ustanovení (Kniha I), typové smlouvy (Kniha II), práva a povinnosti smluvních stran (Kniha III), zvláštní druhy smluv a práva a povinnosti z nich vyplývající (Kniha IV), i otázky upravující dobrovolné zásahy do záležitostí jiných osob (Kniha V), otázky mimosmluvní odpovědnosti (Kniha VI), otázky bezdůvodného obohacení (Kniha VII), otázky nabytí a pozbytí vlastnictví movitých věcí (Kniha VIII), otázky spojené s ochranou vlastnického práva k movitým věcem (Kniha IX) a otázku svěřenství (Kniha X). V souvislosti s představeným obsahem návrhu je nutné poznamenat, že tento jde poněkud dále, než jsou principy smluvního práva, když upravuje i právní úkony či otázku mimosmluvní odpovědnosti (Kniha VI) nebo otázku bezdůvodného obohacení (Kniha VII).
Obsah návrhu odpovídá schématu nastaveným Komisí v rámci Akčního plánu v roce 2003, jehož cílem bylo především zvýšit soudržnost acquis Společenství v oblasti smluvního práva, podporovat vypracování obecných smluvních podmínek pro celou EU a dále zkoumat, zda problémy v oblasti evropského smluvního práva mohou vyžadovat řešení, která nejsou specifická pro daný sektor, jako je volitelný nástroj.[6] Hlavním návrhem zmíněného Akčního plánu však bylo vytvořit společný rámec pravidel smluvního práce pro EU. V říjnu roku 2004 Komise zveřejnila další dokument s označením „Evropské smluvní právo a revize acquis: cesta vpřed“, prostřednictvím kterého bylo navrženo, aby společný referenční rámec (CFR) poskytoval „základní zásady, definice a vzorová pravidla“, což by mohlo napomoci zlepšení stávajícího acquis communautaire, a současně by tvořil základ volitelného právního nástroje v případě, že by bylo rozhodnuto o vytvoření takového nástroje.[7] Modelová pravidla pak měly být hlavním obsahem CFR, a měly sloužit jako vodítko pro zákonodárce jednotlivých členských států. DCFR je reakcí na vyjádření a požadavky Komise a obsahuje návrhy zásad, definic a vzorových pravidel.[8]
DCFR obsahuje zásady, definice a vzorová pravidla evropských práv soukromého. Předkládaná pravidla DCFR představují akademický, nikoli politický text, který vychází z iniciativy evropských právních vědců. Pravidla DCFR tak představují závěr více jak desetiletí nezávislého výzkumu a spolupráce akademiků s odbornými znalostmi v oblasti soukromého práva, srovnávacího práva a práva Evropského společenství. DCFR navazuje na zásady evropského smluvního práva, avšak jeho rozsah je mnohem širší. Zásady evropského smluvního práva se vztahovaly především k pravidlům o tvorbě, platnosti, výkladu a obsahu smluv, a jiných právních aktů, ale také k pravidlům o uspokojení závazků a dále pak k pravidlům týkajících se nápravných opatření při neplnění povinností, které byly později doplněné o pravidla vztahující se k právům a povinnostem podle soukromého práva obecně.
V tomto ohledu DCFR předkládá i vzorová pravidla pro jednotlivé druhy smluv (Kniha IV) a dále pak i oblast mimosmluvních závazků a otázky vztahující se k věcem. Právě mimosmluvní závazky dle DCFR zahrnují další práva a povinnosti soukromého práva v rozsahu jeho působnosti, i když nevyplývají přímo ze smlouvy samotné, neb určitá práva a povinností vznikají z bezdůvodného obohacení, poškození způsobeného jinému, jednání bez právního důvodu či intervence do cizích záležitostí. Právě práva a povinnosti z těchto případů se vztahují k právním vztahům k určitým věcem, tedy těm subjektům, které mají k věcem určitá práva, kte-

[6] Communication from the Commission to the European Parliament and the Council – A more coherent European contract law – An action plan. Úř. věst. C 63, 15. 3. 2003, s. 1–44.
[7] Communication from the Commission to the European Parliament and the Council – European Contract Law and the revision of the acquis: the way forward /* COM/2004/0651 final */.
[8] BAR, Christian von, CLIVE, Eric M., SCHULTE-NÖLKE, Hans (ed.). Principles, Definitions and Model Rules of European Private Law: Draft Common Frame of Reference (DCFR). Complete text version. [prepared by the Study Group on a European Civil Code and the Research Group on Existing EC Private Law (Acquis Group)], Munich, Germany: Sellier, European Law Publishers, 2016, s. 30.

rá je potřeba chránit. Pojem zásadních principů je v rámci DCFR pojat s ohledem na zmíněná sdělení Komise tak, že DCFR nevnímá soukromé právo, a zejména smluvní právo, pouze jako prostředek vyvážení soukromoprávních vztahů mezi fyzickými a právnickými osobami, ale především DCFR navrhuje nápravu případného selhání trhu s tím, že soukromé právo je jednou z těchto oblastí právní regulace, která by měla být založena na hluboce zakořeněných principech.
DCFR by však neměl být posuzován jen jako stavební blok „politického" společného referenčního rámce, avšak měl by si dle autorů zachovat svůj vlastní význam s ohledem na skutečnost, že se jedná o akademický text. DCFR je v tomto ohledu výsledem velkého evropského výzkumného projektu a nezávisle na osudu CFR se předpokládá, že DCFR bude především podporovat soukromé právo v jurisdikcích členských států Evropské unie. Jeho úkolem je nejen ukázat, jak velmi se národní soukromé právo podobá, ale především je důležitým stimulem pro rozvoj této oblasti, což lze považovat za regionální projevy společného evropského dědictví. Funkce DCFR je tak první cestou k prohloubení vědomí o existence evropského soukromého práva. DCFR tak může pojem evropského soukromého práva považovat za základ, který zvýší vzájemné porozumění a podporu kolektivního jednání o soukromém právu v Evropě.

2 SVOBODA

Zásada svobody má dle autorů DCFR v rámci práva soukromého několik aspektů. Svoboda v rámci soukromého práva je především považována za svobodu představující ochranu jednotlivých účastníků soukromoprávních vztahů před veřejnou mocí tím, že jim veřejná moc nestanoví nová (další) pravidla, ze kterých účastníkům soukromoprávních vztahů vzniknou nové povinnosti (jako např. kontrola uzavřených kontraktů), či jim nebudou veřejnou mocí uložena omezení v podobě formálních nebo procedurálních pravidel týkajících se právě soukromoprávních vztahů. V rámci DCFR jsou respektovány oba principy svobody. První zásada svobody je předložena v rámci obecného přístupu k autonomii smluvních stran, kdy se respektuje nejen autonomie smluvních stran ve smyslu volnosti svého jednání, ale současně se respektuje i očekávání smluvních stran, že do jejich vztahu nebude ze strany veřejné moci zasahováno.
Důvody případného zásahu pak mohou být různé, např. podpora možnosti odstoupit z uzavřeného smluvního vztahu v případě, že tuto možnost smlouva samotná nedává. Takových zásahů do smluvního vztahu stanovením formálních či procedurálních pravidel by však mělo být dle autorů DCFR minimum. DCFR je ale upřednostňován druhý aspekt, kterým je zvyšování životní úrovně a kvality života, tj. předložení základních pravidel, jako minimální regulace právních vztahů, čímž jsou poskytnuty účinné prostředky k převodu práv ke zboží a službám a současně k zajištění práv ke splnění závazků a správě jejich majetku. Podpora svobody v rámci soukromoprávních vztahů se ale překrývá s podporou zásady efektivnosti.[9]
Smluvní svoboda patří mezi základní principy soukromého práva. Fyzickým i právnickým osobám by měla být dle autorů DCFR přiznána svoboda rozhodování, zda jako každá jiná osoba určitou smlouvu uzavřou či neuzavřou, a to včetně svobody dohodnout se na podmínkách uzavírané smlouvy. Tato základní myšlenka principu svobody je DCFR uznávána v článku Knihy II. – 1: 102[10], podle kterého a smluvní strany mají právo uzavřít smlouvu nebo jiný právní akt a určit její obsah. O smluvní svobodě pak současně hovoří i další pravidla DCFR, např. dle ustanovení Knihy II. – 4: 101[11] postačuje k uzavření smlouvy úmysl uzavřít závazný právní vztah nebo dosáhnout jiného právního stavu a současně dosažení určité doho-

[9] Tamtéž s. 49.
[10] Book II. – 1: 102: Party autonomy.
[11] Book II. – 4: 101: Requirements for the conclusion of a contract. A contract is concluded, without any further requirement, if the parties: (a) intend to enter into a binding legal relationship or bring about some other legal effect; and (b) reach a sufficient agreement.

dy. Smluvní svoboda je i v případě DCFR omezována platnými právními pravidly jednotlivých členských států. Dle DCFR by smluvním stranám měla být dána možnost dohodnout jak podmínky uzavírané smlouvy, tj. jak možnost určit její obsah, tak současně možnost dohodnout způsoby ukončení smluvního vztahu. Tuto hlavní myšlenku smluvní svobody vyjadřuje DCFR jak v čl. II. – 1: 103 odst. 3, podle kterého uzavřený smluvní vztah lze změnit či ukončit dohodou nebo podle zákonných ustanovení, tak i v čl. III. – 1: 108 odst. 1, podle kterého může být právo, závazek nebo smluvní vztah kdykoli změněn nebo ukončen dohodou.[12]

3 OCHRANA

Hlavní principy smluvní ochrany jsou DCFR specifikovány jako: i) závazná platnost smluv; ii) povinnost každé smluvní strany zachovávat smluvní loajalitu, tj. chovat se v souladu s požadavky dobré víry; spolupracovat, pokud je to nezbytné pro plnění závazků; nejednat nekonzistentně s předchozím prohlášením nebo jednání, na které se druhá strana odvolávala; iii) právo vymáhat plnění smluvních závazků v souladu s podmínky smlouvy; iv) povinnost respektovat situaci vytvořenou smlouvou. K dalším důležitým složkám ochrany patří přiměřené smluvní prostředky a nápravná opatření pro případ, že některá ze smluvních stran své závazky ze smlouvy neplní. Dále pak zásada úcty a důvěry smluvních stran, které by se měly projevit v tom, že možné uzavřít smlouvu s takovou smluvní stranou, na kterou se bude možné pravděpodobně spolehnout. Téměř všechny tyto složky smluvní ochrany jsou jasně uznány a vyjádřeny v DCFR.

Důležitou složkou ochrany smluvní bezpečnosti je ochrana přiměřené důvěry a očekávání, která se objevuje nejen v souvislostech s uzavírání smluv. Typickým případem je situace, kdy je učiněna nabídka omylem, avšak druhá smluvní strana takto učiněnou nabídku považovala za důvěryhodnou a řádnou. Tento případ je obecně chráněn většinou právních systému členských států a v rámci DCFR se objevuje v různých pravidlech. Jako v případě informace o ceně a dalších poplatcích. V situaci, kdy má mluvní strana povinnost poskytovat informace o ceně, povinnost není splněna, pokud nejsou uvedeny nejen informace o všech poplatcích za doručení a jakýchkoli dalších daně a cla; pokud není uveden způsob výpočtu, nebo pokud nelze cenu stanovit.[13] Jiným případem jsou pravidla DCFR související s omylem či vadným souhlasem při uzavírání smlouvy. V takových případech dle DCFR může smluvní strana odstoupit od smlouvy z důvodu skutkového nebo právního omylu, který existoval v době, kdy byla smlouva uzavřena, a smluvní strana uzavřela smlouvu omylem, a druhá smluvní strana o omylu věděla, či jej mohla důvodně očekávat, či druhá smluvní strana způsobila, že byla smlouva uzavřena omylem.[14] Obecným objektivním pravidlem v rámci ochrany smluvní bezpečnosti je ustanovení o interpretaci smluv, podle kterého se smlouva se má vykládat podle společného úmyslu smluvních stran, i když se liší od doslovného významu slov.[15]

DCFR zachovává zásadu, že platná smlouva zavazuje smluvní strany (pacta sunt servanda). Výslovně v tomto ohledu uvádí pravidlo, že platná smlouva je pro smluvní strany závazná. V případě jednostranného závazku DCFR stanoví, že tento je pro osobu, která jej poskytla, závazný, není-li potřeba k závaznosti jeho akceptace.[16] Obdobně jsou zřetelně stanoveny principy pro změnu nebo ukončení smlouvy. Dle DCFR mohou být právo, povinnost nebo smluvní vztah změněny nebo ukončeny výpovědí ze strany kterékoliv smluvní strany, pokud je to stanoveno podmínkami, které smlouvu upravují. Pokud v případě trvalého nebo pravidelného

[12] Book II. – 1: 103: Binding effect.
[13] Book II. – 3: 107: Information about price and additional charges.
[14] Book II. Section 2: Vitiated consent or intention. II. – 7: 201: Mistake.
[15] Book II. CHAPTER 8: INTERPRETATION. Section 1: Interpretation of contracts. II. – 8: 101: General rules. II. – 8: 101 (1) A contract is to be interpreted according to the common intention of the parties even if this differs from the literal meaning of the words.
[16] Book II. – 1: 103: Binding effect. II. – 1: 103.

plnění závazku podmínky smlouvy neuvádějí, kdy má smluvní vztah skončit, může být kteroukoli ze stran ukončen výpovědí v rozumné výpovědní době.[17] Zásadu pacta sunt servanda pravidla DCFR pak opouští v určitých situacích, kdy obdobně jako národní předpisy zachovává právo na odstoupení od smlouvy poskytované spotřebitelům. Z důvodu zachování právní jistoty se udělují práva na odstoupení od smlouvy spotřebitelům bez ohledu na to, zda jednotlivě účastníci potřebují ochranu. V takových situacích se obvykle předpokládá, že řada spotřebitelů potřebuje patřičnou ochranu. Příkladem je právo odstoupit od smluv na dodání zboží nebo služby, včetně finančních služeb, pokud nabídka na takové dodání zboží nebo služby byla poskytnuta nebo přijata mimo obchodní prostory.[18]

4 SPRAVEDLNOST

Zásada spravedlnosti je dle autorů DCFR všudypřítomným principem, který se odráží v celém obsahu DCFR. I uplatnění zásady spravedlnosti může být dle autorů v rozporu s jinými základními zásadami, jako je například efektivita (účinnost). Pojem spravedlnost je těžké definovat, není jej možné změřit, ale naproti tomu jsou případy nespravedlnosti všeobecně uznávány a jsou poměrně známé a zřetelné. Dle autorů existuje, stejně jako u ostatních výše diskutovaných principů, v současnosti několik aspektů spravedlnosti. V rámci DCFR podpora spravedlnosti odkazuje na zajištění toho, aby se s podobnými případy zacházelo stejně; a aby nebylo umožněno lidem se spoléhat se na své protiprávní, nepoctivé nebo nepřiměřené chování; nebylo umožněno využívat nepřiměřeně výhody slabosti, neštěstí nebo laskavosti druhých; nebylo umožněno vytváření hrubě nadměrných požadavků; a aby byla vyžadována odpovědnost za důsledky vlastního jednání či přímo vytváření rizikových situací. Zásada spravedlnosti může také odkazovat na ochrannou spravedlnost, kdy je poskytována ochrana, někdy všeobecně preventivním způsobem, těm, kteří jsou slabí nebo zranitelné postavení.

Zřetelným projevem aspektu spravedlnosti v rámci DCFR je zakotvení pravidel proti diskriminaci. Podle pravidel DCFR mají osoby právo nebýt diskriminovány na základě pohlaví, etnického původu nebo rasového původ ve vztahu ke smlouvě nebo jinému právnímu aktu, jehož předmětem je poskytnutí přístupu nebo dodání zboží, jiných aktiv nebo služeb, které jsou dostupné veřejnosti.[19] Zmíněné základní zásady zajišťující ochranu před diskriminací představují implicitní základy většiny dalších pravidel ochrany před diskriminací v rámci smluv a smluvních závazků. Primárním pravidlem je v rámci ochrany před diskriminací požadavek, aby bylo se všemi účastníky (stranami smlouvy) zacházeno shodně. Z tohoto základního principu připouští DCFR výjimku pro případy vztahů, kde je smluvní stranou spotřebitel, kterému se ze strany podnikatelů ne vždy rovného postavení dostává.

Aspekt rovnoprávnosti se pak objevuje v poněkud odlišném principu především v tom, že pokud mají obě strany povinnosti podle smlouvy, pak pro jednu stranu platí to co pro stranu druhou. Tato zásada (někdy nazývaná princip vzájemnosti ve smluvních vztazích) se objevuje například v pravidlech o pořadí plnění vzájemných závazků: při neexistenci jakéhokoli ustanovení nebo náznaku jedna strana nemusí plnit, pokud neplní strana druhá. Pokud však nelze pořadí vzájemného plnění určit, strany jsou povinny své povinnosti současně.[20] Obdobě se aspekt rovnoprávnosti objevuje v případech, kdy může být plnění jedné strany pozastaveno,

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[17] Book III. – 1: 109: Variation or termination by notice.

[18] Book II. Section 2: Particular rights of withdrawal.

[19] Book II. CHAPTER 2: NON-DISCRIMINATION. II. – 2: 101: Right not to be discriminated against. A person has a right not to be discriminated against on the grounds of sex or ethnic or racial origin in relation to a contract or other juridical act the object of which is to provide access to, or supply, goods, other assets or services which are available to the public.

[20] Book III. – 2: 104: Order of performance If the order of performance of reciprocal obligations cannot be otherwise determined from the terms regulating the obligations then, to the extent that the obligations can be performed simultaneously, the parties are bound to perform simultaneously unless the circumstances indicate otherwise.

dokud nebude plněno stranou druhou. V tomto případě má věřitel, který má plnit vzájemný závazek ve stejné době nebo později než má plnit dlužník, má právo zdržet se plnění vzájemného závazku, pokud dlužník nenabídne plnění, nebo pokud dlužník již neplnil[21] a dále pak v pravidlech umožňujících jedné straně ukončit vztah, pokud dojde k podstatnému neplnění druhou smluvní stranou. Neplnění smluvního závazku je dle pravidel DCFR podstatné, pokud značně zbavuje věřitele něčeho, co věřitel oprávněně očekával podle smlouvy, ať už se jedná o celé nebo jen část plnění, ledaže by v čase uzavření smlouvy dlužník nepředvídal, a ani nelze důvodně předpokládat, že by takový výsledek dlužník předpokládal. Podstatné neplnění závazku je pak dále v případě, pokud jde o neplnění úmyslné nebo z nedbalosti a dává věřiteli důvod věřit, že na dlužníkovo budoucí plnění se nebude možné spolehnout.[22] Zakotvením těchto pravidel na ochranu proti diskriminaci prostřednictvím pravidla rovnoprávnosti DCFR poskytuje účinné prostředky ochrany a zvyšuje smluvní bezpečnost. Dalším případem pak v tomto ohledu může být aspekt spravedlnosti „rovnosti" v pravidlech pro více dlužníků nebo věřitelů: výchozí pravidlo je, že solidární dlužníci jsou si rovni (III. – 4: 106)[23] a věřitelé pak mají vždy právo na stejný podíl (III. – 4: 204).[24]

5 EFEKTIVITA

Mnoho debat a rozhodnutí učiněných v průběhu příprav předkládaných pravidel bylo dle autorů založeno na principu efektivity přípravy DCFR. Autoři v tomto ohledu rozlišují dva překrývající se aspekty efektivity, tj. efektivitu jako účinnost pro účely smluvních závazků a dále pak efektivitu jako účinnost pro širší veřejné účely. DCFR obsahuje minimální formální a procedurální omezení a v tomto duchu DCFR předkládá minimální formalitu pravidel. Příkladem je absence požadavku na písemnou formu či jiných formálních náležitostí právních jednání. Dle DCFR smlouva nebo jiný právní akt nemusí být uzavřen nebo doložen písemně ani nepodléhá žádnému jinému požadavku na formu (II. – 1: 106).[25] Výjimky z tohoto pravidla tvoří některá pravidla upravující ochranu smluvních stran. Například smlouva o ručení musí být v textové podobě na trvalém nosiči a musí být podepsána od poskytovatele ručení. Smlouvy o ručení, které nejsou v souladu s takovými požadavky, jsou pak dle DCFR neplatné (IV.G. – 4: 104).[26] DCFR však respektuje skutečnost, že v některých oblastech (jako jsou převody nemovitých věcí) vnitrostátní předpisy členských států mohou vyžadovat písemné či jiné formální náležitosti právních jednání, neformálnost je však přesto obecným přístupem DCFR.

Mezi další případy efektivity pro smluvní strany počítá DCFR i možnost zrušit smlouvu pouhým jednáním jedné ze stran bez nutnosti zahajovat soudní řízení. Zrušení smlouvy se podle tohoto oddílu se provede oznámením druhé straně (II. – 7: 209).[27] Smluvní vztahy lze vždy dle DCFR ukončit stejným způsobem, pokud nastane zásadním neplněním povinností druhé strany. Principem je vždy pravidlo, že právo ukončit smluvní vztah podle tohoto oddílu se

[21] Book III. Section 4: Withholding performance.

[22] Book III. Sub-section 1: Grounds for termination. III. – 3: 502: Termination for fundamental non-performance (1) A creditor may terminate if the debtor's non-performance of a contractual obligation is fundamental.

[23] Book III. – 4: 106: Apportionment between solidary debtors (1) As between themselves, solidary debtors are liable in equal shares.

[24] Book III. – 4: 204: Apportionment in cases of divided rights. In the case of divided rights the creditors have equal shares.

[25] Book II. – 1: 106: Form. II. – 1: 106 (1) A contract or other juridical act need not be concluded, made or evidenced in writing nor is it subject to any other requirement as to form.

[26] Book IV.G. – 4: 104: Form. IV.G. – 4: 104 The contract of security must be in textual form on a durable medium and must be signed by the security provider. A contract of security which does not comply with the requirements of the preceding sentence is void.

[27] Book II. – 7: 209: Notice of avoidance. II. – 7: 209 Avoidance under this Section is effected by notice to the other party.

uplatní oznámením dlužníkovi (III. – 3: 507).[28] Výkon smluvních práv je možné zahájit bez nutnosti učinit předchozí oznámení dlužníkovi v případě postoupení (III. – 5: 104).[29] Vlastnické právo ke zboží může být převedeno bez dodání zboží (VIII. – 2: 101).[30] I bez vlastnického práva lze snadno uskutečnit zajištění majetku. DCFR připouští požadavek na registraci majetku ve veřejných seznamech, avšak i v těchto případech jsou v zájmu efektivnosti formality opět omezeny na minimum. Pravidla pro započtení lze považovat za pravidla postavené na principu efektivity. Neexistuje žádný důvod pro to, aby osoba X platila osobě Y a pak osoba Y platila osobě X, pokud lze tyto vzájemné platby účastníků jednoduše započítat proti sobě. Započtení v DCFR se opět neomezuje pouze na soudní řízení a lze jej provést jednoduše oznámením druhé smluvní straně (III. – 6: 105).[31]

DCFR ve svých pravidlech eliminuje jakéhokoli požadavky na protiplnění či na důvod pro platné uzavření účinné smlouvy. Dle DCFR se smlouva uzavírá bez dalších požadavků, pokud strany: i) mají v úmyslu uzavřít závazný právní vztah nebo dosáhnout jiného právního stavu účinek; ii) dosáhnou dostatečné dohody (II. – 4: 101).[32] Platná smlouva je pro smluvní strany závazná. Jednostranný slib nebo závazek je pro osobu, která jej dává, závazný, je-li úmyslem právní závaznost bez přijetí (II. – 1: 103).[33] Obdobně DCFR uznává, že smlouvy mohou přiznávat práva třetím stranám. Smluvní strany mohou na základě smlouvy přiznat právo nebo jinou výhodu třetí straně. Taková třetí strana však musí existovat a musí být identifikována v době uzavření smlouvy (II. – 9: 301).[34] DCFR podporuje efektivitu (a svobodu) také tím, že stranám usnadní dosažení právních výsledků, tak jak samy smluvní strany zamýšlejí, aniž by se museli uchýlit od zákonných požadavků.

DCFR pomáhá efektivitě poskytovat rozsáhlá výchozí pravidla pro běžné typy smluv a běžné typy smluvních problémů. To je zejména užitečné pro jednotlivce a malé podniky, kteří nemají takové (právní) možnosti jako velké podniky. Dle zkušeností je mnohem účinnější známé a obvyklé problémy v rámci smluvních vztahů regulovat spravedlivým a rozumným způsobem předem, což je mnohem účinnější, než následné řešení sporů ze smluv prostřednictvím soudních řízení. Autoři DCFR v tomto ohledu doufají, že obsah výchozích pravidel také podpoří efektivitu celého projektu. DCFR nezohledňuje názor, že výchozí pravidla by měla být tak nepřiměřená, aby strany byly v rámci jednání vedeny vytvářet vlastní pravidla. V případech, kdy se smluvního vztahu účastní pouze strany transakce, snaží dle autorů strany založit výchozí pravidla na tom, aby se strany pravděpodobně dohodly, což je právě cílem předkládaných pravidel. Právě taková pravidla by měla přinést účinné výsledky, protože je velmi pravděpodobné, že právě tato pravidla by smluvní strany samy vytvořily.[35]

ZÁVĚR

DCFR je postaven na čtyřech (hlavních) zásadách, které tvoří svoboda, bezpečnost, spravedlnost a efektivita, a které bezprostředně předchází celému návrhu referenčního rámce. Tyto hlavní zásady jsou pak dále rozvinuty v kategorii prvořadých principů, ke kterým patří ochrana lidských práv, podporu solidarity a sociální odpovědnost, zachování kulturní a jazykové

[28] Book III. – 3: 507: Notice of termination.

[29] Book III. Sub-section 2: Requirements for assignment. III. – 5: 104: Basic requirements. III. – 5: 104 (4) Neither notice to the debtor nor the consent of the debtor to the assignment is required.

[30] Book VIII. RIGHT OR AUTHORITY. Section 1: Requirements for transfer under this Chapter. VIII. – 2: 101.

[31] Book III. – 6: 105: Set-off by notice.Set-off is effected by notice to the other party.

[32] Book II. CHAPTER 4: FORMATION. Section 1: General provisions. II. – 4: 101: Requirements for the conclusion of a contract.

[33] Book II. – 1: 103: Binding effect. II. – 1: 103 (1) A valid contract is binding on the parties. (2) A valid unilateral undertaking is binding on the person giving it if it is intended to be legally binding without acceptance.

[34] Book II. – 9: 301: Basic rules.

[35] Tamtéž s. 75.

rozmanitosti, ochrana a podpora prosperity a propagace vnitřního trhu. Základní pravidla DCFR doprovází ochrana lidských práv a sám i DCFR uznává prvořadou úlohu této zásady, když jeho úvodní ustanovení stanoví, že vzorová pravidla je třeba číst ve světle o všech použitelných nástrojích zaručujících lidská práva a základní svobody. Hlavní zásady, pak DCFR velmi silně odráží v obsahu samotných vzorových pravidel, zejména pravidla o nediskriminaci v Knize II. a III. a tyto se projevují dále v Knize VI. o mimosmluvní odpovědnosti. Právě takto nastavená pravidla mohou být považována za vhodné vzory pro principy, které podporují spravedlnost a poskytují ochranu právním vztahům. Právě svoboda, ochrana, spravedlnost a efektivita jsou jako základní principy v rámci DCFR dále rozvíjeny a představují prvořadé a základní principy celého referenčního rámce. Samotný akademický návrh referenčního rámce se dle autorů snaží představovat ztělesnění těchto zásad a za prvořadé považuje především jejich vzájemné vyvážení. Na úroveň těchto základních principů lze postavit cíle samotné evropské integrace a to odkazem na konkrétní politické cíle Unie v rámci ochrany prostoru, bezpečnosti a práva a podpory svobody pohyb zboží, osob, služeb a kapitálu mezi jednotlivými státy, k jejichž dosažení by měl akademický návrh referenčního rámce svým obsahem přispět.

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MLADÍ MEZI DVĚMA SVĚTY: EVANGELIZAČNÍ ČINNOST CHARISMATICKÉHO SPOLEČENSTVÍ V ČESKOSLOVENSKU V OBDOBÍ NORMALIZACE

YOUTH BETWEEN TWO WORLDS: THE EVANGELIZATION ACTIVITY OF THE CHARISMATIC COMMUNITY IN CZECHOSLOVAKIA DURING THE PERIOD OF NORMALIZATION

Monika Soukupová

Abstrakt

Počátky charismatického hnutí v Československu se pojí s vikářem Danem Drápalem a jím vedeným holešovickým sborem Českobratrské církve evangelické. Drápal, původně evangelického vyznání, v roce 1978 zažívá zkušenost obrácení a následně začíná své společenství směřovat k charismatické religiozitě. Za pomoci západních misionářů a do Československa pašovaných materiálů buduje evangelizační a navazující pastorační systém zaměřený zejména na mladé lidi. Sbor v 80. letech zaznamenává masivní příbytek členů, což neunikne pozornosti Státní bezpečnosti, jež se rozsáhlou agenturní sítí pokouší růst společenství potlačit. Jak státní orgány, tak holešovičtí věřící po celou dobu vzájemné interakce vytvářejí strategie sloužící k prosazení svých, proti sobě jdoucích, cílů.

Klíčová slova: *Charismatické hnutí, Československo, normalizace, Státní bezpečnost, evangelizace*

Abstract

The beginnings of the charismatic movement in Czechoslovakia are connected with vicar Dan Drápal and the Holešovice congregation of the Protestant Church of Czech Brethren, which he led. Drápal, originally adhering to the Protestant tradition, experienced conversion to evangelicalism in 1978 and subsequently began to move his community towards charismatic religiosity. With the help of Western missionaries and materials smuggled into the country, he built an evangelistic and follow-up pastoral system focused especially on the youth. In the 1980s the congregation experienced a massive increase in members and did not escape the attention of the State Security, which tried to suppress the growth through an extensive agency network. During the entire period of mutual interaction, both the state authorities and believers were creating strategies for carrying their conflicting goals through.

Key words: *Charismatic movement, Czechoslovakia, normalization, State security, evangelism*

1 ÚVOD

Předkládaný článek dokumentuje interakci mezi členy charismaticky orientovaného holešovického sboru Českobratrské církve evangelické a Státní bezpečností v oblasti evangelizačního působení na mládež v Československu v období normalizace. Na základě archivního, orálně-historického výzkumu a analýzy publikovaných i dosud nepublikovaných pramenů jsou konfrontovány pohledy věřících i příslušníků státní moci na fenomén evangelizační činnosti sboru a masivní členský růst ve zmiňovaném období, pozornost je zaměřena rovněž na strategie, jež si obě strany při hájení svých vzájemně protichůdných zájmů osvojily.

2 MLÁDEŽ V CENTRU POZORNOSTI

Zápas o duše mladých lidí mezi představiteli státní moci a křesťanskými duchovními vypukl záhy po komunistickém převzetí moci. Vedle snah o obecné oslabení církví a jejich pořízení státu například skrze tzv. církevní zákony z roku 1949, věznění, mučení či internování nespolupracujících duchovních či vytvářením paralelních církevních struktur tvořených kolaborujícími kněžími se v 50. letech pozornost státních orgánů zaměřila specificky na snížení vlivu církví a náboženských spolků na mládež. Zrušeny byly všechny katolické mládežnické organizace, největší z nich – Orel, Junák a Sdružení katolické mládeže byly perzekuovány zvlášť tvrdě.[1] Systematicky pak tyto byly nahrazovány organizacemi s politickým přesahem, ať již Československým svazem mládeže s jeho Pionýrskou organizací či širokým spektrem kroužků zaměřených na volnočasové aktivity.[2] Mimoškolní výchova měla nahradit čas, který by mladí lidé bývali strávili ve společenstvích věřících, například program Československé televize byl upraven tak, aby bylo vysílání pro mládež soustředěno na nedělní a sváteční dopoledne.[3]

Byly-li přibližně do poloviny 60. let církve v Československu pod tlakem režimu široce ochromeny, během pražského jara se začíná autentický organizovaný náboženský život znovu probouzet. Příchod normalizace již náboženskou obnovu nezastaví, jelikož však není možné vést svobodný náboženský život otevřeně, část jeho organizačních struktur se přesouvá do podzemí. V rámci římskokatolické církve dochází k oživení některých řeholních řádů, jež nyní tajně přijímají nové členy a otevírají tajná studia, vzniká rozsáhlá síť věřících samizdatově angažovaných. V církvi římskokatolické i v církvích nekatolických dochází k aktivizaci ordinovaných duchovních i laiků, kteří se začínají věnovat práci s mládeží, mnohdy v malých skupinkách, setkávajíce se nezřídka mimo církevní prostory.[4] Jednou z podob duchovní obnovy, jež v normalizačním období do Československa pronikla a hluboce ovlivnila generaci mladých osob, bylo i charismatické hnutí.

3 CHARISMATICKÉ HNUTÍ

Charismatické hnutí, někdy označované jako druhá (obrodná) vlna, šířící se v rámci církve římskokatolické i protestantských církví od 60. let 20. století, vzniká v rámci evangelikalismu, s původem v hnutích 17.-19. století, usilujících v Evropě a Severní Americe o obrodu protestantismu. Bebbington charakterizuje evangelikalismus 4 důrazy: konverzionismus (důraz na potřebu obrácení každého člověka), aktivismus (vyjádření víry činy), biblicismus (zvláštní vztah k Bibli, která je nejvyšší normou ve věcech víry a mravů) a krucicentrismus (zdůraznění významu Kristovy oběti na kříži).[5] Ve své teologii charismatické hnutí navazuje dále na akcenty pentekostalismu (obrodné vlny první), zejména na nezbytnost navázání osobního vztahu s Bohem, absolvování biblického aktu křtu Duchem svatým a pěstování novozákonních charismat, s pentekostalismem sdílí rovněž silný důraz na misijní činnost, avšak narozdíl od něj není prioritou jeho duchovních zakládat nové denominace, nýbrž přinášet duchovní obnovu do církví stávajících.[6]

Počátky charismatického hnutí v Československu jsou neodmyslitelně spojeny s osobou Dana Drápala (*1949). Drápal v letech 1967-1972 absolvoval studium teologie na Komenského evangelické bohoslovecké fakultě. Pro politickou angažovanost v roce 1968 mu bylo po

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[1] BALÍK, S., HANUŠ, J. *Katolická církev v Československu*. Brno: CDK, 2007. s. 194-195.

[2] KNAPÍK, J., FRANC, M. a kol. *Mezi pionýrským šátkem a mopedem: Děti, mládež a socialismus v českých zemích 1948-1970*. Praha: Academia, 2018. s. 60-61.

[3] *Tamtéž*, s. 70.

[4] BALÍK, J. *S mladými ke Kristu: O umění vést mladé lidi ke smyslu života*. Praha: PAULÍNKY, 2019. s. 88-89.

[5] BEBBINGTON, D. W. *Evangelicalism in Modern Britain: a History from the 1730s to the 1980s*. London: Routledge, 1993.

[6] Srov. např. FILIPI, P. a kol. *Malá encyklopedie evangelických církví*. Praha: Libri, 2008. s. 67-68.

ukončení studií odpíráno udělení státního souhlasu k výkonu duchovenského povolání, pracoval tedy několik let v manuálních profesích. Státní souhlas obdržel až v roce 1976, 1. 3. 1977 nastupuje na pozici vikáře nepočetného pražského sboru Českobratrské církve evangelické (dále ČCE) v Praze 7 – Holešovicích. O rok později zažívá zkušenost obrácení a posléze postupně začíná směřovat své společenství k charismatické religiozitě. Sbor se po celá 80. léta intenzivně početně rozrůstá, jeho členové na základě impulsů ze zahraničí, zprostředkovaných jak skrze literaturu pašovanou do Československa, tak prostřednictvím utajovaných kontaktů s kazateli a misionáři vyvíjí intenzivní evangelizační a následnou teologicky vzdělávací činnost nasměrovanou vůči čerstvě obráceným osobám.
Současně sílí rozpory mezi společenstvím a jeho mateřskou církví. Napětí eskaluje v červnu 1990, kdy dochází k oddělení holešovického sboru od ČCE a ke vzniku nového uskupení, v jehož čele Drápal stanul, nejprve nesoucího název „Křesťanská společnost Maniny“, později „Křesťanské společenství Praha“, v roce 2002 na Ministerstvu kultury registrované jako „Církev Křesťanská společenství“. V roce 2004 Drápal rezignoval na funkci vedoucího sboru, v současné době pracuje jako překladatel a publicista. [7]

4 PROMĚNY HOLEŠOVICKÉHO SBORU V 80. LETECH 20. STOLETÍ

V roce 1977, kdy se Drápal ujímá pozice vikáře, byla průměrná účast na nedělních bohoslužbách v holešovickém sboru ČCE 29 převážně starších osob, jednalo se o nejmenší z 21 sborů ČCE v rámci vnitřní Prahy.[8] Již od počátku svého působení ve sboru Drápal veřejně artikuloval svoji touhu po duchovní práci s mládeží, avšak té bylo ve zmíněné době ve společenství poskrovnu, dle Drápala sbor pravidelně navštěvovali pouze tři mladí lidé.[9]
Rok po svém nástupu do vedení sboru prožívá Drápal zkušenost konverze k evangelikalismu, následně se setkává s bývalým členem Svědků Jehovových Pavlem Kábrtem, jenž se nedlouho poté stane sborovým laickým kurátorem. Toto setkání vikáře konfrontuje s vlastní nezkušeností v oblasti evangelizační práce.[10] Přestože byl počet mladých osob ve sboru na konci 70. let velice nízký, rozhodl se Drápal, vědom si své zmíněné nedostatečnosti, zaměřit se jednak na své vlastní vzdělávání v oblasti duchovní práce s mládeží, jednak na neformální teologické vzdělávání mladých lidí, již s holešovickým sborem přicházeli do styku.
Drápal se během svých vysokoškolských studií a následné vynucené práci v manuálních profesích seznámil s řadou věřících i nevěřících intelektuálů, kteří působili v disentu. Pravidelně se účastnil debatních setkání, jež probíhala od roku 1968 v evangelickém semináři v Jirchářích, s příchodem normalizace byly tyto schůzky přesunuty do soukromých bytů účastníků, na konci 70. let pak Drápal poskytl těmto setkáním sborové prostory. Několik mladých frekventantů zmíněných debatních setkání se následně na přelomu 70. a 80. let rozhodlo stát členy Drápalem vedeného společenství, a tím rozšířit řady dosud nepočetné mládeže holešovického sboru ČCE.[11]
V této době navazuje holešovický sbor kontakt s americkou naddenominační misijní organizací, Navigátory,[12] jež vyvíjela intenzivní misijní činnost v zemích východního bloku.

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[7] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. 87 s., DRÁPAL, D. *Historie Křesťanského společenství Praha: Léta růstu*. Praha: Sbor Křesťanské společenství Praha, 2009. 94 s., DRÁPAL, D. *Historie Křesťanského společenství Praha: Zlom*. Praha: Sbor Křesťanské společenství Praha, 2011. 94 s.
[8] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 8.
[9] *Tamtéž,* s. 14.
[10] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 30.
[11] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 8.
[12] *The Navigators* v originále.

Navigátoři poskytli československým věřícím série textů biblické nauky určené pro teologické vzdělávání nově obrácených. Tyto materiály začal Drápal překládat do češtiny a rozmnožovat na psacím stroji, následně se staly studijními texty pro tzv. *domácí skupinky*[13] sestávající z nově uvěřivších členů společenství.[14]
Evangelizační činnost sboru se postupně ustálila ve čtyřech podobách – na přelomu 80. let převažovaly tzv. *kartotéční návštěvy*, při nichž nejprve Drápal sám, později rovněž s dalšími členy společenství, obcházel osoby, jež formálně k holešovickému sboru náležely, avšak delší dobu se neúčastnily sborového života. Snahou členů sboru tedy bylo tyto lidi znovu oslovit a navrátit do společenství.[15] Za druhými dvěma podobami evangelizačního úsilí stál kurátor Kábrt – jednalo se o evangelizaci na veřejnosti. Nekontaktní podoba spočívala zejména ve vhazování náboženských tiskovin lidem do poštovních schránek a ve vylepování samolepek s náboženskými hesly, jež byly určeny k umístění „*na dobře viditelných a frekventovaných místech ve středu Prahy*.“[16] [17] Kontaktní podoba evangelizace měla podobu Kábrtem uskutečňovaných tzv. *misijních cest* v centru Prahy. Kábrt v pravidelných intervalech opakoval cesty pěšky po totožných trasách, při každé z nich oslovil v průměru 20-25 osob, které v případě jejich zájmu pozval na schůzku, při níž jim zapůjčil náboženskou literaturu a pozval je do holešovického sboru. Čtvrtá forma evangelizace měla spontánní charakter, členové sboru vyprávěli o svých zážitcích ze společenství svým spolužákům, kolegům či přátelům a zvali je k osobní návštěvě společenství.[18]
Na počátku let 80. začali ve větším počtu přicházet do společenství středoškolští a vysokoškolští studenti, kteří se o něm dozvídali od svých věřících spolužáků. Drápal si následně uvědomuje, že jeho mateřská církev nenabízí vhodné duchovní zázemí a vzdělávání pro čerstvě obrácené osoby, jež se před svou konverzí nepohybovaly v církevním prostředí.[19] Zavádí pravidelná setkání konající se o čtvrtečních večerech, kam členové sboru mohou přivést své duchovně hledající známé a přátele, jimž nevyhovovala formalizovaná liturgie nedělních bohoslužeb ani ČCE pořádané přednášky zaměřené převážně na historii své denominace. Program těchto setkání narozdíl od obou byl pojat neformálně, sestával ze zpěvu písní, biblického studia, společných modliteb a rozjímáním nad *svědectvími*.[20]
V roce 1982 zažívá holešovický sbor prudký nárůst počtu mladých aktivních členů. Zatímco na nedělních bohoslužbách dochází pouze k mírnému zvýšení průměrného počtu návštěvníků – oproti roku 1980 z 38 na 45, návštěvnost čtvrtečních schůzek mládeže stoupne na více než dvojnásobek – z 24 osob v roce 1980 na 50. [21] Tento rychlý růst společenství s sebou přinesl vysoký nárok na počet osob sboru, které by byly schopny se věnovat duchovní péči o nově obrácené a zároveň je vzdělávat v základních dogmatech evangelikální víry. Drápal se na tuto

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[13] Naplň domácích skupinek zavedených na přelomu 70. a 80. let v holešovickém sboru odpovídala podobě těchto setkání u Navigátorů – věřící se v malých skupinách v domácím prostředí společně věnovali primárně studiu Bible, výkladových teologických materiálů a modlitbě.
[14] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 46.
[15] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 32-33.
[16] Archiv bezpečnostních složek (dále ABS), fond (dále f.) MV/KR, archivní číslo (dále arch. č.) 810431 MV, svazek (dále sv.) I, *Poznatek o Pavlovi Kábrtovi ze dne 16. 9. 1986.*
[17] Příklady hesel na samolepkách jsou »*Ježíš je i Tvůj Spasitel. Čti Bibli*«, »*Bůh Tě miluje. Čti Bibli*«.
[18] DRÁPAL, D. *Historie Křesťanského společenství Praha: Léta růstu*. Praha: Sbor Křesťanské společenství Praha, 2009. s. 72.
[19] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 30.
[20] DRÁPAL, D. *Historie Křesťanského společenství Praha: Jak to všechno začalo*. Praha: Sbor Křesťanské společenství Praha, 2008. s. 48.
[21] Ústřední archiv Českobratrské církve evangelické, f. Farní sbor Holešovice, Spisy, Evidenční dotazníky 1970-1989, *Evidenční dotazníky za rok 1980 a 1982.*

situaci rozhodl reagovat zapojováním věřících, již prošli obrácením řádově před měsíci. Mladí křesťané s několikaměsíční zkušeností života ve společenství pro sebe získávali možnost předávat základy víry jednak individuálně jednotlivcům, jednak skupinově, v rámci domácích skupinek.[22]

Mladým lidem byla tedy téměř od počátku jejich života v holešovickém sboru svěřována spoluzodpovědnost za duchovní vývoj nově příchozích. Lze se domnívat, že právě tato svěřená zodpovědnost a možnost aktivní duchovní seberealizace mladých osob, navíc laiků, byla jednou z příčin, jež stály za masivním růstem společenství. Druhým aspektem, jenž se podílel na atraktivitě sboru pro mladé, byla rovněž míra jejich angažování ze strany vedoucích duchovních – ve sboru působili lidé, kteří sbor pravidelně navštěvovali několikrát týdně, přičemž se ještě účastnili občasných společných výjezdů mimo Prahu. Holešovický sbor tedy nebyl pro mladé lidi místem, které navštíví pouze v neděli na dvě hodiny bohoslužby, nýbrž jim nabízel možnost aktivního trávení značné části jejich volného času.[23]

Drápal sám klade rozkvět svého společenství v 80. letech do souvislosti s vyprázdněností nabídky normalizačního státu, rovněž připouští, že v případě některých tehdejších členů sboru byl odpor ke komunistickému režimu a touha po trávení času v milieu, kde jsou pěstovány odlišné hodnoty, primární příčinou jejich vstupu do společenství. K odhalení této, pro Drápala bolestivé, skutečnosti došlo krátce po revoluci, kdy část členské základny sbor opustila. Vikář se dle svých slov pokoušel svůj sbor vést „*mezi Scyllou poklonkování režimu […] a Charybdou čelního střetu, kteří volili disidenti*.“[24] Svoji pozici vůči režimu a disentu pak Drápal charakterizuje následovně: „*Fakt je ten, že já jsem se také [jako ostatní evangelikálové] vyhýbal politické angažovanosti, protože jsme byli tedy v té evangelické církvi, a tam se mi zdálo, a myslím, že nejen zdálo, ale že to tak i bylo, že pro některé faráře tzv. Nové orientace*[25] *byla ta politika trošku důležitější než evangelium. Tak to jsem nechtěl, ale nikdy jsem se nedistancoval od těch, co se angažovali politicky a myslím, že jsem neudělal nic, čím bych jim nějak uškodil a nikdy jsem tomuhle režimu nelezl do zadku […]*.“[26]

Pozoruhodným pramenem vypovídajícím o tom, v čem výjimečnost holešovického společenství spatřovali sami věřící, kteří do sboru v 80. letech přicházeli, je dosud nepublikovaný soubor vzpomínkových textů, dopisů, „*Co pro mne znamenaly Maniny*“, který od bývalých členů sboru obdržel Drápal v roce 2009 jako dar k 60. narozeninám. Autoři ve svých textech primárně zmiňují čtyři fenomény, jež vnímají v souvislosti s holešovickým sborem jako klíčové.

Prvním z nich je specifická podoba Drápalova působení na pozici vikáře. Na svém bývalém duchovním vedoucím oceňují věřící ve svých dopisech zejména jeho intelekt, charakter a ochotu podporovat druhé lidi v jejich duchovní činnosti. Autoři textů se shodují, že byli ve svém duchovním životě významně ovlivněni jeho oddaným vztahem k Bibli, pozoruhodnou schopností biblické texty srozumitelně vykládat a ochotou o otázkách víry s druhými lidmi rovnocenně diskutovat. Z charakteru na Drápalovi oceňují zejména jeho lidskost, pokoru vůči druhým lidem a přirozenou autoritu, již nenarušoval ani jeho přátelský přístup k řadovým věřícím, kterým se navíc v některých případech neváhal vyznávat ze svých hříchů. Dále věřící

[22] DRÁPAL, D. *Historie Křesťanského společenství Praha: Léta růstu*. Praha: Sbor Křesťanské společenství Praha, 2009. s. 8.
[23] *Tamtéž*, s. 64.
[24] *Tamtéž*, s. 50.
[25] Nová orientace byl neformální teologický proud v Českobratrské církve evangelické, jehož stoupenci se snažili nově formulovat teologická a eklesiologická východiska činnosti ČCE a zároveň aktivně zaujímat kritické postoje vůči společenským poměrům v socialistickém Československu. Jeho představiteli byli například Jakub Trojan, Miloš Rejchrt, Jan Šimsa, Jan Čapek, Božena Komárková, Ladislav Hejdánek či Milan Balabán.
[26] Rozhovor autorky s Danem Drápalem, uskutečněný v Jeseníku dne 22. 1. 2020.

zmiňují Drápalovu ochotu vkládat důvěru v jejich schopnosti a podporovat je v realizaci jejich vizí v rozličných duchovních činnostech.[27]
Druhou oblastí, již někdejší členové sboru ve společenství v 80. letech zmiňují jako zcela klíčovou, je oblast mezilidských vztahů. Ve zkoumaných textech v tomto kontextu výrazně vyvstávají zejména dva motivy. Prvním z nich je přirovnávání holešovického společenství k rodině a k domovu. Příměr sboru k domovu užívají jak věřící, kteří o svou pokrevní rodinu přišli, případně pocházeli z rodiny neúplné či ne zcela funkční, tak věřící, jejichž biologická rodina sice funkční byla, v některých případech i nábožensky orientovaná, avšak postrádali v ní hlubší či živější duchovní rozměr. Druhým motivem zmiňovaným v dopisech někdejších členů je zdůrazňování jinakosti života ve společenství oproti životu mimo společenství věřících, tzv. *ve světě*.[28]
Třetí oblastí, v níž spatřují věřící výjimečnost společenství, je teologické vzdělávání a duchovní péče. Věřící se shodují, že období, v němž holešovický sbor navštěvovali, pro ně bylo v jejich duchovním životě formativní. V kontextu teologického vzdělávání vzpomínají někdejší členové zejména na materiály Navigátorů, jež s odstupem téměř třiceti let vnímají stále jako funkční a přínosné. Co však věřící oceňují ještě více než pouhé získání základů v oblasti evangelikální teologie, je možnost své nabyté vědomosti okamžitě aplikovat v praxi, v duchovní práci s lidmi. Jak již bylo zmíněno, čerstvě uvěřivší osoby byly v řádech měsíců po svém obrácení systematicky motivovány k tomu, aby své nabyté vědomosti předávaly dál a získávaly další následovníky.[29]
Čtvrtou oblastí sborového života, již věřící uvádějí jako pro své životy formativní, je náboženská praxe typická pro charismatické křesťanství, praxe nadpřirozeného uzdravování. Holešovičtí věřící byli v tomto kontextu intenzivně ovlivněni návštěvou britského kazatele a autora řady teologických pojednání o nadpřirozeném uzdravování, Dereka Prince, s nímž se setkali v rámci několikadenního utajovaného semináře v roce 1986. Součástí charismatické teologie je přesvědčení, že jednotlivý věřící může od Boha obdržet dar uzdravování konkrétních fyzických obtíží, kterým daný člověk nadále disponuje. Tento dar je následně dotyčný rovněž schopen prostřednictvím cíleného *vzkládání* (pokládání) rukou předat dalším křesťanům. Prince v tomto kontextu deklaroval uplatňování daru prodlužování nohou. Drápal ve svých pamětech vzpomíná, jak byl nejprve během setkání s Princem svědkem nadpřirozeného prodloužení nohou několika členů svého společenství i nohy své, poté začali holešovičtí věřící vykonávat tuto praxi sami.[30] Zážitky, jež jejich přímí účastníci a ostatní přítomné osoby chápali jako zázraky, měly zásadní vliv jak na osoby nevěřící, tak na věřící, které se do té doby s podobnými úkony nesetkaly.

5 RŮST HOLEŠOVICKÉHO SBORU OPTIKOU STÁTNÍ BEZPEČNOSTI

Masivní růst holešovického sboru na počátku 80. let samozřejmě pozornosti státní správy uniknout nemohl. Státní bezpečnost sledovala evangelizační činnost společenství a jeho následnou práci s mladými konvertity se zjevným znepokojením. Informace o chodu společenství získávaly státní orgány z několika zdrojů. Prvním zdrojem byly Bezpečností uskutečněné výslechy jak řádných členů společenství, tak občasných návštěvníků bohoslužeb. Dále StB ohledně situace ve sboru pravidelně komunikovala s vedoucími duchovními ČCE. Zdaleka největší objem informací však proudil skrze spolupracovníky StB, infiltrované na bohoslužby a další sborem pořádané akce. Tito pravidelně podávali o sborovém životě podrobné zprávy, jež se mimo jiné nezřídka zakládaly na rozhovorech s nespokojenými

[27] Kolektiv autorů. *Co pro mne znamenaly Maniny*. 2009, nepublikováno, nestránkováno.
[28] *Tamtéž.*
[29] *Tamtéž.*
[30] DRÁPAL, D. *Historie Křesťanského společenství Praha: Léta růstu*. Praha: Sbor Křesťanské společenství Praha, 2009. s. 74.

rodinnými příslušníky členů společenství či příslušníky jiných církevních společenství, již učinili se členy holešovického sboru negativní zkušenosti.
Na základě informací z agenturní sítě vyhodnotili státní úředníci jako osoby s největším vlivem ve společenství vikáře Drápala a laického kurátora Kábrta, který se věnoval masivní evangelizační činnosti na veřejnosti, k níž rovněž motivoval i další členy sboru. Oba muži dle Bezpečnosti „*vedou mladé lidi k náboženskému fanatismu, což se projevuje jako velké nebezpečí*“.[31] Kábrtova dřívější angažovanost u Svědků Jehovových podnítila v StB domnění, že jmenovaný byl touto náboženskou společností do ČCE nasazen jako agent s úkolem rozvrátit konkurenční, protestantské církve.[32]
Zatímco Kábrtovi státní správa přisuzovala zejména získávání nových členů, na Drápala je nahlíženo jako na osobu, jež pro nově obrácené mladé lidi vytváří duchovní zázemí. Jelikož však dle státních úředníků sám tíhne k „*extrémním prvkům evangelické teologie*“ [33], čímž je míněna jeho inklinace k charismatické zbožnosti, vede rovněž i své duchovní svěřence k náboženskému extremismu.
Konkrétní příklad Drápalova a Kábrtova negativního vlivu spatřovala státní správa ve změnách životního směřování dotyčných mladých osob. Oba činovníci byli viněni z vyvíjení nátlaku na mladé lidi, aby zanechali svého studia, změnili svůj obor z profánního na teologický, případně opustili své civilní zaměstnání ve prospěch práce ve sboru.[34]
Jako další příklady důsledků negativního působení Drápala na mládež uváděla Bezpečnost ve svých zprávách narušování veřejného pořádku a výtržnictví. Toto přesvědčení bylo podkládáno ojedinělým incidentem, při němž byla příslušníkem Veřejné bezpečnosti před služebnou zadržena hlasitě se projevující mladá žena pod vlivem drog, doprovázena jedním ze členů holešovického společenství, jenž se jí pokoušel pomoci.[35] Státní správa následně tohoto incidentu proti společenství opakovaně využívala – systematicky byl přitom přehlížen fakt, že jedním z poslání církví je péče o osoby, jež se dostaly do složitých životních situací, holešovický sbor byl naopak vykreslován jako místo, kde se mladí lidé radikalizují, přičemž výtržnictví je právě důsledkem působení tamních duchovních.
Holešovičtí duchovní byli rovněž obviňováni z toho, že se ve svém evangelizačním úsilí zaměřují primárně na osoby, jež se nacházejí v nepříznivých životních situacích, a mají tudíž nižší schopnost působení dotyčných křesťanů vzdorovat. Drápalovi je tak například vyčítána duchovní péče o manžele zraněné při autonehodě.[36]
Ve zprávách, jež státní správě podávali tajní spolupracovníci, i ve výpovědích věřících i nevěřících osob, jež byly vůči sboru nepřátelsky nastaveny, se dále hojně vyskytují termíny týkající se duševního zdraví. Jeden ze státních spolupracovníků například uvádí, že Drápal dával shromážděním podobu psychoterapie pro duševně narušené osoby, vikáře hodnotí jako „‚*hochštaplera‘, který je schopen ovlivnit a kolem sebe soustředit psychicky slabé jedince.*“[37]
Vidíme zde tedy zásadní rozpor v tom, jak angažovanost holešovických věřících ve vztahu k lidem v mladém věku, nemocným a těm, kteří procházejí nesnadnými životními událostmi, chápali sami věřící, a jak ji naproti tomu vnímaly státní orgány. Zatímco v očích členů společenství se jednalo o akt nasměrování těchto lidí ke spáse v momentech, kdy byli důsledkem bolesti duchovním otázkám otevření, státní správou tato aktivita byla vnímána jako cílené zneužívání jejich zranitelnosti k manipulaci.

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[31] ABS, f. KR/MV, arch. č. 810431 MV, sv. I, *Návrh na založení svazku prověřované osoby ze dne 26. 7. 1982*.
[32] ABS, f. MV/KR, arch. č. 810431 MV, sv. I, *Poznatek o Pavlovi Kábrtovi ze dne 24. 2. 1986.*
[33] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Návrh na realizaci profylakticko-rozkladného a preventivně výchovného opatření v akci „VIKÁŘ“ ze dne 15. 6. 1984* (dále jen *Návrh*).
[34] ABS, f. KR/MV, arch. č. 766086 MV, sv. II, *Návrh na založení signálního svazku ze dne 26. 9. 1983.*
[35] ABS, f. KR/MV, arch. č. 766086 MV, sv. II, *Úřední záznam SNB ze dne 26. 6. 1983.*
[36] ABS, f. KR/MV, arch. č. 766086 MV, sv. II, *Záznam o „fanatickém ovlivňování věřících v duchu letničního hnutí“ ze dne 17. 11. 1982.*
[37] ABS, f. KR/MV, arch. č. 766086 MV, sv. II, *Poznatky k činnosti Dana Drápala ze dne 30. 9. 1983.*

StB se prostřednictvím vybudované agenturní sítě pokoušela odhalit, jaký postoj mají charismatičtí věřící k politickým otázkám. Pasáže, jež by naznačovaly protistátní politickou angažovanost charismatických duchovních, byly ve zprávách tajných spolupracovníků spíše marginální, výrazně častěji je v textech konstatována apolitičnost hnutí. Jeden ze státních spolupracovníků se dokonce domnívá, že se Drápal cíleně odklonil od své dřívější politické angažovanosti a stal se vyznavačem charismatické religiozity, zřejmě za účelem oslovení širší masy mladých osob.[38]
Charismatické hnutí na základě těchto zpráv státní orgány vnímají ve vztahu k mladým lidem jako určitou apolitickou protiváhu k Nové orientaci, jež si dle spolupracovníka Státní bezpečnosti „*dala do svého štítu pouze politiku*“.[39] V souvislosti s rozšiřováním charismatické religiozity se dle StB mezi mládeží projevuje pokles zájmu o politické otázky, zejména o „opoziční“ témata.[40] Mladí, kteří se stanou součástí charismatického hnutí, pak „*za důležitější pokládají modlitby, výklad bible, svědectví o vlastním duchovním vývoji. V důsledku toho značně opadá popularita Nové orientace a jejích představitelů, kteří signovali Chartu 77*.“[41]

6 RESPONSIVNÍ STRATEGIE

Ukázali jsme, jakým způsobem příslušníci StB na dění ve sboru nahlíželi, nyní vyložíme, jaké strategie ve snaze potlačit vliv holešovických duchovních na mládež uplatňovali, a rovněž, jaké strategie naproti tomu volili představitelé sboru na ochranu svého společenství.
Signální svazek na Drápalovu osobu založila StB již počátkem roku 1980 s cílem zdokumentovat vikářovu práci s mládeží.[42] Shromažďování poznatků o dění ve společenství trvalo až do června1984, kdy státní úředníci docházejí k přesvědčení, že je třeba do činnosti holešovických duchovních skrze tzv. *profylakticko-rozkladná* a *preventivně výchovná opatření* zasáhnout.[43]
První ze strategií namířených státním aparátem proti sboru byl pokus přeřadit Drápala služebně mimo Prahu, čímž by došlo k jeho odtržení od širokého potenciálního publika z řad středoškolských a vysokoškolských studentů hlavního města.[44] StB se pokouší přesunutí projednat s vedoucími duchovními ČCE, avšak během těchto rozhovorů docházejí státní úředníci k přesvědčení, že osobou, jež primárně stojí za expanzí společenství, je spíše Kábrt.[45]
Druhou strategií byla tedy snaha Kábrta z holešovického sboru vypudit. K tomuto byl StB vypracován plán rozkladných opatření, v jehož první fázi měli tajní spolupracovníci věnovat „*soustavnou pozornost skutečnostem, které by se mohly stát podkladem pro vyvolání vzájemných rozporů mezi Drápalem a Kábrtem*.“[46] Do další fáze se však již tato opatření nedostala, jelikož Kábrt, jakmile zjistil, jak negativně je státními orgány vnímán, mezitím za účelem ochrany společenství svoji funkci dobrovolně opustil. Jelikož pracovníci Ministerstva kultury očekávali po Kábrtově odchodu ze sboru výrazný pokles evangelizační aktivity společenství, bylo od Drápalova přesunutí mimo Prahu upuštěno. Drápalovo konání nebylo StB vyhodnoceno jako naplňující skutkovou podstatu trestného činu, trestem mu byla

[38] ABS, f. OB-544 HK, *Zpráva o „rozšiřování letničního hnutí ve sborech církve ČCE“ ze dne 16. 4. 1982.*
[39] *Tamtéž.*
[40] ABS, f. KR/MV, arch. č. 766086 MV, sv. II, *Pietismus v církvi ČCE, jeho vznik ve sboru v Holešovicích ze dne 18. 2. 1983.*
[41] *Tamtéž.*
[42] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Návrh na založení svazku prověřované osoby ze dne 5. 3. 1980.*
[43] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Návrh.*
[44] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Poznatek o Danovi Drápalovi ze dne 9. 2. 1982.*
[45] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Návrh.*
[46] *Tamtéž.*

písemná důtka s upozorněním, že „*pokud bude sbor pod [jeho] vedením ve své nežádoucí činnosti pokračovat, bude mu odejmut státní souhlas k výkonu duchovenské činnosti*.“[47] [48]
Kábrtovým odchodem z funkce laického kurátora však k útlumu evangelizační činnosti nedošlo. Kábrt se sice vzdal oficiální funkce ve sboru, avšak ve své intenzivní evangelizační činnosti a v přivádění nových osob do sboru se rozhodl nadále se spolupracovníkem Leošem Princlem pokračovat. Kábrtova strategie tedy spočívala v obětování své pozice, jímž získal možnost věnovat se evangelizování s menší pozorností státních orgánů.
Evangelizovaní byli oslovováni na veřejných místech, nejčastěji na zastávkách městské hromadné dopravy, po projevení zájmu, jim byla následně nabídnuta další schůzka v restauraci či kavárně a zapůjčena náboženská literatura. Útočištěm pro duchovně hledající od konce roku 1984, po složení kurátorství, až do poloviny roku 1986 se stal Kábrtův a Princlův byt, nacházející se v téže ulici jako sídlo holešovického sboru.[49]
V této době se o dění v bytě začíná aktivně zajímat StB a infiltruje mezi jeho návštěvníky své spolupracovníky, následkem čehož Kábrt s Princlem evangelizační činnost praktikují výhradně mimo něj. Uzavření bytu bylo státní správou vnímáno jako úspěch zmiňovaných rozkladných opatření, jež měla podobu *výstražných pohovorů*, při nichž byli věřící upozorněni na závadnost svého konání. StB konstatuje následné utlumení Kábrtovy a Princlovy evangelizační činnosti, přičemž stejně jako u Drápala neshledává nadále ani u Kábrta a Princla páchání trestné činnosti. Oběma je tedy rovněž pouze udělena výstraha SNB.[50]
Nad Drápalem se od roku 1984 vznášela hrozba odejmutí státního souhlasu až do konce trvání režimu. Toho si byli členové společenství dobře vědomi a během výslechů svého vedoucího důsledně chránili a cíleně odvraceli pozornost vyslýchajících od Drápalovy osoby a popírali jakékoliv jeho zapojení v činnostech, jež byly státem chápány jako problematické.[51] O zachování sboru usiloval rovněž Drápal sám, a to způsobem, který s odstupem hodnotí jako morálně vadný. Dvakrát se účastnil komunistických voleb. Poprvé v roce 1971, motivován strachem z důsledků, jež pro něj mohla mít jeho politická angažovanost během pražského jara. Poté učinil rozhodnutí, že se voleb na základě svého přesvědčení již účastnit nebude, jemuž pod tlakem okolností nedostál: „*Zajímavé je, že existovalo něco jako ‚církevní pud sebezáchovy‘. Pokud bych zůstal topičem, k volbám bych asi nadále nechodil. Ale bylo mi líto ztratit tu malou místnost na Maninách, bylo mi líto těch babiček, které bych už nemohl navštěvovat, nejsa již na plný úvazek. Neměl jsem dostatečnou víru na to, že sice by se život sboru musel radikálně proměnit, ale byla by tu církev mnohem čistější.*“[52]

7 ZÁVĚR

Ukázali jsme, jak byla oblast oslovování mladých prostorem střetu mezi komunistickými státními orgány a charismatickými věřícími. Oba tábory vyvíjely maximální snahu mládež zaujmout a získat ji pro svoji věc. Jejich vztah v ideologickém zápasu však byl vzájemně opatrný, obě strany neustále zvažovaly, jaké riziko jsou ochotny pro uhájení svých zájmů podstoupit.
Strategie charismatických duchovních spočívala ve snaze příliš na sebe státní orgány neupozorňovat. Přestože k režimu cítili převážně odpor, nehodlali na sebe strhávat pozornost manifestacemi svých politických přesvědčení, která by mohla ohrozit život sboru. Zároveň se ovšem, navzdory strachu z možného rozpadu sboru, jež by důsledkem jejich věznění a ztráty

[47] ABS, f. KR/MV, arch. č. 766086 MV, sv. IV, *Vyhodnocení profylakticko-rozkladného a preventivně výchovného opatření v akci „VIKÁŘ“ ze dne 18. 10. 1984.*
[48] ABS, f. KR/MV, arch. č. 766086 MV, sv. III, *Návrh.*
[49] ABS, f. MV/KR, arch. č. 810431 MV, sv. I, *Svědci Jehovovi – poznatek, ze dne 11. 2. 1986.*
[50] ABS, f. MV/KR, arch. č. 810431 MV, sv. I, *Návrh na vyhlášení výstrahy SNB ze dne 6. 1. 1987.*
[51] Např. ABS, f. KR/MV, arch. č. 766086 MV, sv. IV, *Protokol o výslechu Pavla Kábrta ze dne 7. 9. 1984.*
[52] DRÁPAL, D. *Církev a budoucí pronásledování*. Sedlčany: Altak, 1993. s. 11.

státního souhlasu vikáře hrozil, nechtěli režimu „zaprodat“, a tím kompromitovat své svědomí. Pokoušeli se tedy vytlačit politiku za zdi svého společenství a profilovat se jako hnutí apolitické. Neznamená to však, že plně akceptovali hranice legality, jež jim státní orgány vytyčily, byli je ochotni rozličnými způsoby překročit v případech, kdy se jednalo o něco, co pro ně mělo hodnotu nejvyšší – o získávání duší (nejen) mladých osob.
Nabízí se otázka, z jakého důvodu se státní orgány nerozhodly uchýlit vůči charismaticky orientovaným věřícím k aplikování tvrdších sankcí. Pro pochopení postupu StB vůči holešovickým je nezbytné připomenout, že jejich zakotvení v rámci státem povolené Českobratrské církve evangelické jim vůči státním orgánům poskytovalo jistou míru bezpečí. Státní úředníci si ovšem byli vědomi, že společenství je místem dění, jež do značné míry z rámce ČCE vybočovalo, a to zejména svojí živelností a schopností do společenství přivést, a následně v něm udržet, mladé lidi. StB sice vnímala šíření charismatické religiozity jako principiálně ideologicky problematické, zároveň si ovšem uvědomovala, že přestože se v rámci hnutí hojně vyskytují osoby, jež se socialistickým státním zřízením nesympatizují, hnutí jako takové je, narozdíl například od Nové orientace, založeno apoliticky. Lze se tedy oprávněně domnívat, že StB ve vztahu k představitelům sboru sankční opatření kalibrovala tak, aby byla na jedné straně utlumena jejich intenzivní evangelizační aktivita, aby však, na straně druhé, přílišný represivní tlak nevedl k jejich politické radikalizaci.

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APLIKÁCIA ZÁSADY TRIKRÁT A DOSŤ PRI TRESTANÍ MLADISTVÉHO PÁCHATEĽA

THE APPLICATION OF THE PRINCIPLE "THREE STRIKES AND YOU ARE OUT" WHEN PUNISHING A JUVENILE OFFENDER

Martin Baločko

Abstrakt
Článok sa zaoberá trestnoprávnou zásadou „trikrát a dosť" v kontexte mladistvého odsúdeného, na čo nadväzuje aj v článku rozpracovaný prípad z praxe. Účelom zakotvenia zásady trikrát a dosť bola ochrana spoločnosti pred závažnou trestnou činnosťou osob opakovane páchajúcich trestnú činnosť. V článku je prvá kapitola venovaná zásade „trikrát a dosť" a následne v druhej kapitole článok stručne rozoberá zahladenie trestu pri mladistvých práve z dôvodu nalsedujúceho bližšie rozracovaného prípadu z praxe, ktorý sa týka mladistvému obžalovaného, ktorý sa už v minulosti dopustil trestnej činnosti. Cieľom tohto článku je poukázať ako postupovať pri ukladaní trestu, ak ide o uplatnenie zásady trikrát a dosť mladistvému obžalovanému.
Kľíčová slova: *trikrát a dosť, zahladenie odsúdenia, mladistvý*

Abstract
The article deals with the criminal law principle "three times and it's enough" in the context of a juvenile convict, which is followed by a practical case elaborated in the article. The purpose of enshrining the principle three times and enough was to protect society from serious criminal activity by persons who repeatedly commit criminal activity. In the article, the first chapter is dedicated to this principle, and subsequently, in the second chapter, the article briefly discusses the expungement of juveniles conviction due to the following detailed case from practice, which concerns a juvenile defendant who has already committed criminal activity in the past. The aim of this article is how to proceed when applying the principle of three times and enough, if it is a juvenile defendant.
Key words: *three times and enough,expungement, juvenile*

ÚVOD

Zásada „trikrát a dosť" predstavuje jednu z foriem prísnejšieho postihu recidivistov, teda osôb opakovane páchajúcich trestnú činnosť. Cieľom zakotvenia tejto zásady bola ochrana spoločnosti pred závažnou trestnou činnosťou recidivistov, u ktorých v poradí tretie spáchanie trestného činu preukazuje ľahostajnosť k hodnotovému systému spoločnosti, čo je dôvod na prísnejšiu represiu pre dosiahnutie účelu trestu.
Obsahom prvej kapitoly je zásada trikrát a dosť, ktorá je upravená v § 47 Trestného zákona. Druhá kapitola sa zaoberá zahladením odsúdenia pri mladistvých a v závere článku je podrobnejšie rozobratý prípad z praxe, ktorý nadväzuje na tieto kapitoly a týka sa práve uplatnenia zásady trikrát a dosť mladistvému obžalovanému, ktorý už bol za úmyselný trestný čin uvedený v § 47 ods. 2 Trestného zákona odsúdený.
Cieľom tohto článku je poukázať na úskalia pri ukladaní trestu, ak ide o uplatnenie zásady trikrát a dosť mladistvému obžalovanému.

1 ZÁSADA TRIKRÁT A DOSŤ

Dôvodom na zavedenie zásady „trikrát a dosť“ do Trestného zákona bol vysoký stav násilnej kriminality na Slovensku a nemožnosť dostatočnej izolácie páchateľov tejto násilnej činnosti. Cieľom tejto zásady bolo sprísnenie trestov, izolácia najnebezpečnejších zločincov, a tým vyššia bezpečnosť v spoločnosti. Zásada „trikrát a dosť“ predstavuje jednu z foriem prísnejšieho postihu recidivistov, teda osôb opakovane páchajúcich trestnú činnosť. Je založená na pravidle, na základe ktorého súd pri treťom odsúdení za násilný trestný čin povinne ukladá trest odňatia slobody na doživotie.

Predmetnou právnou úpravou šlo o reakciu na situácie, keď sa páchateľ, ktorý bol už dvakrát odsúdený za niektorý z trestných činov, uvedených v § 47 ods. 2 Trestného zákona opätovne dopustil niektorého z vymedzených trestných činov, ktoré spadajú do kategórie typovo zvlášť závažných, ktorých objektom sú základné práva a slobody, ktoré predstavujú najdôležitejšie hodnoty v demokratickej spoločnosti, akými sú život, zdravie, osobná sloboda a pod., na ktorých dôslednú ochranu, vrátane u potenciálnych obetí, nesmie žiadny štát riadiaci sa princípmi materiálneho právneho štátu rezignovať. Navyše, ide o (kvalifikovanú) recidívu po predchádzajúcom dvojnásobnom odsúdení na nepodmienečný trest odňatia slobody a následnom potrestaní, čo signalizuje, že výchovné pôsobenie predchádzajúcich trestov sa minulo účinkom. Ide teda o okolnosti plne odôvodňujúce zvýšenú mieru ochrany trestnoprávnymi nástrojmi. Zákonodarca zakotvením tzv. zásady „trikrát a dosť“ sledoval legitímny cieľ, ochranu spoločnosti pred závažnou trestnou činnosťou recidivistov, u ktorých v poradí tretie spáchanie trestného činu preukazuje ľahostajnosť k hodnotovému systému spoločnosti, čo odôvodňuje prísnejšiu represiu pre dosiahnutie účelu trestu.

Podľa § 47 ods. 1 Trestného zákona, trest odňatia slobody na doživotie môže súd uložiť iba za trestný čin, za ktorý to tento zákon v osobitnej časti dovoľuje, a len za podmienok, že

a) uloženie takého trestu vyžaduje účinná ochrana spoločnosti a

b) nie je nádej, že by páchateľa bolo možné napraviť trestom odňatia slobody na dobu do dvadsaťpäť rokov.[1]

Podľa § 47 ods. 2 Trestného zákona, ak súd odsudzuje páchateľa za dokonaný trestný čin úkladnej vraždy podľa § 144, vraždy podľa § 145, ublíženia na zdraví podľa § 155, nedovolenej výroby omamných a psychotropných látok, jedov alebo prekurzorov, ich držanie a obchodovanie s nimi podľa § 172 ods. 5, 6, 7 alebo 8, obchodovania s ľuďmi podľa § 179, zverenia dieťaťa do moci iného podľa § 180 ods. 2 alebo 3 alebo podľa § 181, brania rukojemníka podľa § 185, zavlečenia do cudziny podľa § 187, lúpeže podľa § 188, vydierania podľa § 189 ods. 2, 3 alebo 4, hrubého nátlaku podľa § 190 alebo § 191 ods. 2, 3 alebo 4, znásilnenia podľa § 199, sexuálneho násilia podľa § 200, sexuálneho zneužívania podľa § 201 ods. 2, 3 alebo 4, týrania blízkej osoby a zverenej osoby podľa § 208, všeobecného ohrozenia podľa § 284, ohrozenia bezpečnosti vzdušného dopravného prostriedku a lode podľa § 291, zavlečenia vzdušného dopravného prostriedku do cudziny podľa § 293, založenia, zosnovania a podporovania zločineckej skupiny podľa § 296, založenia, zosnovania a podporovania teroristickej skupiny podľa § 297, teroru podľa § 313 alebo § 314, násilného prekročenia štátnej hranice podľa § 354 ods. 2, 3 alebo 4, prevádzačstva podľa § 355 ods. 3, 4 alebo 5, výroby detskej pornografie podľa § 368, genocídia podľa § 418, teroristického útoku podľa § 419, niektorých foriem účasti na terorizme podľa § 419b, financovania terorizmu podľa § 419c, cestovania na účel terorizmu podľa § 419d alebo neľudskosti podľa § 425, ktorý už bol za takéto trestné činy, hoci aj v štádiu pokusu, dvakrát potrestaný nepodmienečným trestom odňatia slobody, uloží mu trest odňatia slobody na doživotie, ak sú splnené podmienky uvedené v odseku 1 písm. a) a b); inak mu uloží trest odňatia slobody na dvadsaťpäť rokov,

[1] § 47 ods. 1 zákona č. 300/2005 Z. z. Trestný zákon

ak tomu nebránia okolnosti hodné osobitného zreteľa. Súd však nemôže takému páchateľovi uložiť trest odňatia slobody pod dvadsať rokov.[2]
Vo vyššie uvedenom ustanovení je upravené obligatórne ukladanie trestu odňatia slobody na doživotie, čo znamená, že ak sú splnené formálne podmienky, súd musí uložiť takému páchateľovi trestného činu trest odňatia slobody na doživotie. V súvislosti s obligatórnym ukladaním trestu odňatia slobody na doživotie sa hovorí o tzv. zásade trikrát a dosť, ktorá má svoj pôvod v Spojených štátoch amerických, kde je známa ako „three stikes and you are out" z istými obmenami jednotlivých štátoch federácie.[3] Zákonné podmienky, za ktorých sa táto zásada uplatňuje sú nasledujúce:
a/ ide o spáchanie niektorého z taxatívne vymenovaných trestných činov v § 47 ods. 2 Tr. zákona,
b/ ide o páchateľa, ktorý sa po tretí raz dopustil niektorého z taxatívne vymenovaných tretsných činov v § 47 ods. 2 Tr. zákona ,
c/ ide o takého páchateľa, ktorý bol predchádzajúce 2 trestné činy už potrestaný nepodmienečným trestom odňatia slobody, t.j. bol vo výkone trestu odňatia slobody,
d/ pri predchádzajúcich dvoch trestných činoch, ktorých sa páchateľ dopustil, pre uloženie trestu odňatia slobody je postačujúce, ak boli spáchané hoci aj v štádiu pokusu, teda nemusí ísť nevyhnutne o dokonané trestné činy, nestačí však štádium prípravy na zločin,
e/ posledný teda v poradní tretí trestný čin je už dokonaným trestným činom
f/ zároveň musia byť splnené podmienky podľa § 47 ods. 1 Tr. zákona uvedené v písmene a/ a b/, samozrejme však nemusí ísť o trestný čin, za ktorý trestný zákon v osobitnej časti priamo v skutkovej podstate trestného činu dovoľuje uložiť trest odňatia slobody na doživotie, pretože táto požiadavka ja uvedená ešte pred podmienkami podľa písm.a/, d/, ktoré sú na rozdiel od tejto požiadavky vyslovene označené za podmienky,
g/ všetky vyššie uvedené podmienky musia byť splnené kumulatívne.[4]
Ak sú splnené všetky vyššie uvedené podmienky, okrem tej, že zároveň nie sú splnené podmienky podľa § 47 ods. 1 písm. a/b/ Tr. zák., neprichádza do úvahy uloženie trestu odňatia slobody na doživotie, ale takémuto páchateľovi musí byť uložený trest odňatia slobody na 25 rokov. Ak však sú súčasne prítomné okolnosti hodné osobitného zreteľa v prospech páchateľa (najmä okolnosti viažuce sa na niektorý z činov, napr. páchateľ spáchal vraždu keď prekročil medze nevyhnutnej obrany, ale aj okolnosti viažuce sa na páchateľa, napr. páchateľ má dobrú prognózu prevýchovateľnosti), súd uloží páchateľovi aj nižší trest odňatia slobody, ktorý však nemôže byť pod 20 rokov. Na rozdiel od prvého odseku ustanovenia § 47 upravujúceho fakultatívne uloženie trestu odňatia slobody na doživotie, pri obligatórnom ukladaní tohto trestu stupeň závažnosti každého z konkrétnych najmenej troch trestných činov, na ktoré sa toto ustanovenie vzťahuje, je z hľadiska naplnenia zákonných podmienok nevyhnutných na jeho uplatnenie irelevantný. Intenzitu stupňa závažnosti podľa § 47 ods. 1 Tr. zák. musia dosahovať až tieto minimálne tri trestné činy (z toho minimálne jeden dokonaný a dva aspoň v štádiu pokusu) vo svojom súhrnne.[5]

2 ZAHLADENIE TRESTU PRI MLADISTVÝCH

Zahladenie odsúdenia je inštitút trestného práva hmotného, ktorého úlohou je odstrániť nepriaznivé dôsledky odsúdenia, ktoré by mohli sťažiť odsúdenému uplatnenie v ďalšom

[2] § 47 ods. 2 zákona č. 300/2005 Z. z. Trestný zákon
[3] BURDA, E. – ČENTÉŠ, J. – KOLESÁR, J. – ZÁHORA, J. a kol. Trestný zákon. Všeobecná časť. Komentár. I. diel. 1. vydanie. Praha: C. H. Beck, 2010. 1130 s. ISBN 978 – 80 – 7400 – 324 – 0
[4] Rozsudok Okresného súdu Košice I zo dňa 04.06.2020, sp. zn. 10Tk/1/2020
[5] Rozsudok Okresného súdu Košice I zo dňa 04.06.2020, sp. zn. 10Tk/1/2020

živote.[6] Zahladením však nezaniká skutočnosť, že sa páchateľ dopustil trestného činu, zaniká len skutočnosť odsúdenia. Ak bolo osobe zahladené odsúdenie, jej odsúdenie sa neuvádza vo výpise z registra trestov. Toto odsúdenie ale bude uvedené v odpise registra trestov, ktoré vedie Generálna prokuratúra Slovenskej republiky, čo je uvedené v zákone č. 330/2007 Z. z. o registri trestov a o zmene a doplnení niektorých zákonov.[7]

Inštitút zahladenia odsúdenia je v právnom poriadku Slovenskej republiky uvedený v ust. § 92-93 Trestného zákona a osobitná úprava inštitútu zahladenia odsúdenia vo vzťahu k mladistvým je upravená v ust. § 121 Trestného zákona. Procesnoprávna úprava tohto inštitútu je potom obsiahnutá v ust. § 469-471 zákona č. 301/2005 Z. z. Trestný poriadok. Možno povedať, že súčasná právna úprava, na rozdiel od tej predošlej, stanovuje možnosť súdu po splnení zákonných podmienok zahladiť odsúdenie páchateľa, keďže je v ňom uvedené *„súd môže zahladiť odsúdenie*, pričom predošlý Trestný zákon č. 140/1961 Zb. v ust. § 69 upravoval povinnosť súdu zahladiť odsúdenie za splnenia zákonných predpokladov, kde bolo uvedené *„súd zahladí odsúdenie…“*. Z uvedeného nesporne vyplýva, že v súčasných podmienkach páchateľovi trestnej činnosti nevyplýva nárok na zahladenie odsúdenia zo zákona.[8]

Ako už bolo vyššie uvedené, posudzovanie podmienok zahladenia odsúdenia u mladistvých páchateľov je upravené v ust. § 121 ods. 1 až ods. 8 Trestného zákona. Jeho cieľom je obmedziť riziko vedľajších negatívnych dôsledkov trestného postihu mladistvého, a tým vytvoriť optimálne predpoklady pre zmenu jeho správania. Na mladistvého sa potom nazerá ako na osobu, ktorá je netrestaná, čo je dôležité pre jeho budúci rozvoj. Ak došlo k zahladeniu odsúdenia mladistvého, hľadí sa na neho, akoby nebol odsúdený. Fikcia, že sa na odsúdeného hľadí, ako keby nebol odsúdený, neznamená, že bude odstránený právoplatný odsudzujúci rozsudok, ale ide o to, že toto odsúdenie nie je uvedené vo výpise z registra trestov, a teda občan nie je povinný odsúdenie uvádzať, napr. v žiadosti o zamestnanie, čím spĺňa podmienku bezúhonnosti. Rovnako ako u dospelých páchateľov, údaj o zahladených odsúdeniach bude uvedený v odpise z registra trestov.[9]

Podľa § 121 ods. 1 Trestného zákona, na mladistvého, ktorému bol uložený alebo rozhodnutím prezidenta Slovenskej republiky zmiernený alebo odpustený trest odňatia slobody v dĺžke neprevyšujúcej jeden rok, sa hľadí, ako keby nebol odsúdený, dňom výkonu tohto trestu alebo dňom, keď bolo právoplatne od takého trestu alebo jeho zvyšku upustené.[10] V zmysle tohoto ustanovenia Trestného zákona nastáva u mladistvého odsúdeného fikcia neodsúdenia zo zákona, a to v prípade, ak bol mladistvému uložený alebo rozhodnutím prezidenta Slovenskej republiky zmiernený alebo odpustený trest odňatia slobody v dĺžke neprevyšujúcej jeden rok. Fikcia neodsúdenia tak nastáva momentom vykonania trestu, prípadne právoplatnosťou rozhodnutia, ktorým bolo od trestu alebo jeho zvyšku upustené.[11]

Podľa § 121 ods. 2 Trestného zákona, o tom, či sa odsúdenie mladistvého na trest odňatia slobody, na ktoré sa nevzťahuje odsek 1, zahladzuje, rozhodne súd, prihliadajúc na správanie mladistvého vo výkone trestu odňatia slobody, po výkone tohto trestu. Ak bol trest podľa rozhodnutia prezidenta Slovenskej republiky zmiernený, súd takto postupuje po tom, keď bol mladistvý po výkone zmierneného trestu prepustený na slobodu.[12] Ak bol mladistvému

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[6] IVOR, J. – ZÁHORA, J. Repetitórium trestného práva. 5. vydanie. Bratislava: Wolters Kluwer SR s. r. o., 2021. 78 s.

[7] Ďalej pozri zákon č. 330/2007 . z. o registri trestov

[8] § 69 zákona č. 140/1961 Zb. Trestný poriadok

[9] BURDA, E. – ČENTÉŠ, J. – KOLESÁR, J. – ZÁHORA, J. a kol. *Trestný zákon. Všeobecná časť. Komentár. I. diel. 1. vydanie.* Praha: C. H. Beck, 2010. 681 s.

[10] § 121 ods. 1 zákona č. 300/2005 Z. z. Trestný zákon

[11] SAMAŠ, O. – STIFFEL, H – TOMAN, P. *Trestný zákon. Stručný komentár.* Bratislava: IURA EDITION, spol. s. r. o., 2006, 243-344 s.

[12] § 121 ods. 2 zákona č. 300/2005 Z. z. Trestný zákon

uložený trest odňatia slobody, ktorý prevyšuje 1 rok, o zahladení odsúdenia rozhoduje súd z úradnej moci (ex offo), teda bez žiadosti či návrhu, a to po výkone trestu, resp. po jeho prepustení z výkonu trestu, ktorý bol zmiernený rozhodnutím prezidenta. Významnými skutočnosťami, ktoré súd posudzuje v konkrétnom prípade pre účely zahladenia odsúdenia, je správanie mladistvého vo výkone trestu odňatia slobody, ktoré má preukazovať, že mladistvý sa napravil a v budúcnosti bude viesť riadny život. Ak takéto správanie u mladistvého absentuje, súd odsúdenie nemôže zahladiť podľa ustanovenia § 121 ods. 2 Trestného zákona.[13]

„Podľa § 121 ods. 2 Trestného zákona účinného od 1. januára 2006 o tom, či sa odsúdenie mladistvého na trest odňatia slobody, na ktoré sa nevzťahuje § 121 ods. 1 Trestného zákona účinného od 1. januára 2006, zahladzuje, rozhodne súd, prihliadajúc na správanie mladistvého vo výkone trestu odňatia slobody, po výkone tohto trestu. Ak bol trest podľa rozhodnutia prezidenta Slovenskej republiky zmiernený, súd takto postupuje po tom, keď bol mladistvý po výkone zmierneného trestu prepustený na slobodu. Z citovaného zákonného ustanovenia je zrejmé, že o tom, či sa odsúdenie mladistvého na nepodmienečný trest odňatia slobody zahladzuje, je povinný rozhodovať súd, ktorý vo veci rozhodoval v prvom stupni, ihneď po prepustení mladistvého z výkonu trestu. Súd musí rozhodnúť o tom, či sa odsúdenie zahladzuje, aj bez návrhu, z úradnej povinnosti. Pokiaľ tak príslušný súd neurobí, vyrieši otázku zahladenia odsúdenia mladistvého ako predbežnú otázku súd, ktorý rozhoduje v ďalšej trestnej veci toho istého páchateľa, pokiaľ okolnosť, či sa na neho hľadí, ako keby nebol odsúdený, má vplyv na právne posúdenie novo stíhaného skutku, uloženie trestu alebo ochranného opatrenia. Podmienkou zahladenia odsúdenia mladistvého je také správanie mladistvého vo výkone trestu, z ktorého je možné usudzovať, že mladistvý sa napravil a v budúcnosti povedie riadny život. Podkladom pre zistenie ako sa mladistvý správal, je hodnotenie z ústavu na výkon trestu odňatia slobody.“[14]

Ust. § 121 Trestného zákona v odsekoch 3 až 8 upravuje prípady, kedy boli mladistvému samostatne uložené tam uvedené tresty a kedy fikcia neodsúdenia nastáva priamo zo zákona a nie je preto potrebné pre zahladenie odsúdenia samostatné rozhodnutie súdu. [15]

V nasledujúcom texte je uvedený prípad z praxe, v ktorom okresný súd uznal za vinného mladistvého obžalovaného pre prečin krádeže podľa § 20, § 212 ods. 1 písm. b/ Tr. zákona, prečin poškodzovania cudzej veci podľa § 20, § 245 ods.1, ods. 2 písm. a/ Tr. zákona formou spolupáchateľstva, a obzvlášť závažný zločin vraždy podľa § 145 ods. 1 Tr. zákona.

Obžalovaný po poučení podľa § 257 Trestného poriadku vyhlásil, že je vinný zo skutkov 1,3 obžaloby a na všetky otázky, ktoré mu súd položil v zmysle § 333 ods. 3 písm. c/,d/,f/,g/,h/ Trestného poriadku odpovedal zhodne „áno“. Následne súd po návrhu prokurátora podľa § 257 ods. 6 Trestného poriadku prijal vyhlásenie obžalovaného o tom, že je vinný a vyhlásil, že dokazovanie v rozsahu, v akom obžalovaný priznal spáchanie skutkov sa nevykoná a vykoná dôkazy súvisiace výrokom o treste a náhrade škody. Súd teda po vykonanom dokazovaní vzhľadom k samotnému priznaniu obžalovaného a k vyhláseniu jeho viny ako aj vzhľadom k výsledkom vykonaného dokazovania z prípravného konania nemal o vine obžalovaného žiadne pochybnosti.

Súd sa v prvom rade musel však vysporiadať v rámci predbežnej otázky, či v danom prípade u obžalovaného prichádzalo do úvahy vo vzťahu k trestu ustanovenie § 47 ods. 1, resp. ods. 2 Tr. zák. V rámci predbežnej otázky súd vykonal dokazovanie a to prečítaním dvoch pripojených spisov Okresného súdu Rožňava, kde bol obžalovaný odsúdený za zločin lúpeže podľa § 188 ods. 1, ods. 2 písm. d/ Tr. zák. na nepodmienečný trest odňatia slobody vo

[13] BURDA, E. – ČENTÉŠ, J. – KOLESÁR, J. – ZÁHORA, J. a kol. *Trestný zákon. Všeobecná časť. Komentár. I. diel. 1. vydanie.* Praha: C. H. Beck, 2010. 681-682 s.

[14] Rozhodnutie Najvyššieho súdu SR 3 Tost 4/2015 zo dňa 6.5.2015

[15] § 121 ods. 3-8 zákona č. 300/2005 Trestný zákon

výmere 2 rokov a 6 mesiacov s výkonom trestu v NVÚ pre mladistvých, z výkonu ktorého bol podmienečne prepustený 17.10.2013 a v skúšobnej dobe podmienečného prepustenia bol opätovne právoplatne odsúdený Okresným súdom Rožňava rozsudkom sp. zn. 2T 48/14 zo dňa 29.12.2014 za zločin ublíženia na zdraví podľa § 155 ods. 1 Tr. zák. a iné na nepodmienečný trest odňatia slobody vo výmere 3 rokov. Táto skutočnosť podmieňovala to, že súd v rámci predbežnej otázky skúmal vykonaným dokazovaním, či tieto tresty sú u obžalovaného zahladené v rámci podmienok na zahladenie v zmysle § 121 Tr. zákona, ktoré sme spomínali v prvej kapitole tohoto článku.
V tomto konkrétnom konaní na základe § 47 ods. 1, ods. 2 Trestného zákona a na základe výpovede znalkyne z odboru psychológia sa súd domnieval, že nie sú úplne splnené podmienky na uloženie trestu odňatia slobody na doživotie, nakoľko aj samotná znalkyňa uviedla, že nemôže úplne vylúčiť, že by obžalovaný prípadným dlhodobým výkonom trestu odňatia slobody mohol byť aspoň z časti napravený. Naopak súd bol toho názoru, že osoba páchateľa obžalovaného pri vzhliadnutí troch priťažujúcich okolností a splnení všetkých zákonných podmienok ustanovenia § 47 ods. 2 Tr. zák. ako aj vzhľadom na závažnosť prejednávaného skutku je namieste uloženie 25 ročného trestu nepodmienečne, nakoľko obžalovaný bol v minulosti dva krát potrestaný nepodmienečným trestom odňatia slobody, v prvom prípade pre lúpež podľa § 188 ods. 1, ods. 2 písm. d/ Tr. zák. na trest odňatia slobody vo výmere 2 rokov a 6 mesiacov a v druhom prípade za zločin ublíženia na zdraví podľa § 155 ods. 1 Tr. zák. a iné na nepodmienečný trest odňatia slobody vo výmere 3 rokov.[16]
Proti tomuto rozsudku podal odvolanie obžalovaný aj prokurátor. Krajský súd v Košiciach rozsudkom zamietol odvolanie prokurátora okresnej prokuratúry a obžalovaného. Krajský súd, pri plnení svojej prieskumnej právomoci, dospel k pochybnostiam o tom, či boli zachované práva obžalovaného v zmysle § 34 ods. 5 Tr. por. v rámci jeho vyhlásenia podľa § 257 Tr. por.. Zo spisového materiálu totiž nie je jednoznačne zrejmé, že či bol obžalovaný v skoršom priebehu konania, teda pred vyhlásením o vine poučený aj o úprave trestnej sadzby podľa ustanovenia § 47 ods. 2 Tr. zák., ktoré v jeho prípade prichádza do úvahy. Krajský súd ďalej konštatoval, že zo zápisnice o konaní hlavného pojednávania nevyplýva, že by obžalovaný pred samotným vyhlásením o vine alebo pri ukladaní otázok v zmysle citovaného ustanovenia § 333 ods. 3 písm. c), d), f), g) a h) Tr. por. bol poučený o tom, že v jeho prípade prichádza do úvahy aplikácia zásady trikrát a dosť a jej dopad na trest následne ukladaný obžalovanému. Obžalovanému síce bola, okrem iných, položená aj otázka, či bol oboznámený s trestnými sadzbami, ktoré zákon ustanovuje za trestné činy jemu kladené za vinu, avšak uvedená formulácia otázky nebola zameraná na zistenie, či bol obžalovaný poučený o aplikácii zásady 3x a dosť, a ani neobsahuje takéto poučenie, z ktorého by bolo možné vyvodiť záver, že odsúdený si bol vedomý aplikácie zásady trikrát a dosť v jeho prípade.
Z uvedeného dôvodu krajský súd dospel k záveru, že obžalovaný pred tým, než urobil vyhlásenie o svojej vine za danú trestnú činnosť a než skutočne aj došlo k prijatiu tohto vyhlásenia o vine súdom, nebol dostatočne poučený o tom, aký vysoký trest mu hrozí v dôsledku uplatnenia zásady trikrát a dosť. Krajský súd dospel k záveru, že dotknutú chybu nemožno odstrániť v rámci konania o odvolaní proti výroku rozsudku o treste po prijatí vyhlásenia o uznaní viny, nakoľko obžalovanému musí byť novovytvorená možnosť také vyhlásenie neurobiť, pričom trest musí byť uložený v rámci trestnej sadzby súladnej so zákonom a poukázal na Stanovisko trestnoprávneho kolégia Najvyššieho súdu Slovenskej republiky z 10. júna 2019, Tpj 26/2019, z ktorého vyplýva, že náprava tejto vady je možná len cez dovolanie prostredníctvom ministra, ktoré je jediným prostriedkom, ktorým možno

[16] Rozsudok Okresného súdu Košice I zo dňa 04.06.2020, sp. Zn. 10Tk/1/2020

zasiahnuť do výroku o vine, vyhlásenom na základe prijatého vyhlásenia o vine podľa § 257 Tr. por.[17]

„Obvinený z hľadiska svojich obhajobných práv musí vedieť, aká v jeho neprospech upravená sadzba sa spája s trestným činom, ktorého sa týka jeho neodvolateľné vyhlásenie, ktoré má (vo vzťahu k takým vyhlásením pokrytému výroku o vine) výrazne obmedzenú preskúmateľnosť (v až dovolacom, teda mimoriadnom opravnom konaní a len na základe dovolania ministra spravodlivosti proti takému rozhodnutiu súdu prvého stupňa). V odvolacom konaní síce možno (samostatne) skúmať výrok o treste, avšak nedostatok poučenia obvineného nemožno napraviť uložením trestu v zákonu nezodpovedajúcej (nezvýšenej) trestnej sadzbe (z hľadiska použitej trestnej sadzby je odvolanie nedôvodné, pričom výrok o vine a konanie mu predchádzajúce, resp. jeho chyby prieskum odvolacieho súdu nepokrýva). Riešením je len dovolanie ministra spravodlivosti (ak je indikované porušenie práva na obhajobu dané) a následne (zrušením rozhodnutia v celom rozsahu) vytvorenie podmienok na nové konanie súdu prvého stupňa, s možnosťou obvineného vinu opätovne neuznať alebo uznať ju so znalosťou výslednej trestnej sadzby, ktorej sprísnená úprava v jeho veci prichádza do úvahy.“[18]

3 ZÁVER

Z vyššie uvedeného vyplýva, že súd sa musí pro ukladaní trestu mladistvému obžalovanému, ktorý v minulosti bol odsúdený, v prvom rade vysporiadať v rámci predbežnej otázky, či v danom prípade u obžalovaného prichádza do úvahy vo vzťahu k trestu ustanovenie § 47 ods. 1, resp. ods. 2 Tr. zák, o ktorom pojednáva prvá kapitola článku. To znamená, že súd v rámci predbežnej otázky skúma vykonaným dokazovaním, či predchádzajúce uložené tresty sú u obžalovaného zahladené v rámci podmienok na zahladenie v zmysle § 121 Tr. zákona, ktoré sme spomínali v druhej kapitole tohoto článku. Pred tým, ako obžalovaný urobí vyhlásenie o svojej vine za danú trestnú činnosť a než skutočne aj dôjde k prijatiu tohto vyhlásenia o vine súdom, musí byť dostatočne poučený o tom, aký vysoký trest mu hrozí v dôsledku uplatnenia zásady trikrát a dosť.

Z obsahu v článku uvedeného stanoviska Najvyššieho súdu Slovenskej republiky, a zo zákonných ustanovení Trestného poriadku je zrejmé, že výrok o vine po súdom prijatom vyhlásení obvineného, že je vinný, právoplatný na súde prvého stupňa, je napadnuteľný iba dovolaním ministra spravodlivosti, ktorý je jediný oprávnený dovolaním napadnúť rozhodnutie súdu prvého stupňa, resp. výrok, ktorý sa stal právoplatným na súde prvého stupňa, čo vyplýva z § 369 ods. 1, ods. 2 a § 372 ods. 1 Tr. por.[19]

Záverom môžeme konštatovať, že pri ukladaní trestu mladistvému obžalovanému je povinnosťou súdu jednak skúmať predbežnú otázku či nedošlo u mladistvého odsúdeného k zahladeniu niektorého z jemu uložených predchádzahúcich trestov a tiež má súd povinnosť pri vyhlásení odsúdeného o vine poučiť ho o možnosti použitia zásady trikrát a dosť.

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[17] Uznesenie Krajského súdu v Košiciach zo dňa 17.09.2020, sp. Zn. 6To/56/2020

[18] Stanovisko trestnoprávneho kolégia Najvyššieho súdu Slovenskej republiky z 10. júna 2019, Tpj 26/2019

[19] Rozsudok Najvyššieho súdu Slovenskej republiky zo dňa 09.02.2023, sp. Zn. 5Tdo/64/2022

4. Zákon č. 300/2005 Z. z. Trestný zákon
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6. Zákon č. 140/1961 Zb. Trestný poriadok
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8. Rozhodnutie Najvyššieho súdu SR zo dňa 6.5.2015 sp. zn. 3 Tost 4/2015
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ENSURING ENTOMOLOGICAL TRACES AT THE CRIME SCENE ACCORDING TO THE DISCOVERY SITUATION

Matej Barta

Abstract

In the presented article, we explore the possibilities of utilizing forensic entomology in criminal investigations. We delve into various methods and procedures for securing entomological evidence at the crime scene, depending on the specific situation. We describe different collection techniques for various scenarios, such as finding a body in an open area, enclosed space, hanging case, buried or concealed remains, skeletal findings, and deceased bodies in aquatic environments.

Key words: *forensic sciences, entomology, documentation, securing, entomological trace.*

1 INTRODUCTION

Forensic entomology can be defined as a scientific discipline that utilizes knowledge about insects and other arthropods. It can be divided into three main categories based on the objects of study:

- Issues related to food pests (for example, neglect of technological procedures and hygiene in food packaging).
- Parasites of humans and animals (in the case of myiasis, for example, neglect of care for an entrusted person).
- Estimation of the time since death.[1]

Just like in criminalistics, the same principle applies in forensic sciences that forensic science doesn't begin with the examination of traces. This principle certainly holds true for forensic entomology, which is classified as a discipline within the field of forensic sciences. Forensic entomology is a branch of entomology, which is a scientific field within the branch of zoology that deals with the study of insects.[2] In the past, the term "insects" was less specific, and historically, the definition of entomology included the study of arthropods from other groups, such as arachnids, myriapods, and crustaceans. Forensic entomology begins at the crime scene or the location where human or animal remains are found. It is most commonly used to determine the time interval between the death of a person and the subsequent discovery of the body. During decomposition, a dead human body becomes part of the biotope in which it was found and is gradually colonized by various groups and species of invertebrates in the process of succession.[3] Forensic entomology, in collaboration with toxicology, can also contribute to determining whether toxins or drugs were present in the body at the time of death. Insects that feed on human remains consume all toxins, poisons, and drugs present, and their metabolism begins as they break down these chemical substances in the human body. This information can be crucial in determining the cause and manner of death.[4] Toxicology can be divided into general and special fields. The examination of the presence of chemical substances and their detection through insects could fall under special

[1] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, CRC Press, 2010, p. 1

[2] PAVLÍK, Š., *Lesnícka entomológia*, Technická univerzita vo Zvolene, 2011, p. 5

[3] ŠULÁKOVÁ, H. *Forenzní entomologie – když smrt je začátek* [online] 15. 06. 2022, Available online: https://ziva.avcr.cz/files/ziva/ pdf/forenzni- entomologie-kdyz-smrt-je-zacatek.pdf

[4] SUBOCH, G., *Real – World crime scene investigation*, CRC Press New York, 2016, p. 186

toxicology, specifically forensic toxicology or forensic medical toxicology. These branches of toxicology are concerned with the analysis and interpretation of toxic substances in forensic investigations and legal contexts, including cases involving human remains.[5] Among the most important traces in forensic entomology, we can include biological traces. This category encompasses various types of insects, their eggs, larvae (instar - developmental stages of larvae), pupae, empty cocoons, parts of dead insects, and more. Additionally, certain biological traces from the field of botany will also be important, such as plant coverings in which the body is found, as well as any disturbances to this covering.[6] Securing entomological traces can be categorized from several perspectives:

1. Securing entomological traces based on the condition of the collected trace: a) Live - eggs, larvae (all developmental stages), pupae, empty pupae, adults (imago). b) Dead - essentially live entomological traces such as eggs, larvae (all developmental stages), pupae, adults, which are intentionally killed at the scene. Dead entomological traces can be stored for an extended period without losing their evidential value. c) Dead insects - various species of insects found at the scene.
2. Securing entomological traces based on the mode of insect movement: a) Flying insects (e.g., flies - Diptera). b) Crawling insects (e.g., beetles - Coleoptera). c) Static or immobile traces (for example, securing pupae or cocoons).
3. Securing entomological traces based on the discovery situation: a) Exposed body in an open field. b) Body found in a closed space (residence, vehicle, etc.). c) Finding of a hanged individual. d) Buried or concealed body. e) Skeletal remains. f) Body found in a water environment. [7]

2 EXPOSURE OF A DECEASED BODY

Securing entomological traces in the case of an exposed body can be divided into 4 phases:

1. Securing entomological traces on the body (prior to its removal).
2. Securing entomological traces from the substrate material after removing the body from the scene.
3. Securing entomological traces in the immediate vicinity of the deceased person's body.
4. Securing entomological traces during autopsy.

In each of these four phases, we encounter flying, crawling, and static insects or developmental stages of insects. Flying insects (Figure 1) present at the crime scene should be initially captured using a net. This method of securing is preferred over manual collection, which can be challenging, if not impossible, for flying insects. For example, freshly emerged adults can be collected by hand within a certain timeframe. The simplest way is to catch the flying insects with a net, swinging it from behind the insects upward to capture them inside. Then, with a flick of the wrist, the net should be folded at the end to contain the insects. Subsequently, the insects should be secured in a suitable container. Vigorous shaking of the container usually keeps the insects at the bottom until the container is sealed. The insects can be kept in separate killing jars or can be preserved in a single container as a comparative material for flying insects from the crime scene. If the crime scene involves a personal motor vehicle, relevant traces can be obtained by collecting any insects caught on the radiator grille, hood, or windshield. This can provide details about the body's movement. The temperature inside the car can be important, as it may be considerably hot, which can affect the speed of insect development. All traces from the crime scene should be documented in writing, meaning in a report, as well as through photography. Depending on their condition, the traces

[5] CEHLÁRIK, Ľ., *Úvod do kriminalistickej toxikológie,* In: Pokroky v kriminalistike 2021, Bratislava: Akadémia Policajného zboru v Bratislave, 2021, p. 57
[6] DANĚK, L., *Možnosti využití entomologie v kriminalistice,* Praha: Kriminalistický ústav VB, 1990, p. 5 - 6
[7] PORADA, V. a kol., *Kriminalistika. Technické, forenzní a kybernetické aspekty.* 2nd issue, 2019, p. 688

are packaged accordingly: dry material is secured in a clean container and stored at room temperature, while moist or living material should be transported for examination as soon as possible to prevent degradation, such as desiccation.[8]

Fig. 1: Forensically significant flying insects from the order Diptera (flies), family Calliphoridae (blowflies) (Source: author)

Visible crawling insects on the body, such as various beetle species, can be collected using soft forceps (care should be taken to avoid damaging the insects), a disposable spoon, or by hand, and subsequently placed individually into labeled containers. It is important to separate them as some beetle species are carnivorous and may destroy or damage other entomological specimens. The author recommends prioritizing the use of a disposable spoon or manual collection, as using forceps requires some practice and carries the risk of damaging or inadvertently releasing the insect due to insufficient experience (Fig. 2a, b).[9] If the crime scene is located indoors, it is necessary to thoroughly inspect the rooms for crawling insects, as they can provide additional important information, such as predators present and the conditions in which the body was found. If the crime scene is outdoors or in a natural environment, such as leaf litter or soil cover, it is important to sift the soil.

Fig. 2a,b: Image 2a shows the options for securing crawling insects with a disposable spoon, and image 2b depicts secured crawling insects (from the order Coleoptera, family

[8] HLAVÁČEK, J., PROTIVINSKÝ, M., a kol. *Praktická kriminalistika,* Kriminalistický ústav Praha Policie ČR, 2006, p. 135

[9] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, CRC Press, 2010, p. 155

Dermestidae, Dermestes undulatus Brahm, 1790) in a separate plastic container. (Source: author)

Static or immobile entomological traces include pupae and insect eggs. Pupae are found at a certain distance from the body. The third instar larval stage migrates and can be found in soil or 3-5 cm below the soil surface, in pockets, under carpets, in litter, and so on. If pupae are present on the body of a deceased person, it may indicate a certain limitation in larval migration or a specific insect species. Pupae change color over time, from white to dark brown, so it is important to secure pupae of any color. When searching for pupae in the soil, it is ideal to search an area several square meters in size surrounding the body, if the body is not located indoors. This is a slow and time-consuming task, where the soil is sampled from the intersections of a grid using a trowel to a depth of 10 cm. The soil will need to be sifted through a tray or can be sifted manually. Pupae can be secured manually or with soft forceps, but the same caution applies as when securing crawling insects (image 3). Secured pupae are placed in a container with a moist paper towel and appropriately labeled. Secured fly pupae should be cultured (reared) until a stage is reached where identification is possible.[10]

3 SECURING ENTOMOLOGICAL TRACES FROM ENCLOSED SPACES

Enclosed environments present several challenges when it comes to inspecting, securing, and subsequently evaluating the situation related to insect colonization. If the space is tightly sealed (such as a vehicle with closed windows and doors or a well-sealed residence), the chemical substances released during the decomposition of the body do not disperse into the environment as rapidly as they would if the corpse were left in an open space. Even if the chemical substances disperse into the environment, there may be an exceptional situation where the insects are unable to reach the body due to a mechanical barrier. The concentration of insects in front of enclosed spaces (such as various types of containers) likely indicates a dead body inside the space. In this case, flying insects are secured through active collection using an entomological net, while crawling insects are secured manually using soft forceps and other tools. An important factor to consider is the temperature inside the enclosed space, which often differs from the external temperature. For example, a car parked on a black asphalt surface with closed windows on a sunny day can exhibit an internal temperature up to 20 degrees Celsius higher than the external temperature. This fact has a significant impact on the development of insects, which is greatly accelerated due to the high temperature.[11] Securing entomological traces in enclosed spaces is done more effectively with knowledge of probable insect dispersal areas. In residential buildings where remains are in an advanced stage of decomposition (e.g., skeletal or mummified remains), there is a high likelihood of dispersal of more than one generation of insects. A crucial step at the crime scene is inspecting the edges of the room, either during the initial phase of the inspection or gradually moving away from the body of the deceased. Insects and their developmental stages can be found beneath the floor, as well as under carpets or any other coverings where they may be developing. Fly pupae are small objects approximately 9mm in size, and their color can vary depending on the developmental stage, ranging from red, brown to black. They are often mistaken for rat droppings at the discovery site.Larvae can disperse and pupate in other rooms apart from the discovery site. Occasionally, they can overcome distances of up to 50 meters. In the case of wooden or log houses with wooden floors where fluid from decomposition has leaked onto the floor, it may have seeped into the cellar where insects can also be found and develop. With adult individuals that have developed in enclosed spaces, it is important to note

[10] GENNARD, D. E. *Forensic entomology,* University of Lincoln, UK, 2007, p. 96

[11] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, CRC Press, 2010, p. 162

that they will likely be found on blinds, roller shutters, and curtains since adult flies and beetles are attracted to light. Additionally, they may be present on window sills and ledges. Dead and dry specimens are very fragile, so caution should be exercised when handling them. They should be secured in a preservation solution or stored in a dry environment, especially for toxicological analysis purposes.During the inspection and handling of remains in vehicles, attention should also be given to all their components and accessories. In cases where a body is visibly found in a vehicle, entomological traces should be sought in the vicinity of the vehicle, inspecting the luggage compartment and the interior of the vehicle.[12] In indoor environments, in addition to the body, attention should be focused on floor rugs and carpets. Entomological traces should be further sought between seats and even underneath upholstery in close proximity to the remains. Larvae can also disperse into the trunk of a car.[13]

In the case of finding a hanging victim and subsequent collection of entomological evidence, it is important to differentiate between the location of the incident, whether it occurred in an open area (such as a forest) or in an enclosed space. If the hanging victim is only partially touching or not touching the ground at all, the majority of the larvae will be found on the ground beneath the body. Since the larvae cannot return to the body, they will develop underneath it in the decomposing fluids. When collecting entomological evidence from hanging victims, such as larvae in different developmental stages, they are obtained from the substrate material (in the case of an exposed body, this refers to the soil substrate containing dead larvae, empty or undeveloped pupae/cocoons, and deceased adult insects) present beneath the body, which can weigh approximately 5 to 10 kg. Depending on the circumstances of the case, the potential for collecting adult insects in the vicinity of the body, as well as directly from the body, should be evaluated.[14] An important factor in cases of hanging is the ligature marks, which are usually longer in the front and shallower in the back. These areas may be of particular interest from an entomological standpoint, as they could potentially yield important evidence for collection. Parts of the ligature can come into contact with the skin, causing abrasions and blood extravasation.[15] In cases of hanging in a confined narrow space, abrasions or superficial lacerations may be present at various locations on the body. Occasionally, there may also be injuries on the tongue caused by teeth. During the examination of the body of the hanged individual, it is important to pay attention to all these injuries, as they are likely to be sites where insects (or various stages of insect development) will be found.[16]

4 SECURING ENTOMOLOGICAL TRACES FROM BURIED OR CONCEALED REMAINS

This particular scenario involves corpses placed in illegal graves, covered with soil or a significant amount of vegetation, and, lastly, it includes dead bodies wrapped in textile or plastic coverings.[17] Securing entomological traces from buried or concealed remains significantly slows down the decomposition process, but it doesn't necessarily mean a limited presence of insects. Flies (Diptera) from the families Calliphoridae, Sarcophagidae, and Muscidae have been found on remains covered by several centimeters of soil. Important entomological evidence can be obtained at the discovery site regardless of the depth of burial or concealment of the deceased's body. The most crucial source of information and

[12] METEŇKO, J., BAČÍKOVÁ, I., SAMEK, M. *Kriminalistická taktika.* Brno: Václav Klemm – Vydavatelství a nakladatelství, 2013, p. 161-162

[13] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, CRC Press, 2010, p. 163

[14] PORADA, V. a kol., *Kriminalistika. Technické, forenzní a kybernetické aspekty*. 2nd issue, 2019, p. 689

[15] MEGO, M., *Súdne lekárstvo I*, AZ PRINT spol. s.r.o., 2001, p. 125-126

[16] SOKOL, M., DOGOŠI, M., FUSEK, J., *Soudní lékařství a toxikologie pro vojenské lékaře*. 2010, p. 34

[17] PORADA, V. a kol., *Kriminalistika. Technické, forenzní a kybernetické aspekty*. 2nd issue, 2019, p. 683

entomological traces in this scenario will be the soil. The soil should be sifted from the surface of the ground to the upper edge of the body, as well as the sides and bottom of the burial site after the removal of the body. Developmental stages of larvae, pupae, adult insects, and parts of dead insects may be present in the soil around the burial site. If developmental stages of insects are found on the remains after uncovering the burial site, a separate collection should be performed, with the consent of the forensic pathologist at the scene or during the autopsy. If the deceased's body is clothed or wrapped in a covering, it is important to examine, secure, and document entomological traces during the autopsy.[18]

5 SKELETAL FINDINGS

In skeletal findings, entomological traces are collected from the substrate material and the surroundings of the remains. In cases of partial or complete skeletal findings, there is usually minimal or no presence of insects on the body. If the skeletal remains are found in their original location, there is a high likelihood that remnants of the majority of insects involved in the decomposition process will be present in the soil and the vicinity of the discovery site. Entomological traces will include deceased larvae, empty and undeveloped pupae/cocoons, and deceased adults. Approximately 5 to 10 kg of soil substrate, as well as samples from the vicinity of the skeletal remains, are collected as part of the evidence collection process. The clothing of the individual can be a valuable source of information, but only if it has not decomposed.[19]

6 SECURING ENTOMOLOGICAL TRACES FROM BODIES IN AQUATIC ENVIRONMENTS

The discovery and subsequent collection of entomological traces in aquatic biotopes can include rivers, ponds, irrigation or drainage ditches, sewage systems, wells, rainwater barrels, and more. Each of these habitats harbors different species of arthropods that are characteristic of the specific biotope. Most aquatic insect species collected from remains do not feed directly on decomposing tissue. However, some aquatic arthropods utilize submerged or floating bodies as shelter or a solid surface for attachment. If the dead body was colonized by terrestrial arthropods before submersion, these arthropods may have drowned, indicating that the body was on the water's surface for some time before sinking to the bottom. Additionally, live larvae found in human remains retrieved from below the water's surface could indicate that the remains were not submerged for an extended period. Proper methods for collecting and preserving aquatic arthropods are necessary for accurate identification. Traces can be collected for preservation or for rearing adult specimens. Live immature traces should be collected and transported in water taken from the specific discovery environment where they were found. During transportation, the collection containers should be completely filled with water to prevent damage to the arthropods. It is important to maintain a constant water temperature as many of these arthropods are sensitive to heat. The collection containers should be kept in shade or covered with a moist fabric.[20] The naturally occurring substrate in the vicinity of the body should be secured and placed in separate collection containers. Collecting flying adult arthropods found in close proximity to the body should be done in the standard manner, similar to other discovery situations. Eggs, larvae, and pupae can also be collected from the body using a soft pair of tweezers or fingers. It is often challenging to

[18] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, 2010. p. 161

[19] PORADA, V. a kol., *Kriminalistika. Technické, forenzní a kybernetické aspekty*. 2nd issue, 2019, p. 689

[20] BYRD, J. H., CASTNER, J. L., *Forensic entomology: the utility of arthropods in legal investigations*, 2010. p. 165

visually detect immature stages of aquatic arthropods at the discovery site due to their small size and appearance. Sometimes, larvae of aquatic insects can be mistaken for fibers, such as carpet fibers, and so on. It is essential to thoroughly and closely examine the external parts of the skin and clothing. Larvae may be found beneath mucus and algae that cover the skin or clothing. However, in general, the forensic utility of entomological traces from aquatic biotopes is limited since it requires specialized knowledge of aquatic insects.

7 CONCLUSION

The proper search, collection, documentation, transportation, recognition, and examination are essential elements in the utilization of insects and other invertebrates as forensic indicators. The collection of entomological traces should ideally be carried out directly at the discovery site of the body. However, considering that in a significant number of cases, the main food source for insects is the internal organs, the collection should take place both before and during the autopsy. The correct procedure involves securing both live and dead (preserved) entomological traces at the location of the body and during the autopsy. Proper collection of entomological traces is crucial because accurate species determination (using methods other than DNA) can only be achieved if certain morphological characteristics are preserved and intact on the collected specimens. Live entomological traces aid in species determination by allowing insects to develop into more advanced life stages with easily identifiable characteristics, while preserved samples are necessary to demonstrate the stage of insect development reached at the time of examination. Preservation halts the development of insects and prevents errors in development or incorrect documentation of temperatures during transportation or storage prior to the autopsy. In addition to collecting preserved and live entomological traces, the forensic technician must thoroughly document the circumstances at the discovery site, properly label all collected entomological traces, document the biotope in which the remains are found, and record current weather conditions.

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ENVIRONMENTÁLNÍ ASPEKTY POTŘEBNÉHO DIVADLA

ENVIRONMENTAL ASPECTS OF NECESSARY THEATRE

Alžběta Trojanová

Abstrakt

Tato studie se zabývá programem „Potřebného divadla“ vytvořeným polským divadelním souborem Węgajty. Potřebné divadlo, které svým zaměřením odpovídá světovým trendům sociálního divadla, přesahuje k otázkám společenské angažovanosti a k ukotvení hodnot environmentální etiky. Působnost Potřebného divadla v kontextu životního způsobu a postojů divadla Węgajty lze chápat jako způsob psychologické adaptace na současnou ekologickou krizi. Díky své návaznosti na paradivadelní proudy může mít i terapeutické účinky na léčbu úzkostí způsobených „environmentálním žalem“ nad ztracenými hodnotami přírodního prostředí.

Klíčová slova: *Potřebné divadlo, ekologická krize, environmentální žal, chudé divadlo, ekologická etika, environmentální ctnosti, environmentální umění, divadelní antropologie, paradivadlo*

Abstract

This study outlines the “Necessary Theatre” program created by the Polish Theatre Węgajty. Necessary Theatre, which corresponds in its focus to the world trends of Social Theatre, implies the issues of social engagement and values of environmental ethics. The scope of the Necessary Theatre in the context of the lifestyle and attitudes of the Węgajty Theatre can be understood as a way of psychological adaptation to the current ecological crisis. Thanks to its connection to Paratheatre, it can also have therapeutic effects on the treatment of anxiety caused by “environmental grief” over the lost values of the natural environment.

Key words: *Necessary Theatre, ecological crisis, environmental grief, Poor Theatre, ecological ethics, environmental virtues, environmental arts, theatre anthropology, Paratheatre*

1 ENVIRONMENTÁLNÍ SENZITIVITA V DOBĚ EKOLOGICKÉ KRIZE

Žijeme v době, kdy je nepřehlédnutelné, že stav životního prostředí je značně poznamenán životním způsobem lidstva, které naráží na globální ekologické limity a kapacitní možnosti místa, kde žijeme – tedy Země. Zatímco planeta disponuje omezenými zdroji, populace prudce roste a spolu s ní rostou i její potřeby. Jen za lidský život současné nejstarší generace, jejíž narození můžeme datovat zhruba do období konce druhé světové války, došlo k dramatickým změnám životního způsobu a k prudkému nárůstu počtu obyvatel. V dětství našich nejstarších pamětníků bylo na Zemi 2,5 miliard obyvatel, zatímco v současné době jich je už 8 miliard. Životní způsob současného konzumenta si žádá řadu spotřebičů a technických vymožeností, které byly před 70 lety velmi raritní nebo ještě neexistovaly.

K takto prudkým a radikálním změnám došlo jen za jednu etapu lidského života, který je ve srovnání s celým vývojem lidstva malým zlomkem. Jak uvádí historik John McNeill, podle odhadů z oblasti historické demografie žilo na Zemi během posledních 4 milionů let zhruba 80 miliard hominidů (McNeill 2001). V současnosti tedy planetu obývá okolo 10 % celkového počtu obyvatel, kteří kdy na Zemi žili. Spolu s prudkým nárůstem obyvatel

probíhají většinou nenávratné nebo těžko obnovitelné změny životního prostředí: vymírání živočišných a rostlinných druhů, odčerpávání neobnovitelných zdrojů, degradace zemědělské půdy, deforestace, znečištění, urbanizace přírodních lokalit, globální změny klimatu, snižování biodiverzity, tání ledovců.

Máme před sebou budoucnost, ve které je těžké hledat útěchu – na základě historických zkušeností s obdobnými situacemi, kdy lidstvo naráželo na limity prostředí, je v takovéto situaci očekávatelné spění ke kolapsu. Makroekolog David Storch předjímá, že současný růst populace a životní úrovně je během příštích několika dekád nereálný: „Řešením by samozřejmě bylo, kdyby se snížil počet lidí na Zemi nebo kdyby se aspoň zastavil populační růst, jako se to děje ve vyspělých zemích. Bohužel ale nelze očekávat, že k zásadnějšímu zpomalení růstu světové populace dojde bez katastrof typu hladomorů nebo válek. Existuje totiž další zákonitost, podle níž porodnost klesá s tím, jak roste HDP; zastavení populační exploze lze proto očekávat právě jen u vyspělých a bohatých zemí. Samovolné, nenásilné a nekatastrofické zpomalení růstu populace je tedy podmíněno nárůstem bohatství a vede tak k o to vyšší spotřebě energie.“ (Storch 2012) Rysem současného spění k nedostatku a kolizi je jeho globální charakter, zatímco v minulosti se spíše jednalo o katastrofy jednotlivých civilizací a pokud se jednalo o katastrofy s globálním dopadem, ještě nikdy v historii Země nebyly způsobeny vlivem člověka.

Vědomí tohoto stavu a jeho vyhlídek má nutně vliv na životní pocit vnímavých jedinců. V souvislosti s tím poukazuje bioložka, socioložka a environmentalistka Hana Librová na pojem, který zavedly americké thanatoložky – například Kriss A. Kevorkianová a Marie Eatonová: „environmental grief“, tedy environmentální žal, zármutek, smutek (Librová 2014). Zatímco v oblasti thanatologie se o žalu hovoří jako o vnitřním rozpoložení, které reaguje na ztrátu blízké osoby, environmentální žal je reakcí na devastaci ekosystémů v důsledku lidské činnosti a je podmíněn láskou k živým tvorům či ke krajině. Oproti osobnímu žalu má environmentální žal specifické rysy – zatímco je smrt v osobním životě neodvratná, environmentální ztráta je o to trýznivější, že je důsledkem lidské aktivity. Na rozdíl od osobního žalu, pro který lze obvykle najít pochopení u druhých lidí, není environmentální zármutek tak snadné sdílet, což uzavírá dotčené jedince do izolace a uvádí je do stavu frustrace (Librová 2014).[1]

Hana Librová se ve svých úvahách o environmentálním žalu pozastavuje nad tím, že vzhledem k současnému stupňování poškozování přírody by bylo očekávatelné zvýšení zájmu o environmentální otázky a senzitivity vůči přírodě, avšak místo toho je naopak patrný na poli veřejnosti a médií jeho pokles, a v souvislosti s ním se hovoří o „zelené únavě“ (*green fatigue*): „Místo ‚dílen‘ hlubinných ekologů, sdílejících environmentální žal, se utvářejí komunity pěstující osobnostní rozvoj a trénující ‚living lightly‘. V propagačních textech Rainbow Family, patrně nejvýznamnější světové alternativní komunity, marně hledám slova zármutku nad zánikem přírodního světa. Ostatně se zdá, že ubylo i přímých terénních akcí na ochranu přírody, s nimiž bývaly rituály environmentálního žalu spojovány. Práce ekologických organizací se profesionalizuje, převažuje v ní úřednický a poradní charakter, k ochraně přírody se vztahuje jenom nepřímo.“ (Librová 2014, s. 240) Librová dodává, že sdílení by očekávala především u básníků a jiných umělců, ale i u nich nachází neskrývaný environmentální žal vzácně. Lze tedy na umělecké scéně zaznamenat snahu o sdílení environmentálních hodnot a neskrývaný soucit s odumírajícím světem živé přírody?

2 SDÍLENÍ A APEL ENVIRONMENTÁLNÍHO UMĚNÍ

Sledujeme-li vývoj environmentální senzitivity v oblasti umění posledních dvaceti let, shledáváme, že témata, která reflektují probíhající dopady lidské činnosti na životní prostředí a kladou si otázku vize budoucnosti, nejsou ničím ojedinělým. Obecně ale platí, že sdělovací prostředky nevěnují vývoji životního prostředí dostatek pozornosti, což je podle některých

teoretiků záměrné a souvisí to se sociologickým a politickým záměrem zamlčování nepříznivých environmentálních skutečností (Librová et al. 2016, s. 14–15). Tím méně pozornosti je pak věnováno environmentálně orientovanému umění, které je z hlediska masových médií zcela marginální.

Teoretik umění a kurátor Ondřej Navrátil, který sleduje environmentální umění v českém kontextu, považuje téma environmentálních proměn za jedno z ústředních za posledních dvacet let, přičemž je příklon k těmto tématům výraznější zejména v posledních letech (Navrátil 2020). Souvisí to například s environmentálním aktivismem, kritikou kapitalismu a rostoucím zájmem o neantropocentrický pohled na svět. Podobně je to s uměním na globální úrovni, kde se k environmentálním otázkám vyjadřuje stále více umělců (artincontext 2022). Navrátil upozorňuje na to, že současné umění není autonomní uzavřenou oblastí a pro environmentální smýšlení v umění je klíčový interdisciplinární kontext, v rámci kterého je ovlivněno jinými oblastmi – např. etikou, filozofií, antropologií a vědou obecně, technologiemi či aktivismem. Umění tak vytváří kontext pro nové smýšlení a jeho hranice už nejsou důležité (Špinková 2021). Mnozí umělci propojují umění s klimatickým aktivismem nebo s edukačními aktivitami. Umění se tak stává prostředkem pro zpracování tísnivého pocitu ze stávající situace lidstva, pro jeho sdílení a apelaci na diváka. Tím může splňovat terapeutickou funkci v rámci léčby úzkostí, způsobených klimatickými změnami a degradací přírodního prostředí.

Z hlediska oslovení diváků má zvláštní pozici divadlo, které vytváří přímý vztah umělce-herce a diváka. Také v oblasti teatrologie se hovoří o „environmentálním divadle“, avšak tento pojem je v kontextu nastíněného environmentálního umění zavádějící, protože je používaný od 60. let, kdy byl definován teoretikem divadla Richardem Schechnerem. V jeho pojetí je slovo „environment“ používáno v denotativním významu jako prostředí, nikoliv v konotativním smyslu etického postoje, který pojem *environmentální* získal v pozdějších letech. V souvislosti s divadlem je proto méně zavádějící hovořit spíše o jeho environmentálních aspektech.

3 PROGRAM POTŘEBNÉHO DIVADLA

Zvláštním případem divadelního přístupu, který se ve svém směřování a působení environmentálních aspektů dotýká, je polské divadlo Węgajty. Tuto případovou studii jsem pro své bádání vybrala proto, že s divadlem příležitostně spolupracuji jako umělkyně a moje poznatky jsou zčásti založeny na vlastní autobiografické zkušenosti.[2]

Kromě toho považuji toto uskupení za zcela jedinečné na lokální i globální úrovni, a to díky kombinaci jednoduchých divadelních prostředků a jejich společenskému, kulturnímu a duchovnímu přesahu, který je výsledkem dlouhodobé a každodenní činnosti jeho zakladatelů a protagonistů – manželů Wacława a Erdmute Sobaszkových. Dramaturg, překladatel a performer David Zelinka, který se souborem dlouhodobě spolupracuje, považuje za jeho charakteristický rys „rozpětí mezi lokální, polské a globální, mezi všednodenní praktičností života a vysokou kulturu“ (Zelinka 2017, s. 64). Rozpětí práce Węgajt podle polského básníka, literárního kritika a kulturního animátora Kazimierze Brakonieckého charakterizuje „na jedné straně neortodoxní mysticismus, panteismus, soustředění na bohatství prostého života, tvůrčí využívání toho, co je viditelné (neboť hlubina života a světa je na povrchu, je třeba naučit se ji vidět), na druhé straně angažovanost v obraně humanistických a etických hodnot, lidskosti, prohlubování odpovědnosti za život, který je naším světem“ (Zelinka 2017, s. 63).

Název divadla Węgajty je odvozen od názvu vesnice u města Olštýn v regionu Warmie, kde soubor od roku 1982 působí. V krajině polských Sudet se manželé Sobaszkovi usídlili v opuštěném německém hospodářství, které přizpůsobili své tvůrčí práci. V tomto období se začali vydávat na výpravy, mapující tradice a zvyky často menšinových kultur (staroobřadců,

Lemků, Litvinů a pravoslavných) v oblasti Slovenska, Litvy, Běloruska, Makedonie a Černé Hory a později též Huculů na Ukrajině. Zde sbírali od starých pamětníků inspiraci pro vlastní práci, pohled na život, na svět na a otázky spojené s provázaností divadla a tradiční kultury. Písně a vyprávění si zapisovali a zpracovávali pro svá představení, která spojovali s vesnickými setkáními a tancovačkami, čímž přispívali k obnovení zanikajících zvyklostí, ovšem nikoliv jako etnografové, ale jako umělci, hudebníci a divadelníci.
Časem začala jejich představení zahrnovat stále více současných témat a ne-lidových prvků, které reagovaly na stávající politickou, společenskou a ekologickou situaci. Od toho se odvíjel jejich dlouhodobý projekt Inna Szkola Teatralna (Jiná divadelní škola), který měl formu workshopů pro většinou mladé účastníky zvnějšku, zakončených vánočními, masopustními a velikonočními koledními výpravami do oblastí zanikajících lidových kultur, kde přebrali kolednické „závazky“ a vytvořili novou, teatralizovanou verzi tradičních koledních obchůzek. Pro jejich přístup je podstatný aspekt setkávání s místními lidmi, s nimiž v průběhu let navázali osobní kontakt, a ke kterým se vracejí. Podstatným prostředkem sblížení je hudba a tanec – manželé Sobaszkovi jsou muzikanti a hudba je spojujícím elementem jejich různorodé činnosti v průběhu času.
Od roku 2010 se oproti dřívější práci s tradičními texty začalo ve Węgajtech pracovat i s texty, které na předem dané aktuální téma přinesli účastníci. Z přinesených příspěvků se vybraly nosné motivy a krátké texty, které vyjadřovaly podstatu věci. Spolu s tímto apelem na stávající palčivé otázky se do představení dostala i témata, vztahující se k životnímu prostředí, klimatickým změnám a mizejícím přírodním zdrojům. Divadlo Węgajty tato témata zahrnulo do rámce, který označuje jako „Zdroje a budoucnost“.
Uměleckým aktivitám souboru však předcházelo významné období od roku 1977, kdy Wacław Sobaszek spolu se studenty dějin umění Krzysztofem Gedroyćem, Ryszardem Michalskim a Ewou Wołoczkovou založili v Olštýně skupinu Pracownia (Pracovna), kterou později označil významný polský režisér, teoretik a divadelní reformátor Jerzy Grotowski delším názvem Interdysciplinarna Placówka Twórczo-Badawcza Pracownia (Interdisciplinární výzkumně-tvůrčí institut Pracovna). Zajímalo je konceptuální umění, kontrakultura, umění ve veřejném prostoru, community arts a paradivadelní projekty Teatru Laboratorium, které Grotowski založil. Základními principy programu Pracowny z roku 1977, které jsou dodnes v činnosti divadla Węgajty patrné, bylo stírání hranice mezi aktivním tvůrcem a pasivním divákem, spjatost umění s osobním životem, „jevy související s tvůrčí aktivitou a mezi nimi zejména ty, které se váží s mnohoznačnou percepcí, aktivní účastí, uznáváním hodnot, skupinovostí a odvahou“ (Zelinka 2017, s. 63).
Činnost Grotowského měla na divadlo Węgajty významný vliv. Grotowski pojal své divadlo jako výzkumnou „laboratoř“ hereckého umění a tímto přístupem oslovil světovou divadelní veřejnost. V 60. letech přichází s programem „chudého divadla“, které je založeno na procesu hledání a sebepoznání v prostém, divadelně sdíleném prostoru jako „světský rituál“ živého společenství diváků a herců (Korčák 2021, s. 19). Chudé divadlo je oproštěné od toho, co je postradatelné: „odpustili jsme si líčení, světelné efekty, kostýmy a dekorace, akustické pozadí a konečně i scénu. Empiricky jsme si ověřili, že divadlo zbavené všech ozdůbek nepřestává existovat. Naopak přestává existovat, když se poruší přímý vztah mezi hercem a divákem, když zmizí jejich přímý, živý a hmatatelný styk.“ (Grotowski 1990, s. 9)
Tímto přístupem položil Grotowski základy tzv. paradivadelním aktivitám, které začal rozvíjet v 70. letech. Jejich cílem je zkoumání a sebepoznání člověka skrze divadelní prostředky, které nemají nutně vést k vytvoření divadelního představení. Smyslem je hledání obecně lidské zkušenosti v kulturnosti a tělesnosti člověka,[3] čímž paradivadlo přesahuje k antropologickému divadlu. Teatroložka, kritička a dramaturgyně Jana Pilátová, která se dílem a odkazem Jerzyho Grotowského celoživotně zabývá, považuje dvojí aspekt herectví „být někým/nepřestat být sám sebou“ za jeho kardinální otázku: „Odhalováním vrstev hereckého

tajemství se (Grotowski) dobral k poznání, že hlavní je člověk a divadlo mu může pomoci objevit, kdo je a co si počít ve světě, kde se ztrácí.“ (Pilátová 2009, s. 24) Zdá se, že Grotowski tím předjal možnou odpověď na dramatické niterné rozpoložení těch, kteří se propadnou do propasti environmentálního žalu.

Specifikem paradivadla je totiž jeho terapeutický, sociální a pedagogický rozměr. Účelem paradivadelních systémů není výstup v podobě představení, ale divadlo je například prostředkem k terapii či edukaci (Růžička a Polínek 2013). Tento přístup se stal prohlubujícím aspektem činnosti divadla Węgajty, které od roku 2003 rozšířily svou působnost organizací festivalu Wioska teatralna (Divadelní vesnice), zahrnujícím širokou škálu představení, koncertů, workshopů a diskuzí s polskými, evropskými i mimoevropskými umělci, a na který se sjíždí několik stovek lidí z Polska i z celého světa. Prvotní myšlenkou festivalu bylo utvářet „nové formy vztahů mezi klasickými protiklady lokální-globální, tradiční-moderní, naše-cizí, společnost-jedinec, centrum-periférie, kultura-příroda (přirozenost), minulost (přítomnost)-budoucnost.“ (Zelinka 2017, s. 71). Zájmem festivalu byly oblasti, kde se tyto protiklady setkávají nebo střetávají se zvláštním zaměřením na ty, „kteří z těchto střetů vycházejí jako menšinoví, vyobcovaní, nežádaní, (relativně) poražení. Záměrem je nejen hovořit jejich jménem, ale především je – v rámci možností – pozvat a nechat promluvit.“ (Zelinka 2017, tamtéž).

V průběhu let se tato myšlenka formovala do programu tzv. „Potřebného divadla“ (Teatr potrzebny) (Jasińska et al. 2009). Program byl zahájen projektem, ve kterém divadlo Węgajty navázalo spolupráci s Domovem sociální péče (DSP) v nedalekém Jonkowě, určeným pro somaticky nemocné a seniory. První kontakty s DSP proběhly už v 90. letech, kdy divadlo příležitostně domov navštěvovalo s koledou a masopustem. Jeho návštěvy se někdy rozvinuly do dlouhých tanečních zábav, ve kterých se stíraly rozdíly mezi herci a účastníky, z nichž někteří byli na invalidních vozících. Zahájení projektu se datuje od roku 2008, kdy divadlo navázalo s DSP intenzivnější spolupráci. Skrze hudbu a tanec si postupně vytvářelo k obyvatelům domova hlubší vztah a zaznamenávalo jejich příběhy a vzpomínky. Režisér Wacław Sobaszek postavil svá představení na kanonických dílech polské či evropské literatury: *Svatba* podle Stanisława Wyspiańského (2009), Provdaná Ivona na motivy dramatu Witolda Gombrowicze (2010), Sen noci svatojánské podle Williama Shakespeara (2011), Ulice krokodýlů na motivy povídky Bruna Schulze (2014) a Král Ubu neboli Poláci na motivy divadelní hry Alfreda Jarryho (2016). Ty následně konfrontoval s existenčními zkušenostmi většiny aktérů a s problémy, jež jsou v komunitním životě ve Warmii vnímány jako důležité. Podobně jako Grotowski vede Sobaszek s klasickými díly dialog a polemizuje o výzvách, které přináší dnešní svět (Hasiuk 2022, Hasiuk 2017). Klasická díla tak získávají v kontextu osobních příběhů obyvatel domova nový rozměr, díky kterému vyvstávají v zažitých kanonických příbězích nové významy, které je oživují pro současného diváka.

Obyvatelé DSP čelí řadě životních problémů a výzev, jako je stáří, osamělost, postižení, těžká a progresivní onemocnění včetně duševních chorob, závislosti, stagnace, dysfunkce sociálních vazeb a ztráta životní energie. Spolupráce s divadlem Węgajty jim přináší novou naději a oporu, smysl a oživení sociálního života, která je oboustrannou motivací pro další pokračování. Z některých z nich se staly skutečné herecké osobnosti a důvěra mezi nimi a členy souboru je motivovala k rozvoji pohybových a hlasových možností a schopnosti učit se další texty (Zelinka 2017, s. 72).

Setkání divadla Węgajty a obyvatel DSP lze chápat jako setkání dvou světů, dvou sociálních skupin. Jak upozorňuje teatroložka Magdalena Hasiuková (Hasiuk 2022), historicky vznikalo centrum divadla Węgajty v podobném období jako DSP v Jonkowě. Jejich dalším společným rysem je to, že se nacházejí na určitém sociálním okraji. Podle Jany Pilátové jsou okrajová divadla tohoto typu pokládána oficiální kulturou spíše za plevel. „Jenže plevel je životaschopný i životodárný, bez něj by se neobohacovala půda pro choulostivější,

vyšlechtěné rostliny.“ (Pilátová 2023) Tuto metaforu s odkazem na osobní rozhovor s Janou Pilátovou na toto téma dále rozvíjí Magdalena Hasiuková v tom smyslu, že zatímco intenzivní hospodářství je ekonomicky i ekologicky zatěžující a generuje řadu problémů, „plevel“ či náletové pionýrské rostliny dokážou obnovit život zdevastované krajiny a obnoví tak i její vitalitu a stabilitu vznikem divokého a neprůmyslového lesa, který odolá škůdcům. Za tento plevel lze považovat nadšence a z hlediska většinové společnosti podivíny, kterými jsou ve válkou poznamenané krajině Warmie právě členové divadla Węgajty. Hasiuková vyzdvihuje lidský přístup manželů Sobaszkových k obyvatelům DSP, který nemá žádné náznaky mocenského vztahu a jeho základem je porozumění (Hasiuk 2022).

Podobně jako ve spolupráci s obyvateli DSP se princip Potřebného divadla projevuje v zaměření Wiosky teatralne. V průběhu uplynulých let na festivalu vystoupily děti z čečenského uprchlického tábora, ženy z Centra Praw Kobiet (Centrum ženských práv) poskytujícího pomoc a terapii obětem domácího násilí, chovanky z nápravného zařízení pro nezletilé Varšava-Falenica, skupiny mentálně a tělesně odlišné od většinového průměru, uprchlíci a žadatelé o azyl nebo divadelní skupiny pracující s lidmi bez domova a na okraji společnosti. Tyto divadelní formy lze zařadit do proudu tzv. sociálního divadla a hledat spojitosti například s divadlem „divadla utlačovaných“ brazilského divadelního režiséra a levicového politika Augusto Boala (Honzírek 2020). Termín Potřebné divadlo lze však chápat v širším smyslu divadla, které je potřebné společensky, politicky a lidsky. Témata potřebného divadla tak propojují společenskou, terapeutickou a ekologickou angažovanost (Zelinka 2014).

4 POTŘEBNÉ DIVADLO OPTIKOU ENVIRONMENTÁLNÍ ETIKY

Přínos Potřebného divadla je zcela zjevný v sociálním a terapeutickém kontextu. Životní příběhy lidí, ke kterým není vždy snadné se dostat, jsou hlubokým zážitkem pro zúčastněné diváky a pro samotné protagonisty je tato příležitost vytržením z obvyklé sociální izolace a otevřením směrem k přijímajícímu publiku, se kterým navazují rovnocenné vztahy, založené na vzájemném porozumění. Lze však tento program vztáhnout k oblasti environmentální etiky?

Jak naznačilo výše uvedené nastínění fenoménu environmentálního žalu, v psychologické rovině může mít program Potřebného divadla terapeutickou funkci a nabízet způsob, jak se k tomuto životnímu pocitu postavit. Jana Pilátová komentuje Sobaszkův postřeh z roku 1983, kdy přemýšlí o pocitu frustrace, který přece není třeba měnit v agresi, ale v tvořivost: „Když člověk nesní o vítězství pravdy a lásky, ani se nepere s tím, co na něj spadlo, když začne dělat něco třeba malého, ale to, v co věří a má to rád, stáhne svou energii z pólu úzkosti a pólu agrese, změní tím její kvalitu a může se svěřit světu. Úzkost i agrese se změní v tichou sílu: všechno se samo otevírá, když se otevřeme.“ (Pilátová 2023) Divadlo Węgajty svými postoji a uměleckou činností včetně programu Potřebného divadla mohou být příkladem umělecky citlivého přístupu, po jehož případech v uměleckém světě pátrala v roce 2014 Hana Librová ve výše uvedené stati na téma environmentálního žalu.

Librová se zároveň dlouhodobě zabývá postoji environmentální etiky vůči stávající situaci ekologické krize.[4] Její bádání propojuje několik rovin, ve kterých společnost na problémy člověkem zdevastovaného či jinak poznamenaného prostředí reaguje – v rovině postojů, životního způsobu a environmentálních ukazatelů, jakými je například ekologická stopa nebo ekologický tlumok. Filozof a publicista Erazim Kohák, který se tématu ekologické etiky dlouhodobě věnoval, upozorňuje na to, že pro dopady na životní prostředí je primární filozofický a lidský rozměr, tedy rovina postojů, a teprve sekundární je rovina technická, kterou lze měřit například prostřednictvím zmíněných ukazatelů. Kohák říká, že „ekologický problém (…) bude vyřešen teprve tehdy, až vnikne občanská a politická vůle k záchraně Země a trvalé udržitelnosti Života.“ (Kohák 2000, s. 10) Bez vůle k řešení jsou technická

řešení, obsažená v politických strategiích a managementu řízení společnosti a jejích částí, jen málo účinná. Proto se zaměřím na aspekt etických postojů vůči proměnám životního prostředí a vytyčím některé kategorie environmentálně příznivých postojů podle pojetí Hany Librové (Librová 2003). Jejich optikou posoudím vybrané aspekty Potřebného divadla.[5]

4.1 Skromnost a sebeomezení

Z hlediska environmentální etiky je skromnost základní ekologickou ctností, která snižuje dopady lidských činností na životní prostředí. Podstatou skromnosti je zřeknutí se toho, co není nutné, což je v moderním světě většina jeho výdobytků. Tato ctnost je podstatou „chudého divadla“ Jerzyho Grotowského, které svým postojem zřeknutí se nadbytečných divadelních prostředků principu sebeomezení odpovídá.

Divadlo Węgajty, které se k odkazu Grotowského hlásí, navazuje na jeho přístup mimo jiné právě v tomto ohledu. Zvolilo také život na opuštěném venkově stranou života, kterým žije většinová konzumní společnost, a jeho skromný přístup k životu se projevuje šetrným přístupem k prostředí, které ho obklopuje.

4.2 Relativní jednoduchost

Ekologicky příznivý životní způsob, který vyplývá z vnitřních hodnot a postojů, je charakteristický jednoduchostí. Tím je myšleno zkrácení spotřebního řetězce o řadu materiálních vstupů a služeb, čímž má člověk přímější přístup ke zdrojům své spotřeby. Darem zřeknutí se nadbytečného je „prázdný prostor“, který umožňuje svobodu rozhodování a volby. Tento prostor lze chápat jak ve smyslu duchovním, tak ve smyslu materiálním. Zde se nabízí zajímavá paralela s „prázdným prostorem“ divadelního režiséra Petera Brooka, který byl charakteristický pro scénografii jeho inscenací. Brook zjednodušil divadelní scénu, aby vytvořil prostor pro bohatost předávaných významů. Potřebné divadlo je charakteristické právě tím, že nepoužívá zbytečné rekvizity a drží se jednoduchého provedení inscenací.

4.3 Geografické sebeomezení

Projevem jednoduchosti je také geografické sebeomezení, které je vázáno na usedlý život, vzdává se požitků z cestování do dalekých krajin a spokojuje se s objevováním hodnoty blízkého. Důležitou dimenzí usedlého života je identifikace s místem, krajinou svého pobytu a domova, jež je dobrým předpokladem pro její ochranu. V tomto smyslu se divadlo Węgajty orientuje na krajinu, ve které našlo své působiště a obohatilo místní hodnoty a specifika. Orientace na podporu místní kultury, krajiny a specifik je pro environmentální etiku typická, přičemž divadlo Węgajty kontakt s místními lidmi a kulturou otevírá celému světu a naplňuje tak známé heslo „Mysli globálně, jednej lokálně“.

K tomuto lokálně orientovanému způsobu života však dospělo ve zralejší životní fázi - bez cestování by nezískalo umělecké zkušenosti a nemohlo by se setkat s tradičními kulturami, které byly zdrojem jeho inspirace. V případě cestování lze hovořit o měkkém turismu, pro který je charakteristická citlivost k místu a snaha o porozumění místním kulturám. Divadlo Węgajty necestuje jako klasičtí turisté, kteří vyhledávají prožitky, ale oslovuje zahraniční diváky se svými workshopy a představeními. Apeluje na ně bytostně lidskými i globálními tématy, která se týkají budoucnosti lidstva. Ve svých postojích tedy usiluje o hodnoty environmentální etiky, byť z praktického hlediska zvyšuje každé cestování ekologickou stopu, zvláště jedná-li se o cesty do vzdálenějších krajin.

4.4 Temporálie

Temporálie charakterizuje Librová jako „činnosti a věci zřetelně a reflektovaně spojené s plynutím času“ (Librová 2003, s. 138). Zatímco je současník vystaven obrovskému tlaku akcelerace a je soužen nedostatkem času, je pro temporálie typické pomalé tempo. Příkladem

temporálií je pozorování přírodních proměn, pěstování obilí a pečení chleba, růst stromu, ruční psaní dopisů nebo chůze krajinou. Život na venkově, který si Sobaszkovi pro svou působnost zvolili, je s temporáliemi přirozeně spojen. Program Potřebného divadla se však temporálií dotýká ještě v jiném ohledu, a tím je vztah k procesu stárnutí a reflexe života, který je přítomný při jeho spolupráci s obyvateli DSP.

4.5 Skrytá hodnota věcí

Pro šetrnost vůči životnímu prostředí je podstatné to, jakou mají věci nemateriální hodnotu. Tím jsou myšleny například etické okolnosti vzniku věcí. Hodnotou může být prožitek výroby a porozumění procesu, který se ve výrobě skrývá nebo okolnosti přijetí a vlastnění věcí. Od toho se pak odvíjí jejich symbolická hodnota, která má velký význam pro vnitřní identitu jedince, pro jeho pocit osobní a generační kontinuality a zakotvenosti v osobním i sociálním kontextu. V tomto smyslu sehrává svou roli stavení, kde Węgajty své divadlo provozují. Hospodářství bylo opuštěno na počátku 70. let německou rodinou a dům se rozpadal, ale stále nesl stopy života svých původních obyvatel. Sobaszkovi zachovali jeho původní ráz a s citem k otisku svých předchůdců na něj navázali ve svých aktivitách tak, aby ho přizpůsobili svým uměleckým potřebám.

4.6 Nemateriální hodnota zážitku

Za environmentální ctnost je považováno znovupromýšlení a obměňování zvyklostí. Librová v této souvislosti zmiňuje „ritualizované situace“, což jsou opakující se či sváteční aktivity, které patří k rituálům většinové společnosti. Jinak prožitá skutečnost přináší nemateriální statky ve formě prožitků, které Librová nazývá „chytrými radostmi“. Divadlo je ze své podstaty na prožitku a přímé smyslové zkušenosti založeno a nejinak je tomu v případě Potřebného divadla, které navíc přináší hodnotné prožitky jak „potřebným“, tak divákům, pro které divadlo dělají. Tím zároveň vznikají právě ony ritualizované situace ve formě divadelních představení, ale také lidských setkání, ke kterým by jinak nedošlo.

4.7 Porozumění

Ekologické ctnosti by nebylo možné uskutečnit bez porozumění, protože jsou podmíněny uvědomělým, tedy srozuměným chováním. Librová zmiňuje německý pojem schöpfungsgemäß – „přiměřený stvoření a odpovídající našemu určení ve světě“ (Librová 2003, s. 138). Má-li člověk souznít s místem, které je mu určeno, se vším, co k němu náleží, je třeba mít pro něj vnitřní porozumění. Porozumění předpokládá schopnost dialogu, který vede vnitřní a vnější svět ke vzájemnému odpovídání; není možné bez vztahu vnitřního a vnějšího světa. Teprve tento dialog umožňuje sdílení – a porozumění je vlastně vědomé sdílení vnitřního světa s vnějším, souznění s ním. (Trojanová 2007, s. 33) Jestli lze nějak vyjádřit podstatu činnosti divadla Węgajty a programu Potřebného divadla, pak je to právě porozumění. Bez porozumění by nebylo možné skutečné mezilidské setkávání a sdílení, které je podstatou jejich činnosti a nebylo by bez něj možné vykročit na nelehkou cestu, kterou si pro svou působnost ve společnosti a ve svém vlastním životě zvolili.

5 ZÁVĚR

Jak vyplývá z tohoto výzkumu, v době ekologické krize, která u citlivějších jedinců vyvolává úzkostné stavy, může mít zvláštní terapeutický význam divadlo a jeho specifické formy, které charakterizuje program Potřebného divadla. Případová studie divadla Węgajty je ukázkou toho, jak může soustavná divadelní činnost, založená na etických postojích, pozitivně ovlivňovat celou společnost, ačkoliv je v principu vázána a svou činností propojena s konkrétní lokalitou. Tyto etické postoje, které vycházejí z tradic kontrakultury a alternativního divadla navazujícího mj. na přístupy divadelního reformátora Jerzyho

Grotowského, navíc odpovídají environmentálním ctnostem, tak jak je definuje socioložka Hana Librová. Potřebné divadlo je tak možnou odpovědí na nelehké otázky spojené s dopady lidské činnosti na životní prostředí.

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ANALÝZA SÚDNYCH ROZHODNUTÍ VO VECIACH PROCESNEJ ÚPRAVY KONANIA O SÚLADE PRÁVNYCH PREDPISOV V SPRÁVNOM SÚDNICTVE[1]

ANALYSIS OF COURT DECISIONS IN MATTERS OF PROCEDURE ADJUSTMENT OF PROCEEDINGS ON COMPLIANCE WITH LEGAL REGULATIONS IN ADMINISTRATIVE JUDICIARY

Lukáš Tomaš

Abstrakt

Príspevok je zameraný na analýzu rozhodnutí správnych súdov súvisiacich s procesnou úpravou konania o súlade právnych predpisov v správnom súdnictve. Autor koncentruje pozornosť na odraz právnej regulácie obsiahnutej v § 357 až § 367 Správneho súdneho poriadku tak, ako vyplýva zo súdnej praxe. Analyzuje predmet konania, účastníctvo v konaní, postup správneho súdu v konaní, dočasné pozastavenie účinnosti právneho predpisu, ako aj rozhodnutia, ktorými sa konanie končí, a súvisiacu problematiku trov konania. Popritom tam, kde sa to javí vhodné, formuluje aj kritické stanoviská s vyhliadkou na zlepšenie aplikačnej praxe do budúcna.

Kľúčové slová: *konanie o súlade právnych predpisov v správnom súdnictve, všeobecne záväzné nariadenie, dočasné pozastavenie účinnosti právneho predpisu*

Abstract

The contribution is focused on the analysis of the decisions of administrative courts related to the procedural adjustment of proceedings on the compliance of legal regulations in the administrative judiciary. The author focuses on the reflection of the legal regulation contained in § 357 to § 367 of the Administrative Court Code as it follows from judicial practice. It analyzes the subject of the proceedings, participation in the proceedings, the procedure of the administrative court in the proceedings, the temporary suspension of the effectiveness of the legal regulation, as well as the decisions ending the proceedings, and the related issue of the costs of the proceedings. In addition, where it seems appropriate, it also formulates critical opinions with the prospect of improving application practice in the future.

Key words: *proceedings on the compliance of legal regulations in the administrative court, generally binding regulation, temporary suspension of the effectiveness of the legal regulation*

1 ÚVOD

Zákonodarca novelou (bývalého) Občianskeho súdneho poriadku[2] vykonanou zákonom č. 384/2008 Z. z. s účinnosťou od 15. októbra 2008 zveril správnym súdom časť abstraktnej kontroly právnych noriem. Využil tak ústavný priestor vytvorený novelou Ústavy SR[3] realizovanou ústavným zákonom č. 90/2001 Z. z., ktorá v čl. 125 ods. 1 písm. c) a písm. d) Ústavy SR umožnila, aby o súlade lokálneho a regionálneho práva s právnymi predpismi vyššej právnej sily konal iný súd než Ústavný súd SR. Do kompetenčných osídel správnych

[1] Tento článok vznikol s podporou a je výstupom riešenia výskumného projektu Agentúry na podporu výskumu a vývoja v rámci projektu: Analýza súdnych rozhodnutí metódami umelej inteligencie; č. APVV-21-0336.

[2] Zákon č. 99/1963 Zb. Občiansky súdny poriadok v znení neskorších predpisov.

[3] Ústava Slovenskej republiky č. 460/1992 Zb. v znení neskorších ústavných zákonov.

súdov sa v súlade s § 250zfa Občianskeho súdneho poriadku dostalo posudzovanie súladu tzv. originárnych všeobecne záväzných nariadení (vydaných vo veciach územnej samosprávy) so zákonom a tzv. derivatívnych všeobecne záväzných nariadení (vydaných vo veciach preneseného výkonu štátnej správy) so zákonom, nariadením vlády SR a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy. Posudzovanie konformity všeobecne záväzných nariadení s Ústavou SR, ústavnými zákonmi a medzinárodnými zmluvami, s ktorými vyslovila súhlas NR SR a ktoré boli ratifikované a vyhlásené spôsobom ustanoveným zákonom, ostalo naďalej v kompetenčnej gescii ústavného súdnictva. Správne súdnictvo rovnako tak nemá právomoc ani na preskúmavanie všeobecne záväzných právnych predpisov miestnych orgánov štátnej správy so zákonom, hoci čl. 125 ods. 1 písm. d) Ústavy SR takúto možnosť na ústavnej úrovni predvída. Keďže zákonodarca v tejto záležitosti správnym súdom zodpovedajúcu právomoc dosiaľ nezveril, preskúmavanie vyhlášok miestnych orgánov štátnej správy je naďalej v kompetenčnej výbave ústavného súdnictva, nie v gescii správnych súdov. [4]

Dňa 01. júla 2016 vstúpil do účinnosti samostatný súdno-procesný kódex – Správny súdny poriadok.[5] Predmetný právny predpis priniesol pomerne rozsiahle zmeny.[6] Pokiaľ ide o správnu súdnu kontrolu všeobecne záväzných nariadení, tá sa z púheho jediného paragrafu (§ 250zfa Občianskeho súdneho poriadku) spodrobila a transformovala sa do celkom jedenástich paragrafov. Právna úprava prieskumu normatívnych správnych aktov v správnom súdnictve je aktuálne *(de lege lata)* obsiahnutá v § 357 až § 367 Správneho súdneho poriadku. V predmetných ustanoveniach zákonodarca upravil otázky predmetu konania, účastníctva v konaní, aktívnej a pasívnej žalobnej legitimácie, pričom vymedzil aj osobitné náležitosti žaloby. Pokiaľ ide o postup v konaní, právotvorca po problematike dočasného pozastavenia účinnosti všeobecne záväzného reguluje vyjadrenie k žalobe a zákaz zmarenia účelu konania pred správnym súdom. V § 365 až § 367 Správneho súdneho poriadku sú reglementované procesné eventuality rozhodovania v konaní, konkrétne zastavenie konania, zamietnutie žaloby a vyhovenie žalobe – spoločne s účinkami rozhodnutia, ktorým sa vyslovil nesúlad napadnutého všeobecne záväzného nariadenia. Pre avizované konanie sú však prirodzene relevantné aj všeobecné ustanovenia Správneho súdneho poriadku, napríklad v súvislosti s možným nariadením pojednávania, replikou a prípadnými ďalšími vyjadreniami strán, vyhlasovaním rozhodnutia alebo pokiaľ ide o trovy konania.

Významný zdroj intepretácie a v niektorých prípadoch i dotvárania procesnej regulácie konania o súlade právnych predpisov v správnom súdnictve predstavujú jednak rozhodnutia správnych súdov, jednak relevantné rozhodnutia Ústavného súdu SR. Cieľom predloženého príspevku je na podklade analýzy avizovaných rozhodnutí predostrieť aplikačnú charakteristiku procedurálnej úpravy správnej súdnej kontroly právnych noriem, upriamiť pozornosť na právno-realizačne a právno-aplikačne zaujímavé momenty (situácie), ktoré

[4] Pozri DOBROVIČOVÁ, G. Ústavné základy tvorby práva *de constitutione ferenda*. In OROSZ, L. a kol. *Ústavný systém Slovenskej republiky (doterajší vývoj, aktuálny stav, perspektívy).* Košice : Univerzita Pavla Jozefa Šafárika v Košiciach, 2009, s. 137. K tomu tiež NEDZBALOVÁ, L. Právomoc Ústavného súdu Slovenskej republiky vo veciach územnej samosprávy. In *Právní ROZPRAVY 2013: mezinárodní vědecká konference oblasti práva a právních věd - Právní rozpravy 2013 s podtitulem "právo, věda, praxe": recenzovaný sborník příspěvků z mezinárodní vědecké konference: 4. – 8. února 2013, Hradec Králové, Česká republika.* Hradec Králové : Magnanimitas, 2013, s. 530.

[5] Zákon č. 162/2015 Z. z. Správny súdny poriadok v znení neskorších predpisov.

[6] Pozri VAČOK, J. Čo prinieslo nahradenie odvolania kasačnou sťažnosťou vo vzťahu k odkladnému účinku? In FRUMAROVÁ, K. (ed.) *Správní soudnictví – 15 let existence Soudního řádu správního vs. prvotní zkušenosti s aplikací nového Správneho súdneho poriadku.* Olomouc : Iuridicum Olomoucense, 2018, s. 347.

priniesla právna prax a tam, kde sa to javí vhodné, formulovať aj kritické postrehy a návrhy na právne konformný aplikačný postup.

2 PREDMET KONANIA A ÚČASTNÍCTVO V KONANÍ

V súlade s § 357 ods. 1 Správneho súdneho poriadku sa žalobca môže žalobou domáhať vyslovenia nesúladu všeobecne záväzného nariadenia vydaného vo veciach (i) územnej samosprávy so zákonom alebo (ii) plnenia úloh štátnej správy so zákonom, nariadením vlády SR a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy.

Všeobecne záväzné nariadenie predstavuje jediný druh právneho predpisu, ktorý môže byť predmetom prieskumu v osídlach správneho súdnictva. Ako uviedol Ústavný súd SR,[7] správne súdy podľa § 7 písm. c) Správneho súdneho poriadku nepreskúmavajú všeobecne záväzné právne predpisy, ak Správny súdny poriadok neustanovuje inak. Jedinou pripustenou výnimkou je pritom konanie o súlade všeobecne záväzného nariadenia obce, mesta, mestskej časti alebo samosprávneho kraja so zákonom, prípadne aj s nariadením vlády SR a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy podľa § 357 až § 367 Správneho súdneho poriadku. Z uvedeného sa teda Ústavnému súdu SR javí, že iné právne predpisy, napríklad vyhlášky Úradu verejného zdravotníctva, nemožno napadnúť v správnom súdnom konaní.

Nesúlad napadnutého normatívneho právneho aktu môže spočívať v jeho obsahu, v obsahu jeho časti, niektorého jeho ustanovenia alebo v porušení postupu pri jeho prijímaní (§ 357 ods. 2 Správneho súdneho poriadku *in fine*). Najvyšší správny súd SR podotkol, že účelom a predmetom konania o súlade všeobecne záväzného nariadenia obce, mesta, mestskej časti alebo samosprávneho kraja s právnym predpisom vyššej právnej sily je *„posudzovanie obsahového ne/súladu všeobecne záväzného nariadenia obce s právnym predpisom alebo porušení normatívne ustanoveného postupu pri prijímaní všeobecne záväzného nariadenia. (tzv. procesného nesúladu).“*[8]

Aktívnu legitimáciu na podanie žaloby podľa § 357 Správneho súdneho poriadku majú dva subjekty – prokurátor a zainteresovaná verejnosť. Ide o tzv. privilegovaný okruh žalobne legitimovaných osôb.

Žalobcom je podľa § 45 ods. 4 a § 359 ods. 1 Správneho súdneho poriadku prokurátor, ktorého protestu proti všeobecne záväznému nariadeniu nebolo vyhovené. Prokurátor je žalobcom v prvom rade, keďže preskúmavanie všeobecne záväzných nariadení orgánov územnej samosprávy je súčasťou dozoru prokuratúry nad zachovávaním zákonnosti orgánmi verejnej správy. Procesnou podmienkou pre podanie žaloby prokurátorom je, že jeho predchádzajúcemu protestu proti totožnému všeobecne záväznému nariadeniu nebolo vyhovené. Pod nevyhovením protestu prokurátora sa rozumie nezrušenie všeobecne záväzného nariadenia alebo jeho napadnutej časti, nevykonanie zmeny všeobecne záväzného nariadenia alebo jeho napadnutej časti v lehote podľa osobitného predpisu – zákona o prokuratúre.[9] Zákon na podanie žaloby pritom neustanovuje lehotu.[10]

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[7] Uznesenie Ústavného súdu SR sp. zn. III. ÚS 291/2021 z 27. apríla 2021.
[8] Uznesenie Najvyššieho správneho súdu SR sp. zn. 7 Svk 25/2021 z 25. októbra 2022.
[9] Zákon č. 153/2001 Z. z. o prokuratúre v znení neskorších predpisov.
[10] Uznesenie Ústavného súdu SR sp. zn. II. ÚS 146/2020 z 15. apríla 2020.

V súlade s § 359 ods. 2 Správneho súdneho poriadku môže byť žalobcom aj zainteresovaná verejnosť, ak tvrdí, že všeobecne záväzným nariadením bol porušený verejný záujem v oblasti životného prostredia. Zainteresovaná verejnosť koná pred správnym súdom prostredníctvom určených zástupcov (§ 42 ods. 2 Správneho súdneho poriadku). Je však možné, aby sa podľa § 49 ods. 1 Správneho súdneho poriadku nechala v konaní zastúpiť advokátom. Z praktického hľadiska možno dodať, že žaloby zainteresovanej verejnosti sú pomerne vzácnym javom a vyskytujú sa pomerne zriedkavo.[11]

Iné subjekty než prokurátor alebo zainteresovaná verejnosť nie sú nadané aktívnou legitimáciou.[12] V konaniach, v ktorých je účastníctvo určené zo zákona *(ex lege)*, kam patrí aj konanie podľa § 357 a nasl. Správneho súdneho poriadku, totiž nemožno okruh účastníkov konania rozširovať nad rámec zákonom stanovených účastníkov. V prípade konaní o súlade všeobecne záväzného nariadenia je okruh účastníkov vymedzený priamo v zákone, a to pomerne úzko, ale zato striktne a jednoznačne.[13]

Deficit aktívnej legitimácie na začatie konania o súlade právnych predpisov v správnom súdnictve sa neprivilegovaní žalobcovia usilujú bezúspešne zhojiť (obísť) jednak prostredníctvom všeobecnej správnej žaloby (prípadne žaloby adresovanej civilnému súdu), jednak formou individuálnej ústavnej sťažnosti podľa čl. 127 ods. 1 Ústavy SR. *Modus operandi* je dvojaký: Buď sa napáda individuálny (s)právny akt, napríklad rozhodnutie o vyrubení miestnej dane, vydaný na základe všeobecne záväzného nariadenia, o ktorom žalobca (sťažovateľ) tvrdí, že je nezákonné, a popritom sa žalobca (sťažovateľ) do všeobecnej správnej žaloby alebo ústavnej sťažnosti usiluje viac či menej nápadne vtesnať aj námietku nezákonnosti samotného všeobecne záväzného nariadenia (i),[14] alebo sa všeobecnou správnou žalobou (ústavnou sťažnosťou) napadá priamo všeobecne záväzné nariadenie (ii). Možno poukázať na viacero príkladov.

Pokiaľ je pôvodcom žaloby, v niektorých prípadoch podanej na civilnom súde a následne postúpenej správnemu súdu, iný subjekt než osoba uvedená v § 359 Správneho súdneho poriadku, napríklad fyzická osoba (príkladom klient zariadenia pre seniorov) alebo právnická osoba (napríklad spoločnosť s ručením obmedzeným, ktorá je subjektívne nespokojná s

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[11] Pozri napríklad uznesenie Krajského súdu v Žiline sp. zn. 30 S 102/2019 z 24. augusta 2021.

[12] Napríklad uznesenie Najvyššieho súdu SR sp. zn. 1 Svzn 7/2009 z 30. novembra 2009.

[13] Uznesenie Krajského súdu v Trnave sp. zn. 20 S 118/2017 zo 16. novembra 2017.

[14] P. Molitoris uvádza, že ak je nezákonné všeobecne záväzné nariadenie podkladom na vydanie individuálneho (s)právneho aktu, adresát takéhoto aktu má len veľmi obmedzené možnosti nápravy. Všeobecne záväzné nariadenie nemôže napadnúť žalobou, pričom ak podá prokurátorovi podnet na podanie protestu, niet garancie podania protestu. Ani v prípade podania protestu, ktorému nebolo vyhovené, neexistuje záruka, že prokurátor dotknuté všeobecne záväzné nariadenie napadne v správnom súdnictve. Rovnako obmedzené možnosti má aj správny súd, ktorý na základe všeobecnej správnej žaloby skúma individuálny (s)právny akt generovaný na základe sporného všeobecne záväzného nariadenia. Spomenutý autor *de lege ferenda* navrhuje, aby správny súd v súvislosti s podanou všeobecnou správnou žalobou mohol iniciovať konanie o súlade právnych predpisov v správnom súdnictve pribratím prokurátora a dotknutej obce za ďalších účastníkov konania v prípade, ak zistí, že žalobca namieta nezákonnosť konkrétnych ustanovení všeobecne záväzného nariadenia, ktoré boli voči nemu uplatnené cestou žalovaného individuálneho správneho aktu. Pozri MOLITORIS, P. Rozhodovacia činnosť správnych súdov v oblasti dane z nehnuteľností – aktuálne otázky. In JESENKO, M., KANTOROVÁ, M., DŽATKOVÁ, V., VOLOCHOVÁ, J. (eds.) *Verejná správa a spoločnosť. Recenzovaný zborník príspevkov z medzinárodnej vedeckej konferencie organizovanej na pôde Fakulty verejnej správy Univerzity Pavla Jozefa Šafárika v Košiciach konanej dňa 30. septembra 2022 v Košiciach.* Košice : Univerzita Pavla Jozefa Šafárika v Košiciach, Vydavateľstvo ŠafárikPress, 2022, s. 45 – 46; MOLITORIS, P. Limity súdneho prieskumu (aj) vo veciach dane z nehnuteľnosti. In LAZORÍKOVÁ, E., POPOVIČ, A., VARTAŠOVÁ, A. (eds.) *Stav a perspektívy verejných financií v EÚ. Recenzovaný zborník vedeckých prác.* Košice : Univerzita Pavla Jozefa Šafárika v Košiciach, Vydavateľstvo ŠafárikPress, 2022, s. 237, s. 240.

dopadom určitého všeobecne záväzného nariadenia), správny súd žalobu odmietne postupom podľa § 98 ods. 1 písm. e) Správneho súdneho poriadku z dôvodu, že bola podaná zjavne neoprávnenou osobou.[15] Ak totiž v osobitnom konaní podľa § 357 a nasl. Správneho súdneho poriadku nie je konštatovaný nesúlad všeobecne záväzného nariadenia s právnym predpisom, ktorý stojí v hierarchickej štruktúre právnych predpisov na vyššom mieste, je potrebné vychádzať z prezumpcie jeho zákonnosti. V konaní o všeobecnej správnej žalobe sa preto nemožno domáhať vyslovenia nesúladu všeobecne záväzného nariadenia s právnym predpisom vyššej právnej sily. Takéto závery správnych súdov aprobuje aj Ústavný súd SR.[16] Je však dobrou praxou,[17] ak správny súd neúspešného neprivilegovaného žalobcu poučí o právnych prostriedkoch obrany voči všeobecne záväznému nariadeniu, o ktorom sa žalobca domnieva, že je v rozpore s právnymi predpismi vyššej právnej sily. Má sa na mysli najmä podanie podnetu prokurátorovi smerujúceho k adresovaniu protestu voči danému normatívnemu právnemu aktu.

Ak ide o ústavné súdne konanie, sťažovateľka (obchodná spoločnosť) v konaní o individuálnej ústavnej sťažnosti napadla individuálny správny akt vydaný na základe všeobecne záväzného nariadenia, o ktorom sa domnievala, že je nezákonné. V tejto súvislosti neiniciovala konanie o súlade právnych predpisov v správnom súdnictve práve s poukazom na nedostatok aktívnej legitimácie, pričom argumentáciou predostretou v ústavnej sťažnosti usilovala o to, aby Ústavný súd testoval súlad všeobecne záväzného nariadenia s referenčnými kritériami uvedenými v ústavnej sťažnosti. Ústavný súd SR k tomu uviedol: *„Pokiaľ sťažovateľka svojou argumentáciou v ústavnej sťažnosti chcela docieliť aj posúdenie súladu dotknutého VZN s označenými právami ústavným súdom, k uvedenému ústavný súd konštatuje, že to je možné len v rámci konania o súlade všeobecne záväzných nariadení obce podľa čl. 125 ods. 1 ústavy a len základe návrhu konkrétnych aktívne legitimovaných osôb (medzi ktoré sťažovateľka nepatrí). Predmetom konania o sťažnosti fyzických osôb alebo právnických osôb podľa čl. 127 ods. 1 ústavy nemôže byť otázka posúdenia takého súladu.“*[18] Takáto ústavná sťažnosť je podľa § 56 ods. 2 písm. d) v spojení s § 132 ods. 2 zákona o Ústavnom súde SR odsúdená na odmietnutie z dôvodu neprípustnosti.

V iných prípadoch sťažovatelia napádajú ústavnou sťažnosťou priamo všeobecne záväzné nariadenie v domnienke, že jeho prijatím došlo k porušeniu ich ústavne garantovaných základných práv a slobôd.[19] Napríklad prípustnosť ústavnej sťažnosti vo veci vedenej pred Ústavným súdom SR pod sp. zn. II. ÚS 146/2020 sa sťažovateľ usiloval odôvodniť tým, že po neúspešnom podnete a opakovanom podnete o preskúmanie zákonnosti všeobecne záväzného nariadenia na prokuratúre a potom, čo jeho podnet odložila aj verejná ochrankyňa práv, vyčerpal všetky právne prostriedky, ktoré mu priznáva zákon na ochranu jeho základných práv a slobôd. Podotkol, že na súde nemôže aktívne brojiť proti všeobecne záväznému nariadeniu ako normatívnemu správnemu aktu. Takúto aktívnu legitimáciu má prokuratúra a verejný ochranca práv. Ďalší opakovaný podnet na Generálnu prokuratúru SR je podmienený uvedeným nových skutočností, ktoré nemal k dispozícii pri podaní podnetu na okresnú prokuratúru a opakovaného podnetu na krajskú prokuratúru. Ústavný súd SR sa s takouto argumentáciou nestotožnil: *„Právomoc všeobecných súdov (miestne príslušného krajského súdu v prvej inštancii a Najvyššieho súdu Slovenskej republiky v kasačnom konaní)*

[15] Napríklad uznesenie Krajského súdu v Košiciach sp. zn. 8 S 55/2019 z 05. augusta 2019.
[16] Pozri napríklad uznesenie Ústavného súdu SR sp. zn. IV. ÚS 449/2021 z 21. septembra 2021.
[17] Pozri napríklad uznesenie Krajského súdu v Košiciach sp. zn. 8 S 55/2019 z 05. augusta 2019.
[18] Uznesenie Ústavného súdu SR sp. zn. IV. ÚS 158/2021 zo 16. marca 2021.
[19] Napríklad uznesenia Ústavného súdu SR sp. zn. I. ÚS 572/2015 zo 16. decembra 2015, sp. zn. I. ÚS 63/2016 z 03. februára 2016, sp. zn. I. ÚS 347/2018 z 25. septembra 2018.

rozhodovať na základe žaloby miestne príslušného prokurátora o súlade všeobecne záväzného nariadenia obce vo veciach územnej samosprávy so zákonmi a o súlade všeobecne záväzného nariadenia obce vo veciach plnenia úloh štátnej správy nielen so zákonmi, ale aj s nariadeniami vlády a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy, resp. aj na základe žaloby zainteresovanej verejnosti, v okolnostiach posudzovanej veci vylučuje právomoc ústavného súdu rozhodnúť o tejto ústavnej sťažnosti, ktorá smeruje proti napadnutému VZN obce.“[20] Predmetná ústavná sťažnosť bola odmietnutá s poukazom na § 56 ods. 2 písm. a) zákona o Ústavnom súde SR pre nedostatok právomoci na prerokovanie. Z čl. 127 ods. 2 Ústavy SR totiž vyplýva, že k porušeniu základných práv a slobôd sťažovateľa môže dôjsť iba právoplatným rozhodnutím, opatrením alebo iným zásahom, teda individuálnymi právnymi aktmi, medzi ktoré nemožno zaradiť všeobecne záväzné nariadenia, ktoré, ak sú vydané, či už podľa čl. 68 Ústavy SR, alebo čl. 71 Ústavy SR, sú normatívnymi právnymi aktmi a Ústavný súd SR v konaní podľa čl. 127 ods. 1 Ústavy SR ani nie je oprávnený rozhodovať o porušení základných práv fyzických osôb a právnických osôb normatívnymi právnymi aktmi.[21]

Žalovaným je v konaní o súlade právnych predpisov s poukazom na § 360 Správneho súdneho poriadku obec, mesto, mestská časť alebo samosprávny kraj, ktorého zastupiteľstvo prijalo napadnuté všeobecne záväzné nariadenie.

Iný subjekt než žalovaný uvedený v § 360 Správneho súdneho poriadku nemá pasívnu žalobnú legitimáciu. Ojedinele sa vyskytujú prípady, ak žalobca, ktorému tiež často nesvedčí aktívna žalobná legitimácia, žaluje iný, od jednotky územnej samosprávy odlišný subjekt. To, prirodzene, vedie k procesnému neúspechu. Príkladom z aplikačnej praxe môže byť žaloba z pera klienta zariadenia pre seniorov podaná voči zariadeniu pre seniorov, o ktorom sa daný žalobca domnieval, že malo určitý podiel na schválení napádaného všeobecne záväzného nariadenia.[22]

Identifikácia účastníctva v konaní o súlade všeobecne záväzných nariadení v správnom súdnictve je obsahom § 358 Správneho súdneho poriadku. Účastníkmi konania sú výlučne žalobca a žalovaný. Ak je žalobcom zainteresovaná verejnosť, existuje možnosť vstupu prokurátora do tohto konania (§ 46 a § 358 Správneho súdneho poriadku veta za bodkočiarkou). Prokurátor bude mať po vstupe do konania postavenie ďalšieho účastníka konania v zmysle § 32 ods. 3 písm. c) Správneho súdneho poriadku.[23]

3 POSTUP V KONANÍ

Správny súdny prieskum všeobecne záväzných nariadení je ovládaný bezvýnimočne dispozičnou zásadou. Začína sa na základe žaloby. Keďže žaloba je podaním, žiada sa v nej uviesť všeobecné náležitosti podania podľa § 57 Správneho súdneho poriadku. Je potrebné vymedziť, ktorému správnemu súdu je určená, kto ju robí, ktorej veci sa týka, čo sa ňou sleduje, pričom musí obsahovať aj podpis žalobcu.

V § 361 Správneho súdneho poriadku sú uvedené osobitné náležitosti, ktoré žaloba obsahuje popri všeobecných náležitostiach podania. Popri všeobecných náležitostiach musí žalobne legitimovaný subjekt v žalobe uviesť (i) označenie druhu žaloby, (ii) označenie žalovaného,

[20] Uznesenie Ústavného súdu SR sp. zn. II. ÚS 146/2020 z 15. apríla 2020.
[21] Pozri napríklad uznesenia Ústavného súdu SR sp. zn. IV. ÚS 446/2012 z 28. augusta 2012, sp. zn. I. ÚS 63/2016 z 03. februára 2016, sp. zn. I. ÚS 347/2018 z 25. septembra 2018.
[22] Pozri uznesenie Krajského súdu v Trenčíne sp. zn. 13 S 45/2016 z 05. decembra 2016.
[23] FEČÍK, M. Komentár k § 358 až § 360 Správneho súdneho poriadku. In BARICOVÁ, J., FEČÍK, M., ŠTEVČEK, M., FILOVÁ, A. a kol. *Správny súdny poriadok. Komentár.* Bratislava : C. H. Beck, 2018, s. 1427.

(iii) označenie napadnutého všeobecne záväzného nariadenia a deň jeho prijatia, (iv) uvedenie ustanovenia zákona alebo iného všeobecne záväzného právneho predpisu, s ktorým by malo byť všeobecne záväzné nariadenie alebo jeho ustanovenie v nesúlade, (v) žalobné body, (vi) označenie dôkazov, ak sa ich žalobca dovoláva a (vii) žalobný návrh.

Po kognícii výsledkov rozhodovacej praxe v správnom súdnictve možno v súvislosti s osobitnými náležitosťami žaloby identifikovať niekoľko zaujímavých momentov.

Pokiaľ ide o uvedenie ustanovenia zákona alebo iného všeobecne záväzného právneho predpisu, ktorému by sa malo všeobecne záväzné nariadenie, jeho časť alebo jeho niektoré ustanovenie priečiť, nepostačí, ak sa žalobca obmedzí len na tvrdenie, že všeobecne záväzné nariadenie je v rozpore s § 6 ods. 1 zákona o obecnom zriadení (§ 8 ods. 1 zákona o samosprávnych krajoch). Toto ustanovenie je všeobecnou klauzulou a ustanovuje, že originárne všeobecne záväzné nariadenia nesmú byť v rozpore s Ústavou SR, ústavnými zákonmi, zákonmi a medzinárodnými zmluvami, s ktorými vyslovila súhlas NR SR a ktoré boli ratifikované a vyhlásené spôsobom ustanoveným zákonom (v prípade prvotných všeobecne záväzných nariadení samosprávnych krajov aj s aproximačnými nariadeniami vlády SR). V takom prípade totiž v argumentácii žalobcu chýba uvedenie podstatnej skutočnosti, a to, s ktorým konkrétnym ustanovením všeobecne záväzného právneho predpisu je namietané všeobecne záväzné nariadenie v rozpore. Bez takejto konkretizácie totiž nie je možné usudzovať, či je predmetné všeobecne záväzné nariadenie, jeho časť, respektíve jeho ustanovenie, súladné so všeobecne záväzným právnym predpisom, ktorým je § 6 ods. 1 zákona o obecnom zriadení alebo § 8 ods. 1 zákona o samosprávnych krajoch. Zjednodušene povedané, zo strany žalobcu sa jedná o nedokončený argument, ktorý bez spomenutého konkrétneho označenia ustanovenia zákona nedáva zmysel, pretože žalobca neobjasní, ktorému všeobecne záväznému právnemu predpisu všeobecne záväzné nariadenie odporuje a teda nie je zrejmé, prečo nie je v súlade so všeobecnou klauzulou ustanovenou v § 6 ods. 1 zákona o obecnom zriadení (§ 8 ods. 1 zákona o samosprávnych krajoch).[24] Takto konštruovaná žaloba teda býva zamietnutá. Platí, že avizované závery možno primerane použiť aj na formuláciu žalobných petitov vo veciach derivatívnych všeobecne záväzných nariadení vydávaných podľa čl. 71 ods. 2 Ústavy SR, § 6 ods. 2 zákona o obecnom zriadení a § 8 ods. 2 zákona o samosprávnych krajoch. Nie je potom zrejme konformná ani súdna prax,[25] ktorá sa v niektorých prípadoch obmedzí výlučne na vyslovenie nesúladu všeobecne záväzného nariadenia so všeobecnou klauzulou obsiahnutou v § 6 ods. 1 alebo § 6 ods. 2 zákona o obecnom zriadení, respektíve v § 8 ods. 1 alebo § 8 ods. 2 zákona o samosprávnych krajoch.

Hranice prieskumu vymedzuje pre správny súd § 134 ods. 1 Správneho súdneho poriadku, podľa ktorého *(in fine)* je správny súd viazaný žalobnými bodmi, ak ďalej nie je ustanovené inak. Rozsahom a dôvodmi žaloby nie je správny súd viazaný len vo veciach taxatívne stanovených v § 134 ods. 2 Správneho súdneho poriadku. Konanie o preskúmanie súladu všeobecne záväzného nariadenia s právnym predpisom vyššej právnej sily podľa § 357 a nasl. Správneho súdneho poriadku nepatrí ku konaniam, v ktorých zákonodarca stanovil výnimku z viazanosti rozsahom a dôvodmi žaloby.[26]

V súvislosti s formulovaním žalobného návrhu (petitu) súdna prax dovodila, že nie je postačujúce, ak žalobca uvedie rozsah, v akom všeobecne záväzné nariadenie napáda a

[24] Uznesenie Najvyššieho správneho súdu SR sp. zn. 2 Svk 20/2021 z 28. septembra 2022.
[25] Napríklad rozsudky Krajského súdu v Trenčíne sp. zn. 13 S 48/2013 z 27. novembra 2013, sp. zn. 13 S 49/2013 z 27. novembra 2013, sp. zn. 13 S 184/2014 z 25. mája 2016 alebo rozsudok Krajského súdu v Bratislave sp. zn. 1 S 275/2013 z 15. januára 2015.
[26] Uznesenie Krajského súdu v Žiline sp. zn. 30 S 135/2018 zo 16. júla 2019.

konkrétne ustanovenie právneho predpisu, s ktorým je toto všeobecne záväzné nariadenie v rozpore, len v odôvodnení žaloby – v rámci žalobných bodov. Správny súd je pri preskúmavaní súladu všeobecne záväzného nariadenia so zákonom viazaný návrhom žalobcu, a preto návrh výroku nemôže formulovať len mimo rámca návrhu uznesenia.[27] Ak žaloba obsahuje žalobný návrh, ale nesprávne formulovaný (žalobca sa napríklad domáha zrušenia všeobecne záväzného nariadenia, čo nie je v správnom súdnictve možné), nie je možné postupovať podľa § 59 ods. 1 Správneho súdneho poriadku, t. j. vyzývať žalobcu na opravu, respektíve doplnenie žaloby, nakoľko nie je splnená zákonná premisa citovaného ustanovenia. V takom prípade totiž žaloba má náležitosť, ktorú vyžaduje § 361 ods. 1 písm. g) Správneho súdneho poriadku, teda je z nej zrejmé, čoho sa žalobca domáha. Správny súd pritom nemá vo vzťahu k žalobcovi zákonnú poučovaciu (manudukčnú) povinnosť.[28] Podľa § 26 ods. 1 Správneho súdneho poriadku totiž platí: *„Správny súd poskytuje účastníkom konania poučenie o ich procesných právach a povinnostiach. Túto povinnosť nemá, ak je účastník konania zastúpený advokátom alebo ak má účastník konania, jeho zamestnanec alebo člen, ktorý za neho koná alebo ho zastupuje, vysokoškolské právnické vzdelanie druhého stupňa.“*

Zákonodarca v § 361 ods. 2 Správneho súdneho poriadku ustanovuje povinné prílohy žaloby. K žalobe musí byť pripojené napadnuté všeobecne záväzné nariadenie a k žalobe prokurátora aj oznámenie žalobcu o nevyhovení protestu. Táto dokumentácia musí byť obligatórnou súčasťou administratívneho spisu.

V priebehu konania môže správny súd dočasne pozastaviť účinnosť právneho predpisu podrobovaného abstraktnej kontrole (§ 362 Správneho súdneho poriadku). Uplatnenie tejto právomoci je podmienené návrhom žalobcu, správny súd nemôže konať *ex offo*. V tomto zmysle môže správny súd rozhodovacou formou uznesenia na návrh žalobcu dočasne pozastaviť účinnosť všeobecne záväzného nariadenia, jeho časti alebo niektorého jeho ustanovenia zo zákonom ustanoveného dôvodu, t. j., ak ich ďalšie uplatňovanie môže ohroziť základné práva a slobody, ak hrozí značná hospodárska škoda alebo závažná ujma na životnom prostredí, prípadne iný vážny nenapraviteľný následok (§ 362 ods. 1 Správneho súdneho poriadku). Ak správny súd predloženému návrhu nevyhovie, uznesením ho zamietne. Správny súd uznesenie o dočasnom pozastavení účinnosti zruší, ak odpadnú dôvody, pre ktoré bolo vydané. Inak dočasné pozastavenie účinnosti zaniká nadobudnutím právoplatnosti rozhodnutia správneho súdu vo veci samej. Je teda zrejmé, že dočasná suspenzia účinnosti všeobecne záväzného nariadenia predstavuje inštitút svojou povahou dočasného, časovo obmedzeného charakteru.

V § 363 ods. 1 Správneho súdneho poriadku je zakotvená povinnosť žalovaného predložiť správnemu súdu vyjadrenie k žalobe. Predkladanie predmetného vyjadrenia sa koncipuje ako povinnosť, ktorá je podmienená výzvou správneho súdu. Vyjadrenie sa predkladá v lehote, ktorú žalovanému určí správny súd. Obsah avizovaného vyjadrenia môže smerovať k podpore podanej žaloby alebo k prejaveniu nesúhlasu s ňou. Ak totiž zastupiteľstvo jednotky územnej samosprávy prijme všeobecne záväzné nariadenie v rozpore s názorom podávateľa vyjadrenia (napríklad starostu obce), je logické, že obsahom vyjadrenia bude argumentačné úsilie smerujúce k vysloveniu nesúladu napadnutej právnej normy. V časovom slede predchádzajúcom podaniu žaloby a podaniu vyjadrenia sa totiž frekventovane stáva, že pôvodca vyjadrenia navrhne príslušnému zastupiteľstvu vyhovieť protestu prokurátora podanému voči všeobecne záváznému nariadeniu. To sa často nestretne s úspechom, z čoho následne, po podaní žaloby, pramení stotožnenie so žalobnými bodmi. V praxi však nie je

[27] Pozri rozsudok Najvyššieho súdu SR sp. zn. 5 Svzn 1/2015 z 29. novembra 2016 a uznesenie Krajského súdu v Žiline sp. zn. 30 S 112/2019 zo 07. apríla 2020.
[28] Pozri uznesenie Krajského súdu v Žiline sp. zn. 30 S 112/2019 zo 07. apríla 2020.

výnimkou ani prípad, keď žalovaný, nestotožniac sa s dôvodmi žaloby, vo vyjadrení neuvedie relevantné argumenty smerujúce k nevyhoveniu žalobe. Obsahom vyjadrenia je v takom prípade len citovanie relevantných zákonných ustanovení a zotrvanie na obsahu napadnutého všeobecne záväzného nariadenia. Nie je však prekvapením, že takáto taktika procesnej obrany prináša vyhliadku na procesný neúspech žalovaného.

K vyjadreniu žalovaného si správny súd môže podľa § 106 Správneho súdneho poriadku vyžiadať repliku žalobcu. V praxi sa to aj deje. Podanie repliky je procesným oprávnením žalobcu. Žalobca v niektorých prípadoch repliku podá, kým v iných prípadoch ostane pasívny a avizované oprávnenie nevyužije. Pokiaľ sa žalobca vyjadrí k vyjadreniu žalovanému, v záujme dodržania požiadavky rovnosti zbraní je vhodné, aby správny súd umožnil žalovanému reagovať v podobe dupliky.

Správny súd môže vo veci samej rozhodnúť bez nariadenia pojednávania. Nariadenie pojednávania však nie je vylúčené. Pôjde najmä o prípady, ak o nariadenie pojednávania s poukazom na § 107 ods. 1 písm. a) Správneho súdneho poriadku požiada aspoň jeden z účastníkov konania. Na pojednávaní sa zisťujú okolnosti týkajúce sa prejednávanej veci, napríklad, či nedošlo k zrušeniu napadnutého všeobecne záväzného nariadenia, v dôsledku čoho by bolo namieste zastavenie konania postupom podľa § 365 Správneho súdneho poriadku. Správny súd môže tiež zisťovať, či žalovaný nerealizuje kasačný proces smerujúci k zrušeniu dotknutého normatívneho správneho aktu, a teda či nie je namieste prerušenie konania podľa § 100 ods. 2 písm. a) Správneho súdneho poriadku z dôvodu prebiehajúceho administratívneho konania, v ktorom sa rieši otázka, ktorá môže mať význam pre rozhodnutie správneho súdu.

Je možné, aby správny súd na pojednávaní vyzval žalobcu k vykonaniu určitých doplnení alebo spresnení, napríklad v prípade, ak sa časť žaloby z dôvodu zmeny právnej úpravy stane obsolétnou. Z povahy veci totiž vyplýva, že v tomto type konania je pre správny súd rozhodujúci stav v čase vyhlásenia alebo vydania jeho rozhodnutia. Táto premisa vyplýva najskôr z § 365 Správneho súdneho poriadku, podľa ktorého správny súd môže uznesením konanie zastaviť, ak došlo k autoremedúre, a to bez ohľadu na to, či žalobca zoberie svoj návrh späť. Keďže sa jedná o preskúmanie normatívneho správneho aktu, nie je vylúčené, že zákonodarná moc zasiahne do zákonnosti všeobecne záväzného nariadenia tak, že sa stane nezákonným po podaní žaloby, alebo tak, že napádaná časť všeobecne záväzného nariadenia už nebude v rozpore s namietaným ustanovením zákona. Vychádzajúc zo zmyslu § 367 ods. 3 Správneho súdneho poriadku, ktorým je uvedenie všeobecne záväzného nariadenia do súladu so zákonom (prípadne aj s iným právnym predpisom) s tým, že pokiaľ nebude zosúladené, stratí platnosť, je zrejmé, že by bolo v rozpore so zmyslom daného ustanovenia zosúlaďovať preskúmavané všeobecne záväzné nariadenie s neaktuálnym právnym predpisom. Z uvedeného dôvodu je potrebné skúmať súlad všeobecne záväzného nariadenia vychádzajúc z aktuálneho právneho stavu. V takýchto situáciách má žalobca, keďže podľa § 5 písm. c) zákona chráni verejný záujem, možnosť disponovať so žalobným návrhom podľa objektívneho legislatívneho právneho stavu. Nemožno sa teda stotožniť s právnym názorom, podľa ktorého medzitýmna zmena niektorých častí všeobecne záväzného nariadenia nemá byť pre správny súd relevantná, keďže nič nemení na skutočnosti, že žaloba bola v čase jej podania dôvodná.[29]

Informácie relevantné pre rozhodnutie vo veci samej získava správny súd popri zisteniach osvojených na pojednávaní najmä aj z obsahu administratívneho spisu. Ide napríklad

[29] Pozri uznesenie Krajského súdu v Žiline sp. zn. 30 S 135/2018 zo 16. júla 2019 a uznesenie Krajského súdu v Košiciach sp. zn. 3 Sa 3/2017 z 24. júna 2020.

o poznatky súvisiace s procesom prijímania dotknutého všeobecne záväzného nariadenia, ktoré môže správny súd získať z uznesenia alebo zo zápisnice zo zasadnutia toho-ktorého zastupiteľstva (obce, samosprávneho kraja), v ktorom (ktorej) je objektivizované nevyhovenie protestu prokurátora. Súčasťou spisu môžu byť aj ďalšie dokumenty súvisiace s napadnutým všeobecne záväzným nariadením, napríklad stanoviská iných orgánov verejnej moci zohľadnené pri jeho prijímaní.

Správny súd nevyhľadáva také dôvody nezákonnosti všeobecne záväzného nariadenia, ktoré žalobca neuvedie. Dispozičné právo so žalobným návrhom a bodmi žaloby má totiž žalobca. Ak teda žaloba neobsahuje dôvody nezákonnosti určitej časti napadnutého právneho predpisu, správny súd žalobu v tomto rozsahu zamietne. Správnemu súdu totiž neprináleží nahrádzať aktivitu žalobcu a dopĺňať zdôvodnenie žaloby vlastnými úvahami. Takýmto postupom by konal v príkrom rozpore s princípom rovnosti účastníkov správneho súdneho konania. Správny súd je viazaný žalobným návrhom čo do rozsahu namietaného nesúladu všeobecne záväzného nariadenia, aj čo do žalobcom označeného ustanovenia právneho predpisu, s ktorým má byť všeobecne záväzné nariadenie v rozpore.[30] Nejaví sa preto správny prístup, kedy správne súdy usilujú o identifikáciu dôvodov nezákonnosti napadnutého právneho predpisu nad rámec žaloby a v tomto smere vykonávajú dokazovanie. Takto v podstate z vlastnej iniciatívy rozširujú žalobné body, čo sa prieči ideovému zameraniu (poslaniu) správneho súdnictva. Nemožno sa stotožniť napríklad s názorom Krajského súdu v Bratislave vyslovenom v uznesení sp. zn. 6 S 156/2017 zo 07. júna 2018: *„V rámci súdneho prieskumu, správny súd do svojho rozhodnutia transformoval „plnú jurisdikciu“ ako atribút práva na spravodlivý proces, v zmysle ktorej súd pri svojom rozhodovaní nemusí byť obmedzený v skutkových otázkach len tým, čo vo veci zistil žalobca. Súd teda celkom samostatne a nezávisle hodnotí správnosť a úplnosť úkonov žalovaného. V danom prípade súd skúmal pochybenia žalovaného v rámci celého procesu konania o návrhu VZN (...).“*

Podľa § 363 ods. 2 Správneho súdneho poriadku ak má správny súd za to, že došlo k stretu záujmov medzi štatutárnym orgánom žalovaného a zastupiteľstvom, vyžiada si vyjadrenie k žalobe aj od zastupiteľstva (obce, samosprávneho kraja). Výzve správneho súdu je zastupiteľstvo povinné vyhovieť do dvoch mesiacov. Vyjadrenie podáva zastupiteľstvo písomne, v podobe prijatého uznesenia. V praxi však nie je vylúčené ani to, aby príslušné zastupiteľstvo podalo vyjadrenie k žalobe bez toho, aby si ho na podklade § 363 ods. 2 Správneho súdneho poriadku vyžiadal správny súd.

Po začatí konania nemôže zastupiteľstvo (obce, samosprávneho kraja) zmariť účel konania pred správnym súdom tým, že by napadnuté všeobecne záväzné nariadenie zrušilo a nahradilo novým všeobecne záväzným nariadením s rovnakým obsahom v tom rozsahu, v akom bol jeho nesúlad namietaný žalobcom (§ 364 Správneho súdneho poriadku). Je evidentné, že významové posolstvo tohto ustanovenia, ktoré nebolo obsahom pôvodnej právnej úpravy obsiahnutej v § 250zfa Správneho súdneho poriadku, smeruje k eliminácii snahy o obchádzanie účelu konania o súlade právnych predpisov tým, že právny predpis podrobovaný justičnej kontrole bude jeho pôvodcom zrušený a nahradený materiálne totožným normatívnym správnym aktom.

Ustanovenie § 364 Správneho súdneho poriadku nedopadá na prípady, ak zastupiteľstvo jednotky územnej samosprávy napadnuté všeobecne záväzné nariadenie zruší a nahradí ho novým právnym predpisom, ktorý nemá v žalobou namietanej časti rovnaký obsah. V takom prípade je potrebné konanie o súlade právnych predpisov podľa § 365 Správneho súdneho poriadku zastaviť.

[30] Pozri uznesenie Krajského súdu v Žiline sp. zn. 30 S 135/2018 zo 16. júla 2019.

4 ROZHODNUTIA V KONANÍ, TROVY KONANIA A OPRAVNÝ PROSTRIEDOK

V konaní môže správny súd vo veci samej rozhodnúť trojakým spôsobom:

1) s poukazom na § 365 Správneho súdneho poriadku konanie zastaviť,
2) žalobu zamietnuť (§ 366 Správneho súdneho poriadku) alebo
3) žalobe vyhovieť (§ 367 Správneho súdneho poriadku)

Ad 1)

Podľa § 365 Správneho súdneho poriadku správny súd konanie po vyjadrení žalobcu uznesením zastaví, ak žalovaný po podaní žaloby zrušil napadnuté všeobecne záväzné nariadenie, jeho namietanú časť alebo niektoré jeho namietané ustanovenie. Správny súd nadobudne vedomosť o zrušení napadnutého právneho predpisu najmä z vyjadrenia žalovaného. Nie je však vylúčené, že žalovaný, v podobe úradného listu, oznámi správnemu súdu avizovanú skutočnosť ešte pred výzvou na podanie vyjadrenia.

Pokiaľ ide o súhlas (vyjadrenie) žalobcu so zastavením konania, ten sa často objektivizuje v replike. Je však tiež možné, aby príslušné zastupiteľstvo informovalo žalobcu o zrušení dotknutého všeobecne záväzného nariadenia úradnou písomnosťou vopred. V takom prípade môže žalobca postupovať podľa § 63 Správneho súdneho poriadku, teda aktivizovať svoje dispozičné oprávnenie a žalobu vziať späť.

Ad 2)

Ak správny súd po preskúmaní zistí, že žaloba nie je dôvodná, podľa § 366 Správneho súdneho poriadku ju uznesením zamietne.

Nedôvodnosť žaloby je daná najmä v prípadoch, ak správny súd z nazhromaždených poznatkov zistí, že napadnuté všeobecne záväzné nariadenie neodporuje zákonu, prípadne inému, v žalobe uvedenému referenčnému kritériu.

Hoci súdna prax[31] prináša i nezákonné prípady zrušenia všeobecne záväzného nariadenia, správne súdy nie sú *de lege lata* nadané oprávnením rušiť právne predpisy. Pokiaľ totiž správny súd zistí dôvodnosť žaloby, je povinný postupovať podľa § 367 Správneho súdneho poriadku. V tomto ustanovení je uvedené, že nesúladné všeobecne záväzné nariadenie nie je v dôsledku rozhodnutia správneho súdu zrušené, ale stráca účinnosť, pričom ak nie je procesne predpísaným spôsobom upravené do súladu s právnym predpisom vyššej právnej sily, stráca aj platnosť. Ak sa preto žalobca v petite žaloby domáha zrušenia právneho predpisu, v konaní pred správnym súdom neobstojí. Krajský súd v Žiline[32] k tomu uviedol

[31] Napríklad rozsudky Krajského súdu v Bratislave sp. zn. 1 S 143/2010 z 28. júla 2011, sp. zn. 3 S 196/2011 z 24. apríla 2012, sp. zn. 4 S 89/2011 zo dňa 19. apríla 2013. K tomu porovnaj tiež ČIERNIKOVÁ, Z. K problematike všeobecne záväzných nariadení obcí a miest. In *Míľniky práva v stredoeurópskom priestore 2013. I. časť. Zborník z medzinárodnej vedeckej konferencie doktorandov a mladých vedeckých pracovníkov organizovanej Univerzitou Komenského v Bratislave, Právnickou fakultou, v dňoch 21. – 23. 3. 2013 v priestoroch ÚZ NR SR Častá-Papiernička pod záštitou dekana Univerzity Komenského v Bratislave, Právnickej fakulty, prof. JUDr. Pavla Kubíčka, CSc.* Bratislava : Univerzita Komenského v Bratislave, Právnická fakulta, 2013, s. 600.
[32] Uznesenie Krajského súdu v Žiline sp. zn. 30 S 112/2019 zo 07. apríla 2020.

pomerne inštruktívnu pasáž, ktorá je na tomto mieste v záujme vyhýbania sa nedostatkov v procese formulácie petitov odcitovaná celá:

„Správny súdny poriadok striktne rozlišuje a pojmovo vymedzuje v ust. § 6 ods. 1 SSP jednotlivé predmety prieskumu v správnom súdnictve a spája s nimi odlišné procesné prostriedky právnej ochrany (§ 6 ods. 2 SSP). Žalobca je vždy povinný zvoliť žalobný typ vymedzený v Správnom súdnom poriadku a nemôže jednotlivé žalobné typy navzájom zamieňať alebo v žalobe spájať. To všetko je odôvodňované najmä skutočnosťou, že jednotlivým žalobným typom zodpovedajú v Správnom súdnom poriadku relatívne samostatné procesné inštitúty, ktoré sa líšia čo do stanovenia počiatku behu lehôt k uplatneniu žaloby, ich náležitostí, úpravy aktívnej a pasívnej legitimácie, úpravy toho, k akému dátumu sa zisťuje skutkový a právny stav. Zákonodarca pri koncipovaní striktnej úpravy jednotlivých procesných inštitútov ochrany v Správnom súdnom poriadku si bol vedomý, že by bolo mimoriadne zložité viesť súdne konanie o jednej a tej istej žalobe tak, aby bolo možné na konci súdneho konania rozhodnúť v súlade s požiadavkami ktorejkoľvek z procesných úprav pripadajúcimi hypoteticky do úvahy.

Správny súdny poriadok upravuje súdny prieskum všeobecne záväzných predpisov v štvrtej časti štvrtej hlavy, v piatom oddiele - konanie vo veciach územnej samosprávy - konanie o súlade všeobecne záväzného nariadenia obce, mesta, mestskej časti alebo samosprávneho kraja so zákonom, nariadením vlády a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy. Toto konanie je špeciálnym - osobitným konaním v zmysle štvrtej časti SSP spravujúcim sa osobitnou právnou úpravou, najmä čo do definície aktívnej aj pasívnej legitimácie, špecifických náležitostí žaloby a spôsobu, akým môže správny súd vo veci rozhodnúť, ktorému musí súčasne zodpovedať aj formulácia rozsudočného návrhu.[33]

Správny súd v konaní o súlade všeobecne záväzného nariadenia mesta so zákonom (v zmysle § 357 a nasl. SSP) môže, ako je zrejmé z citovaného ust. § 365 a nasl. SSP, rozhodnúť len tak, že:

Ad A) uznesením konanie zastaví, ak žalovaný po podaní žaloby zrušil napadnuté všeobecne záväzné nariadenie, jeho namietanú časť alebo niektoré jeho namietané ustanovenie (§ 365),

Ad B) uznesením žalobu zamietne, ak nie je dôvodná (§ 366),

Ad C) uznesením vysloví nesúlad všeobecne záväzného nariadenia, jeho časti alebo niektorého jeho ustanovenia, ak po jeho preskúmaní zistí dôvodnosť žaloby, pričom vo výroku uvedie žalovaného, označenie a deň prijatia všeobecne záväzného nariadenia, skutočnosť, či vyslovuje nesúlad celého všeobecne záväzného nariadenia, jeho časti alebo niektorého jeho ustanovenia a ustanovenie zákona alebo iného všeobecne záväzného právneho predpisu, s ktorým nie je všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie v súlade (§ 367 ods. 1).

Pokiaľ správny súd zistí dôvodnosť žaloby (Ad C), v takom prípade dňom nadobudnutia právoplatnosti jeho rozhodnutia stráca všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie účinnosť (§ 367 ods. 2 SSP). Obec, mesto, resp. mestská časť alebo samosprávny kraj, ktoré vydali všeobecne záväzné nariadenie, sú potom povinné do šiestich

[33] Presnejšie „návrhu uznesenia“.

mesiacov od nadobudnutia právoplatnosti rozhodnutia správneho súdu uviesť všeobecne záväzné nariadenie vydané vo veciach územnej samosprávy do súladu so zákonom a vo veciach plnenia úloh štátnej správy do súladu so zákonom, nariadením vlády a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy; inak všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie po šiestich mesiacoch od nadobudnutia právoplatnosti rozhodnutia správneho súdu strácajú platnosť (§ 367 ods. 3 SSP).

Správny súd považuje za potrebné zdôrazniť, že nemôže o žalobe žalobcu v konaní o súlade VZN obce, mesta, mestskej časti alebo samosprávneho kraja so zákonom, nariadením vlády a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy (§ 357 a nasl. SSP) rozhodnúť iným než zákonodarcom predpísaným spôsobom v citovaných ustanoveniach § 365, § 366 a § 367 SSP.

Žalobca sa striktnou právnou úpravou definujúcou osobitný zákonný inštitút - konanie o súlade VZN obce, mesta, mestskej časti alebo samosprávneho konania so zákonom, nariadením vlády a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy, neriadil, keď formuloval žalobný návrh (žiada zrušiť VZN 49/2006) tak, že tento nereflektuje na zákonodarcom stanovený spôsob, akým správny súd môže o žalobe žalobcu v tomto osobitnom konaní rozhodnúť. Riadna formulácia žalobného návrhu pre konanie podľa piateho dielu štvrtej hlavy štvrtej časti SSP predpokladá:

1) označenie žalovaného,
2) označenie a deň prijatia VZN,
3) skutočnosť, či sa vyslovuje nesúlad celého VZN, jeho časti alebo len niektorého jeho ustanovenia a označenie konkrétneho ustanovenia zákona alebo iného všeobecne záväzného právneho predpisu, s ktorým nie je VZN, resp. jeho časť alebo niektoré ustanovenie v súlade.

Vyššie označeným požiadavkám na formuláciu rozsudočného návrhu,[34] ktoré možno vyvodiť z citovaného ust. § 367 ods. 1 v spojení s citovaným ust. § 357 ods. 1 SSP, žalobný návrh žalobcu nezodpovedá, preto správny súd musel žalobu ako nedôvodnú zamietnuť za primeranej aplikácie citovaného ust. § 366 SSP."

Ad 3)

Ak správny súd po preskúmaní zistí dôvodnosť žaloby, uznesením vysloví nesúlad všeobecne záväzného nariadenia, jeho časti alebo niektorého jeho ustanovenia. Správny súdny poriadok v § 367 ustanovuje náležitosti výroku. Súd vo výroku uvedie (i) označenie žalovaného, (ii) označenie a deň prijatia všeobecne záväzného nariadenia, (iii) skutočnosť, či vyslovuje nesúlad celého všeobecne záväzného nariadenia, jeho časti alebo niektorého jeho ustanovenia a (iv) ustanovenie zákona alebo iného všeobecného právneho predpisu, s ktorým nie je všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie v súlade.

Dňom nadobudnutia právoplatnosti rozhodnutia správneho súdu stráca všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie účinnosť (§ 367 ods. 2 Správneho súdneho poriadku). Takéto všeobecne záväzné nariadenie je teda naďalej súčasťou právneho poriadku, nemožno ho však aplikovať vo vzťahu k adresátom verejno-mocenskej regulácie.

[34] Detto.

Obec, mesto, mestská časť alebo samosprávny kraj, ktoré vydali všeobecne záväzné nariadenie, sú povinné do šiestich mesiacov od nadobudnutia právoplatnosti rozhodnutia správneho súdu uviesť všeobecne záväzné nariadenie vydané vo veciach územnej samosprávy do súladu so zákonom a vo veciach plnenia úloh štátnej správy do súladu so zákonom, nariadením vlády SR a všeobecne záväznými právnymi predpismi ministerstiev a ostatných ústredných orgánov štátnej správy; inak všeobecne záväzné nariadenie, jeho časť alebo niektoré jeho ustanovenie po šiestich mesiacoch od nadobudnutia právoplatnosti rozhodnutia správneho súdu strácajú platnosť (§ 367 ods. 3 Správneho súdneho poriadku).[35]

Uznesenie v konaní o súlade právnych predpisov vydané v merite veci správny súd vyhlási verejne, ak bolo vydané na pojednávaní vo veci samej alebo pri inom úkone súdu (§ 148 ods. 1 Správneho súdneho poriadku). Ak správny súd koná a rozhoduje bez nariadenia pojednávania, termín verejného vyhlásenia uznesenia oznámi primerane podľa § 137 ods. 4 Správneho súdneho poriadku na úradnej tabuli správneho súdu a na jeho webovej stránke v zákonnej lehote – najmenej päť dní pred jeho vyhlásením. Pokiaľ sa na verejné vyhlásenie rozhodnutia nedostaví nikto z účastníkov konania, správny súd rozhodnutie vyhlási vyvesením jeho skráteného písomného vyhotovenia bez odôvodnenia na úradnú tabuľu súdu po dobu 14 dní; deň vyhlásenia sa poznamená na písomnom vyhotovení (§ 137 ods. 3 Správneho súdneho poriadku).

Pokiaľ ide o náhradu trov konania, správny súd obvykle rozhodne podľa § 170 písm. c) Správneho súdneho poriadku tak, že žiaden z účastníkov konania nemá právo na náhradu trov konania, pretože konanie bolo začaté na základe žaloby prokurátora. Nie je zrejme formálne správny postup, ak správny súd neprizná neúspešnému prokurátorovi náhradu trov konania podľa § 168 Správneho súdneho poriadku z dôvodu procesného neúspechu. Rovnako tak nezodpovedná účinnej právnej úprave, ak správny súd pri zamietnutí žaloby prokurátora prizná žalovanému náhradu trov konania, pričom s poukazom na § 175 ods. 1 Správneho súdneho poriadku dodá, že o výške náhrady trov konania rozhodne správny súd po právoplatnosti rozhodnutia, ktorým sa konanie končí, samostatným uznesením, ktoré vydá súdny úradník.[36] Naopak, pokiaľ v pozícii žalobcu vystupovala zainteresovaná verejnosť, správny súd v zásade prizná žalobcovi voči žalovanému právo na úplnú alebo čiastočnú náhradu dôvodne vynaložených trov konania, ak mal žalobca vo veci celkom alebo sčasti úspech (§ 167 ods. 1 Správneho súdneho poriadku). Žiaden z účastníkov konania nemá právo na náhradu trov konania s poukazom na § 170 písm. a) Správneho súdneho poriadku ani v prípade, ak správny súd žalobu odmietne, napríklad z dôvodu, že konanie bolo začaté na základe žaloby podanej zjavne neoprávnenou osobou. Náhrada trov konania nie je podľa § 170 písm. b) Správneho súdneho poriadku možná ani v prípade zastavenia konania, napríklad pre zrušenie napadnutého všeobecne záväzného nariadenia, jeho namietanej časti alebo niektorého jeho namietaného ustanovenia (§ 365 Správneho súdneho poriadku).

Proti uzneseniu, ktorým bolo žalobe vyhovené, ktorým bola žaloba zamietnutá, ako aj proti uzneseniu o zastavení konania, možno podať opravný prostriedok mimoriadnej povahy. Týmto opravným prostriedkom je s poukazom na § 439 Správneho súdneho poriadku kasačná sťažnosť. Ak správny súd priznal žalobcovi procesný úspech a ak mohlo dôjsť k stretu záujmov medzi štatutárnym orgánom žalovaného a zastupiteľstvom (§ 363 ods. 2 Správneho súdneho poriadku), kasačnú sťažnosť môže s odkazom na § 442 ods. 3 Správneho súdneho

[35] K tomu JESENKO, M. Možnosti normotvorby obcí alebo o vzťahu štátu, politiky a územnej samosprávy v podmienkach Slovenskej republiky. In VEČEŘA, M., HAPLA, M. (eds.) *Weyrovy dny právní teorie 2017. Sborník z konference.* Brno : Masarykova univerzita, 2017, s. 68 – 69.
[36] Pozri napríklad uznesenie Krajského súdu v Košiciach sp. zn. 8 S 37/2016 zo 06. decembra 2018.

poriadku za obec, mesto, mestskú časť alebo samosprávny kraj podať aj zastupiteľstvo, ak o tom rozhodne uznesením. O kasačnej sťažnosti rozhoduje ako súd príslušný podľa § 11 písm. h) Správneho súdneho poriadku Najvyšší správny súd SR (kasačný súd).

5 ZÁVER

Rezultáty činnosti správnych súdov a Ústavného súdu SR, ktoré v podstate explikujú a v niektorých prípadoch dotvárajú procesnú úpravu konania o súlade právnych predpisov obsiahnutú v Správnom súdnom poriadku, poskytujú v mnohých súvislostiach obsažný zdroj poznatkov pre právnu prax, ktorá s avizovanou úpravou prichádza z rôznych pozícií do styku. Odôvodnenia avizovaných rozhodnutí dávajú v záujme vyvarovania sa pochybení do budúcna vhodné aplikačné vodidlo nielen pre orgány verejnej moci, ale rovnako aj pre adresátov verejnomocenskej regulácie, najmä fyzické osoby a právnické osoby nespokojné s účinkami určitého všeobecne záväzného nariadenia.

Z rozhodovacej praxe v konkrétnostiach vyplýva, že žalobu podľa § 357 Správneho súdneho poriadku nemôže podať iný než v tomto ustanovení vymedzený subjekt. Ani žalovať nemožno inú osobu než subjekt uvedený v § 360 Správneho súdneho poriadku. Účastníctvo je v konaní o súlade právnych predpisov vymedzené kategoricky a striktne. Pokiaľ ide o identifikáciu právneho predpisu, s ktorým by malo byť napadnuté všeobecne záväzné nariadenie v nesúlade, nepostačí uviesť odkaz na generálnu klauzulu obsiahnutú v § 6 ods. 1 alebo § 6 ods. 2 zákona o obecnom zriadení, prípadne v § 8 ods. 1 alebo § 8 ods. 2 zákona o samosprávnych krajoch. Rozsah, v akom sa všeobecne záväzné nariadenie napáda a konkrétne ustanovenie právneho predpisu, ktorému sa má všeobecne záväzné nariadenie priečiť, nestačí uviesť len v rámci dôvodov žaloby, ale aj v žalobnom návrhu (petite). Z hľadiska obstarávania podkladov pre rozhodnutie je podstatné, že správny súd by nemal vyhľadávať dôvody nezákonnosti napadnutej právnej normy nad rámec žaloby. Z hľadiska ideového nastavenia správneho súdneho procesu nie je korektné, keď správne súdy usilujú o identifikáciu dôvodov nezákonnosti všeobecne záväzného nariadenia nad rámec žaloby a v tomto smere vykonávajú dokazovanie. Pokiaľ ide o rozhodovanie správneho súdu, platí, že je preň rozhodná situácia, ktorá tu je v čase vydania rozhodnutia, nie stav, ktorý existoval v čase podania žaloby. Ak správny súd zistí nesúlad všeobecne záväzného nariadenia, nie je správne, ak vo výrokovej časti rozhodnutia pristúpi k zrušeniu právneho predpisu. Takýto prístup nemá oporu v aktuálnej právnej úprave. Napokon, pokiaľ ide o trovy konania v súvislosti s prokurátorskými žalobami, je potrebné odmietnuť takú prax, kde správne súdy skúmajú, ktorá strana dosiahla procesný úspech. V konaní, ktoré bolo začaté na základe žaloby prokurátora, totiž bez ďalšieho platí, že žiaden z účastníkov konania nemá právo na náhradu trov konania.

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POJEM SLOBODNEJ VÔLE VO FILOZOFII LEIBNIZA

THE CONCEPT OF THE FREE WILL IN THE PHILOSOPHY OF LEIBNIZ

Silvia Caisová

Abstrakt

Tento príspevok tematizuje Leibnizove chápanie slobodnej vôle ľudských bytostí vo vzťahu k Bohu a jej účasť na zle. Sloboda sa stáva v jeho učení základom morality a spravodlivosti. Na to, aby človek mohol brať zodpovednosť za svoje konanie musí byť toto konanie výsledkom slobodnej vôle, a teda ničím nedeterminované. Tento príspevok sa snaží objasniť súlad slobodnej vôle človeka a Leibnizovho nosného princípu, princípu dostatočného dôvodu, na základe ktorého býva často označovaný ako zástanca determinizmu. Odpoveďou bude vysvetlenie nevyhnutných komponentov slobodnej vôle človeka – rozumnosť, spontánnosť a kontingencia.

Kľúčová slova: *Leibniz, slobodná vôľa, kontingencia, rozumnosť, Boh*

Abstract

This paper thematizes Leibniz's understanding of the free will of human beings in relation to God and its participation in evil. Freedom becomes the basis of morality and justice in his teachings. In order for a person to take responsibility for his actions, this action must be the result of free will, and therefore not determined by anything. This paper tries to clarify the compatibility of human free will and Leibniz's supporting principle, the principle of sufficient reason, on the basis of which he is often referred to as a supporter of determinism. The answer will be an explanation of the necessary components of human free will - rationality, spontaneity and contingency.

Key words: *Leibniz, free will, contingency, rationality, God*

1. Úvod

Na to, aby človek mohol brať morálnu zodpovednosť za svoje konania je nutné, aby bol slobodný a jeho rozhodnutia boli výsledkom slobodnej vôle. Sloboda sa tak stáva základom morality ako aj spravodlivosti. Otázka slobodnej ľudskej vôle vzbudzuje v Leibnizovej koncepcii miestami pochybnosti, predovšetkým sa otvára otázka súladu slobodnej ľudskej vôle a jedného z pilierov Leibnizovej filozofie, princípu dostatočného dôvodu. Rovnaký otáznik sa vytvára pri snahe zosúladiť slobodnú vôľu s Božím predvedením – ak Boh dopredu vie, čo sa stane, o týchto udalostiach môžeme povedať, že boli akoby dopredu dané. O slobode môžeme podľa Leibniza hovoriť vtedy, keď absentuje akýkoľvek nátlak a nevyhnutnosť. Človek je slobodný len ak jeho konanie vychádza z jeho slobodnej vôle a k rozhodnutiu nie je nútený žiadnym vonkajším nátlakom či osobným vnútorným nutkaním. Sloboda spočíva v schopnosti a možnosti konať a robiť to, čo si človek praje, bez toho, aby bol k tomu niekým, alebo niečím nútený a rovnako sloboda človeka spočíva v schopnosti priať si čokoľvek chce. Úplná sloboda predstavuje slobodnú vôľu ako moc či schopnosť vybrať si, ktorá prináleží rozumu, pričom tento slobodný výber sa deje na základe dôvodov a motívov, ku ktorým vôľa inklinuje najviac. Podľa Leibniza je naša vôľa slobodná vtedy, ak je naša voľba kontingentná a zároveň určitým spôsobom motivovaná, pretože našu voľbu

robíme vždy na základe motívov vyplývajúcich z určitých príčin. Tieto motívy a príčiny nech sú akokoľvek silné, nikdy nie sú také nevyhnutné, že by robili z akejkoľvek inej možnej voľby nemožnú.

2. Podmienky slobodného konania v Leibnizovom učení

Leibniz vo svojom koncepte nestavia slobodu a determinizmus do protikladu. Podľa neho tieto pojmy nie sú ani protirečivé ani nezlučiteľné a vychádza z toho, že nemožno vykonať žiadny slobodný čin bez určujúceho motívu k jeho vykonaniu. Podľa Leibniza sa Descartes mýli v názore, že naše slobodné skutky musia byť úplne voľné a ničím nedeterminované, keď hovorí: „máme dosti rozumu k tomu, abychom jasně a zřetelne poznali, že toto nekonečné vědění a tato moc jsou v Bohu, ale nemáme dosti rozumu, abychom pochopili jejich rozsah tak, že bychom mohli vědět, jak ponechávají skutky lidé zcela svobodnými a nedeterminovanými“.[1] Leibniz nesúhlasí s Descartovym vysvetlením slobodnej vôle, ktoré sa zakladá na vnútornom pocite či skúsenosti. Vraví, že len preto „že jsi nejme vědomí příčin, na nichž závisíme, ješte neplyne, že jsme nezávislí“[2] a pripúšťa istú formu determinizmu pri vysvetľovaní svojej koncepcie ľudskej slobodnej vôle. Paul Rateau vo svojom diele o probléme zla v Leibnizovom myslení naznačuje, že častým problémom pri riešení otázky slobodnej vôle je nesprávane definovanie a rozlišovanie pojmov. Opakom pojmu slobodný nie je determinovaný, ale skôr vynútený. Opozitum k pojmu kontingentný predstavuje pojem nevyhnutný a opakom slova determinovaný je indiferentný. Preto by bolo nesprávne v Leibnizovej koncepcii spájať pojem determinácie s absolútnou nevyhnutnosťou. Determináciu môžeme vo všeobecnom slova zmysle vnímať ako spojenie medzi vecami, stavmi či udalosťami bez bližšej špecifikácie či je kontingentné, alebo nevyhnutné. To, čo je determinované podlieha vplyvu čohosi iného. Determinácia je to, z čoho vyplýva určitý dôsledok, ak tomu nezabráni iné opačné určenie. Napriek tomu, že hovoríme o determinácii ako o určovaní sklonu vôle, nemá nič spoločné s nevyhnutnosťou. Determinácia predstavuje inklináciu určitým smerom, nie absolútnu nevyhnutnosť, respektíve fakt, že istý následok sa dostaví bez ohľadu na čokoľvek. Práve v tomto ponímaní vysvetľuje Leibniz koexistenciu slobodnej ľudskej vôle a determinácie. Ľudská vôľa je podľa Leibniza slobodná hoci je determinovaná, teda naklonená pri voľbe istým smerom v závislosti od prevládajúcich motívov, avšak bez toho, aby sme o takejto voľbe museli povedať, že je nevyhnutná, keďže aj ostatné možnosti voľby sú stále možné. Podľa Leibniza determinácia nevylučuje ani neruší slobodu, práve naopak. Slobodnými sme vtedy, ak sa naša vôľa prikláňa istým smerom, neboli by sme slobodní, ak by sme sa neriadili motívmi pre určitý cieľ, ak by sme nemali dôvody, kvôli ktorým by sme sa rozhodli pre jednu stranu a nie tu druhú.

Pojem, ktorý vo svojom učení v súvislosti so slobodnou vôľou odmieta, je indiferentnosť. „Nepřipouštím rovnovážnou indiferentnost a nemyslím, že bychom vůbec kdy volili, jsme-li absolútně indiferentní. Taková volba by byla jakási číra náhoda bez určujúciho důvodu, ať zjavného, nebo skrytého. Ale taková náhoda, taková absolutní a reálna náhodnost (causalité) je chiméra, jež se v přírode nikdy nevyskytuje. Všichni moudří lidé se shodují v tom, že náhoda je pouze zdaní, stejne jako štestí : spočíva v neznalosti příčin“.[3] Napriek tomu, že človek nie vždy jasne vidí dôvod sklonu, ktorý ho vedie k jeho voľbe, stále, podľa Leibniza, nejaký existuje, napríklad vnútorný pocit či dojem, ktorý nás určuje. Čistá vôľa uplatniť svoju slobodu nás nijako neriadi vybrať si jednu voľbu voči druhej. V tomto kontexte Leibniz vyjadruje kritický postoj voči mysliteľom, napríklad Luisovi de Molina a jeho nasledovníkom v rade jezuitských teológov, ktorí považujú indiferentnosť za základ slobody človeka. V leibnizovskom kontexte indiferentnosť rúca slobodu. V prípade pripustenia indiferentnosti,

[1] DESCARTES, R.: *Princípy filozofie*. Prel. J. Špaňár. Bratislava: Nakladateľstvo Pravda 1986, s. 53.
[2] LEIBNIZ, G.W.: *Theodicea. Pojednání o dobrotě Boha a svobodě člověka a původu zla,* s. 66.
[3] Tamže, s. 268.

kde sú si alternatívy rovné a naša vôľa nie je naklonená bližšie k jednej či inej možnosti, by bolo nemožné rozhodnúť sa a zvoliť si cestu, a tak akýkoľvek úkon by bol absolútne nemožný. Pripustenie indiferentnosti našej slobodnej vôli by zároveň rúcalo nosný princíp Leibnizovej teórie, podľa ktorého na všetko existuje dôvod, prečo je tak, a nie inak. Práve preto Leibniz odmieta indiferentnosť a svojím skúmaním dokázal, že sa nemôže nachádzať ani u Boha, ani u ľudských bytostí vo stvorenstve. O ľudskej slobodnej vôli tak môžeme povedať, že je istým smerom determinovaná, no napriek tomu stále kontingentná. Okrem toho, čo je v rozpore so slobodu, Leibniz tiež vymedzuje tri základné podmienky, ktoré musia byť splnené na to, aby sme mohli povedať, že človek koná na základe slobodnej vôle. „Videli jsme, že svoboda požadovaná v theologických školách záleží v rozumovém poznání (intelligence), jež zahrnuje rozlišené poznání předmětu mravní rozvahy, ve spontánnosti, s niž se rozhodujeme, a v náhodilosti, t.j. ve vyloučení logické neboli metafyzické nutnosti. Rozumové poznání je jako duše svobody, a ostatní je jako její tělo a báze. Svobodná substance určuje sama sebe, přičemž následuje motiv dobra, které poznáva rozum, a které vůli naklání, aniž by ji nutili. V těchto několika slovech jsou obsaženy všechny podmínky svobody“.[4] Na to, aby sme boli slobodní, musí byť naše konanie predovšetkým spontánne, teda princíp konania by mal vychádzať z nás samých. Nemalo by byť určované rôznymi vonkajšími či vnútornými udalosťami, ale nami, povahou konajúceho. Slobodné konanie, ktorého príčina je samotný konajúci, a ktoré je oslobodené od tlaku akýchkoľvek vonkajších vplyvov zároveň vyžaduje racionálne posúdenie konajúceho aspoň dvoch možnosti konania. Okrem spontánnosti a inteligencie sloboda vyžaduje tiež kontingenciu vylučujúcu absolútnu nevyhnutnosť. Prvým nevyhnutným komponentom slobody je *rozumnosť*. Leibniz hovorí, že poznávame dvoma rôznymi spôsobmi. Našou rozumnosťou, teda rozlíšeným poznaním, ktoré získavame pri uplatňovaní rozumu, alebo na druhej strane prostredníctvom našich zmyslov, ktoré nám však podľa Leibniza poskytujú len zmätené poznanie. Leibniz, ako novoveký racionalista, stanovuje za podmienku slobody rozumové poznanie. „Můžeme říci, že jsme oproštěni od otroctví potud, pokud jednáme s rozlíšeným poznáním, že však jsme otroky vášní potud, pokud jsou naše percepce zmatené. V tomto smyslu nemáme úplnou svobodu ducha, která by byla žádoucí“.[5] Pri slobodnom konaní musí človek uvažovať a zreteľne vnímať predmet svojho uvažovania a rovnako zreteľne pri uvažovaní rozpoznávať motív dobra. Ako Leibniz v *Teodicey* naznačuje, správnym uvažovaním je uvažovať o tom, čo je najlepšie a podľa toho aj voliť. Ešte pred samotným konaním by človek mal zvážiť aspoň dve možnosti voľby a vybrať spomedzi nich tú najlepšiu. Slobodným konaním sa tak stáva to, ktoré človek posúdil popri iných možnostiach ako najlepšie. Rozumnosť ako základný komponent slobody spočíva v rozlíšenom poznaní vychádzajúc z používania rozumu. Rozumnosť je tiež tým, čo slobodu odlišuje od čistej spontánnosti, ktorá prináleží všetkým bytostiam. „Spontánnosť v přesnem smyslu mají spolu s námi všechny jednoduché substance a že v rozumové neboli svobodné substanci se spontánnost stáva panstvím nad vlastní činností“.[6] Rozumnosť ako taká, respektíve jej úroveň, vytvára rozdiely medzi osobami. Čím viac človek používa svoj rozum o to viac sa stáva slobodnejší. Naopak, ak sa riadime zmätenými percepciami či našimi vášňami, stávame sa otrokmi a dobrovoľne nevedomky strácame svoju slobodu. Hoci sa človek ako rozumová substancia obdarená rozumom líši od ostatných stvorení, napriek tomu v porovnaní s najdokonalejšou bytosťou je naša rozumnosť limitovaná, a tým pádom aj naša slobodná vôľa je v porovnaní s Božou, nedokonalá. Ľudská sloboda, hoci oslabená prvým pádom človeka, pôvodom zla či našimi zmyslovými percepciami a vášňami, nemôže byť nikdy zničená. Ľudské bytosti bez ohľadu na to ako svoju slobodnú vôľu požijú, majú stále možnosť konať slobodne a vyberať si možnosti, ktoré podľa

[4] Tamže.
[5] Tamže, s. 260.
[6] Tamže, s. 261.

vlastného uváženia v danej chvíli považujú za správne. „Nicméně i otrok, se vším, co otroctví obnáší, nepřestáva mít svobodu volit podle svého stavu, třebaže se nejčastěji nachází v tvrdé nutnosti volit mezi dvojím zlem, protože vyšší moc ho nenecháva dosáhnout dober, po nichž touží. A čím jsou pro otroka pouta a útlak, tím jsou pro nás vášne, jejichž násilí je příjemné, ale neméně ničivé“.[7] Druhou významnou podmienkou slobody ľudských bytostí je *spontánnosť.* Samotný pojem môže naznačovať, že slobodné konanie, ktoré je spontánne, je akoby rozmarné, ničím nedeterminované či korigované. Čo však táto podmienka spontánnosti pri slobodnom konaní znamená v Leibnizovom učení? Na mnohých miestach odmietol náhodnosť a zdôrazňoval, že naša myseľ je determinovaná, čo úzko súvisí s jeho princípom dostatočného dôvodu. Aký je teda spontánny akt slobodnej vôle človeka na pozadí princípu dostatočného dôvodu? „Pokud jde o spontánnost, náleží nám potud, pokud máme princip své činnosti sami v sobě, jak veľmi dobře pochopil Aristoteles“.[8] Leibniz na pozadí svojho konceptu predurčenej harmónie hovorí, že každá stvorená substancia, či už rozumová, alebo nie, je obdarená spontánnosťou pri svojom konaní ako aj vášňach. Jednotlivé stvorené substancie sú spontánne a nezávislé od čohokoľvek iného, okrem Boha. Leibniz vychádza z toho, že naša duša má v sebe dokonalú spontánnosť a vo svojej činnosti závisí len od seba samej a od Boha. Mnohí myslitelia však predpokladajú, že činnosť duše je určená silami vonkajšími voči nej a teda, že všetko je riadené Božou prozreteľnosťou. Takýmto názorom by sa popierala akákoľvek sloboda človeka. Descartes v snahe zosúladiť slobodu a Božiu prozreteľnosť hovorí, že o prozreteľnosti máme rozumovú istotu a na základe svojej vnútornej skúsenosti máme tiež istotu o svojej slobode, preto musíme uznávať existenciu oboch. Leibniz súhlasí s kritickým postojom pána Bayla voči karteziánskemu dôkazu slobody. Podľa neho na základe jasného a zreteľného pocitu o svojej existencii nepoznávame či jestvujeme sami osebe, alebo či za svoju existenciu vďačíme niečomu inému, voči nám vonkajšiemu. Akt sebauvedomenia ešte nezaručuje poznanie, že existujeme a rozhodujeme sa sami od seba nezávisle od všetkého. Na druhej strane však Leibniz nesúhlasí s pánom Baylom, ktorý tvrdí, že čistou filozofickou úvahou nie sme schopní dospieť k odôvodnenej istote, že sme len my sami príčinou svojej vôle. Podľa Leibniza súlad slobodnej vôle človeka a Božej prozreteľnosti spoľahlivo osvetľuje jeho systém predurčenej harmónie. „Můj system nade vši pochybnost ukazuje, že v běhu přírody je každá substance jedinou příčinou veškeré své činnosti a že je prosta veškerého fyzického vlivu jakékoli jiné substance s výjimkou běžného spolupůsobení Boha“.[9] Každá individuálna substancia má percepcie a jej individualita spočíva v trvalom zákone vyvolávajúcom sled percepcií. Telo poslúcha dušu do tej miery, do akej to jej vlastné zákony dovoľujú. Naše konanie a chcenie je spontánne a závisí len na nás. Spojením rozumnosti človeka a spontánnosti našej duše získavame moc nad svojím chcením a konaním. Táto moc ako syntéza spontánnosti a rozumového poznania závisí od stupňa poznania. Ako je vyššie spomenuté, čím má človek vyššie poznanie, na základe ktorého volí svoje rozhodnutia, tým je aktívnejší a slobodnejší vo svojom konaní. Na základe rozdielu medzi racionálnymi činmi a činmi diktovanými iracionálnymi faktormi, napríklad vášňou, Leibniz ukazuje, čo znamená mať svoje konanie plne pod kontrolou. Ak teda naše činy vychádzajú z rozumového a vedomého zváženia dôvodov máme nad sebou kontrolu. Na druhej strane, ak sú naše činy vedené vášňami či inými vonkajšími faktormi, o ktorých nemáme plné vedomie, nemôžeme povedať, že máme svoje konanie plne pod kontrolou. V prvom prípade Leibniz hovorí o vláde rozumu, v druhom prípade sa podľa neho človek stáva otrokom. „Otroctví přichází zevnějška, nutí k tomu, co se člověku nelíbi, a zvlášte k tomu, co se mu nelíbi právem : otroky z nás činí cizí síla a vlastní vášně“.[10] Dva základné komponenty slobody, spontánnosť a inteligencia, sa

[7] Tamže, s. 260.
[8] Tamže.
[9] Tamže, s. 260.
[10] Tamže, s. 225.

v človeku spájajú v uvážlivosti (delibération). Okrem toho však sloboda musí vylučovať akúkoľvek metafyzickú či logickú nutnosť, a tak Leibniz súhlasí so scholastikmi a ako tretiu podmienku slobody zavádza *kontingenciu*. Táto „nie-nevyhnutnosť" je charakteristickým znakom slobody, pretože vylučuje nevyhnutnosť, a napriek tomu, že má naša vôľa silnejšie sklony k jednej strane, v žiadnom prípade to nebráni slobode človeka. Kontingencia ako podmienka slobody spočíva v tom, že hoci sme motivovaní k vybratiu si jednej možnosti, táto motivácia nie je v takej miere, že by robila nemožným rozhodnúť sa inak. V Leibnizovom učení sa kontingencia redukuje na istý druh nevyhnutnosti. Nejde o kontrast medzi dvoma modalitami – nevyhnutnosťou a kontingenciou. Ide skôr o jeho rozlíšenie medzi absolútnou nevyhnutnosťou, ktorú Leibniz v otázke slobodnej vôle odmieta a hypotetickou nutnosťou, respektíve kontingenciou. Vec môžeme chápať ako kontingentnú vtedy, ak sa v nej skrýva rozpor byť inak, alebo aby vôbec neexistovala. V absolútnej nevyhnutnosti sa veci musia stať. Pod kontingenciou môžeme rozumieť to, čo nie je nevyhnutné s ohľadom na *principium contradidtionis*, ale je nevyhnutným podľa princípu dostatočného dôvodu[11]. Podľa Leibniza je duša vždy naklonená pre istú možnosť, nikdy nie je nútená a vyberá si možnosť, ku ktorej je naklonená najviac.[12] Kontingencia nerúca slobodu človeka a táto motivácia duše istým smerom neznamená absolútnu nevyhnutnosť, keďže nevylučuje, aby sa rozhodla pre inú možnosť, než pre ktorú bola naklonená. Ako Leibniz uvádza spojenie rozumového uvažovania a spontánnosti umožňuje človeku mať nad sebou kontrolu. Kontingencia dodáva slobode človeka dimenziu, ktorou ukazuje, že sila a intenzita nakláňajúca vôľu istým smerom nikdy netvorí z tejto determinácie absolútnu nevyhnutnosť. Ani pôvodný hriech, sklony ku konaniu zla, zhrešenie či nenávisť zatratených nerobia konanie zla úplne nevyhnutným. Leibniz nám hovorí, že je stále možnosť konať správne a morálne v súlade s pravidlami, ktoré do nás vložil Boh. Rovnako to platí aj opačne, vždy je možné odvrátiť sa od dobra, od Božej milosti a odkloniť sa od cnostného konania. Z morálneho hľadiska sloboda človeka spočíva v jeho autonómii, keďže determinuje sám seba na základe úrovne jeho poznania a motívov, ktoré ho nakláňajú k rozhodnutiam. Na fyzickej a metafyzickej úrovni sloboda znamená nezávislosť človeka od vplyvu iných stvorení. Na logickej úrovni, sloboda podľa Leibniza spočíva v kontingencii – „nie-nevyhnutnosti" konania človeka.

3. Záver

Táto štúdia mala za cieľ predstaviť Liebnizove chápanie slobodnej vôle človeka, ktorú považuje za príčinu zla v tom najlepšom možnom svete. Vôľa človeka je slobodná vtedy, ak je jeho voľba kontingentná a zároveň určitým spôsobom motivovaná. Našu voľbu robíme vždy na základe motívov vyplývajúcich z určitých príčin. Avšak tieto motívy nech sú akokoľvek silné, nikdy nie sú také nevyhnutné, že by robili z inej možnej voľby nemožnú. Leibniz hovorí o troch základných komponentoch slobody človeka. Prvým je *rozumnosť*, respektíve človek je slobodný vtedy, ak sa rozhoduje na základe rozumového poznania. Zmysly poskytujú človeku zmätené poznanie, len poznávanie rozumom oslobodzuje dušu. Druhým komponentom slobody je *spontánnosť*, ktorá zabezpečuje, že bytosť je sama príčinou svojho konania a je nezávislá od akéhokoľvek vonkajšieho fyzického vplyvu, samozrejme okrem spolupôsobenia Boha. Ako tretiu podmienku slobodnej vôle človeka Leibniz zavádza *kontingenciu*, pretože chce v otázke slobody vylúčiť akúkoľvek nevyhnutnosť. Podľa Leibniza je duša vždy naklonená pre istú možnosť, nikdy však nie je nútená, vyberá si možnosť, ku ktorej je najviac naklonená. Vo svojom učení rozlišuje to, čo je absolútne nevyhnutné a tým, čo je nevyhnutné *ex hypothesi.* Pod kontingenciou môžeme rozumieť to, čo nie je nevyhnutné s ohľadom na princíp protirečenia, ale je nevyhnutné podľa princípu dostatočného dôvodu. Slobodná vôľa zohráva dôležitú úlohu tiež v otázke spásy a zatratenia.

[11] Je to princíp inklinačný a strictu sensu non-necessitaristický. Pozri nasledujúcu poznámku 2 na tejto strane
[12] RATEAU, P.: *Leibniz: On the problem of evil,* s. 317.

Nikto nie je podľa Leibniza naveky určený k zatrateniu, každý môže byť zachránený, ak by si to svojou vôľou želal. Príčinou zatratenia je však zatvrdnutosť v hriechu a nenávisť Boha.
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FREGOVO POJETÍ PRAVDY

FREGE'S ACCOUNT OF TRUTH

Jan Strya

Abstrakt

Podle standardní interpretace předkládá Gottlob Frege ve třetím a čtvrtém odstavci spisku Myšlenka argumenty proti korespondenčnímu pojetí pravdy a možnosti pojem pravdy definovat. Dopouští se přitom logických omylů, závěr o nemožnosti definovat pravdivost je chybný, jak později ukázal mimo jiné Alfred Tarski. Ulrich Pardey přišel ve své knize „Frege on Absolute and Relative Truth" s alternativní interpretací, omezující argumenty proti korespondenčnímu pojetí a definovatelnosti pravdy pouze na jeden z tvrzeně Fregem rozlišovaných druhů pravdivosti. V příspěvku tuto alternativní interpretaci podrobím kritice. Standardní interpretace má pravdu v tom ohledu, že Fregova argumentace ve třetím a čtvrtém odstavci Myšlenky se týká pojmu pravdy obecně. Následně Fregovy argumenty zasazuji do širšího kontextu, než jak činí tradice filozofické logiky vycházející z Tarskiho a Dummetta.

Klíčová slova: *Gottlob Frege, pravda, korespondenční teorie pravdivosti, definovatelnost pravdivosti, Ulrich Pardey, interpretation*

Abstract

According to the standard interpretation, in the third and fourth paragraphs of the paper called The Thought, Gottlob Frege presents arguments against the correspondence theory of truth and the possibility of defining the concept of truth. In doing so, he commits logical fallacies; the conclusion about the impossibility of defining truth is wrong, as Alfred Tarski, among others, later showed. Ulrich Pardey, in his book "Frege on Absolute and Relative Truth", came up with an alternative interpretation, limiting Frege's arguments against the correspondence theory and the definability of truth to only one of the types of truth allegedly distinguished by Frege. In this paper I will critique this alternative interpretation. The standard interpretation is right in the sense that Frege's argument in the third and fourth paragraphs of the Thought concerns the notion of truth in general. Consequently, I place Frege's arguments in a broader context than the tradition of philosophical logic based on Tarski and Dummett does.

Key words: *Gottlob Frege, truth, correspondence theory of truth, definability of truth, Ulrich Pardey, interpretation*

1 ÚVOD

Gottlob Frege ve svém spise nazvaném "Myšlenka" ("Der Gedanke") formuloval známé teze, že pravda je nedefinovatelný pojem (T1) a že zejména definice pravdy jako korespondence vede k regresu, resp. tak zvanému *treadmill fallacy* (T2). Alespoň takovou interpretaci přinesl Michael Dummett a několik dalších významných interpretátorů Frega. Řada významných filozofů logiky však považuje T1 a T2 za chybné a v případě Frega založené na téměř triviálních logických omylech. Nedávno se však objevil návrh na revizi klasického paradigmatu Fregovy interpretace, zejména pokud jde o třetí a čtvrtý odstavec Myšlenky, v nichž je obsažena výstižná formulace Fregovy argumentace proti korespondenční teorii pravdy a definovatelnosti pravdy vůbec. Ulrich Pardey ve své knize „Frege on Absolute and

Relative Truth“ tvrdí, že Frege ve skutečnosti rozlišuje mezi absolutní a relativní pravdou a že argumentace ve podporující T1 a T2 se omezuje pouze na relativní pravdu. Pardey k tomuto závěru dospívá pomocí rozlišení *S-pravdivosti* a *I-pravdivosti*, přičemž první se vztahuje k větám a myšlenkám (smyslům), druhá k idejím a obecně k obrazům. Třetí odstavec Myšlenky čte Pardey poté tak, že je omezen výhradně nebo alespoň převážně na *I-pravdivost*. V tomto příspěvku se pokusím vyvrátit tento konkurenční výklad a potvrdit interpretaci standardní. Navrhuji však, aby byl standardní výklad v některých ohledech modifikován. Následně se pokouším zasadit Fregovy úvahy ohledně pravdivosti obsažené ve spisu Myšlenka do širších souvislostí jeho díla.

2 POJEM PRAVDY VE FILOZOFII LOGIKY GOTTLOBA FREGA

Pravda je základní pojem logiky. Zkoumání pojmu *pravdy* proto ve filozofii logiky (filozofické logice) představuje ústřední téma. Nejinak tomu je v díle Gottloba Frega, považovaného za duchovního otce analytické filozofie a zakladatele moderní logiky. Frege však ucelenou teorii pravdivosti v systematizované podobě nikdy nepředstavil, jeho roztříštěné poznámky k pojmu pravdy (i jiným základním logickým pojmům, jako je soud, důkaz nebo propozice / myšlenka), proto dodnes vyvolávají interpretační neshody. V případě pravdivosti je situace o to složitější kvůli Fregovu značně specifickému nahlížení pravdivosti, netypickému pro pozdější tradici ovlivněnou Tarskim. Pravda je pro Frega základním, nedefinovatelným pojmem logiky, pravdivost navíc v duchu svého zarytého antipsychologismu pojímal absolutně a objektivně. Tarski naproti tomu ukázal, že pravdivost lze definovat, a to dokonce několika způsoby relativně k určitému formálnímu jazyku.[1] V důsledku toho filozofové logiky dodnes nahlížejí některé stěžejní Fregovy argumenty týkající se povahy pravdy (pravdivosti) přinejmenším s notnou nedůvěrou, pokud je rovnou nepřehlížejí jako založené na základních logických omylech.[2]

Klasická interpretace Frega[3] se však shodne na některých základních obrysech jeho pojetí pravda. Za prvé, pravda je non-relační. Pravdivost náleží nositelům pravdivosti bez dalšího, aniž by tyto nositele musely být v nějakém vztahu například k externím objektům. Pravdivost je také absolutní – nepodléhá žádné kvalifikaci typu „pravdivý ve vztahu k jazyku L / individuu I / možnému světu W“. Pravdivost je nezávislá na aktuálním stavu poznání a na myšlení obecně – pravdy nepřestávají být pravdami v různých epochách historie. Matoucí však může být, že Frege nehovoří pouze o jedné „pravdivosti“. Kromě vedlejších významů slova „pravdivý“ jako *náležitý, opravdový* Frege hovoří o pravdivosti obrazů nebo idejí, která spočívá v korespondenci ideje (obrazu) s tím, co tato idea (obraz) mají reprezentovat. I toto rozlišení jednotlivých smyslu slova „pravdivý“ ve Fregově díle standardní interpretace akceptuje. Fregovu kritiku korespondenční teorie pravdivosti však neomezuje na pravdivost idejí – Frege odmítal definovat pravdivost korespondencí obecně, ať již se jednalo o pravdivost idejí (obrazů), nebo vět či myšlenek (dnes bychom řekli propozic).

Pokud ovšem hovoříme pravdivosti, která stála v centru filozofických zkoumání Frega, máme na mysli pravdivost vědeckou. Vědecká pravda není zvláštní typ pravdivosti stojící vedle pravdivosti idejí a vět. Vědecká pravda je naopak pro Frega *ta* absolutní pravda, kterou se se snaží dosahovat všechny vědy a kterou „se logika zabývá v poněkud specifickém smyslu:

[1] Viz Tarski, A. The Concept of Truth in Formalized Languages. In Tarski, 1956.
[2] Srov literaturu citovanou v Pardey, 2012, s. 4.
[3] Do značné míry jistě ovlivněná stěžejní prací M. Dummetta „Frege: Philosophy of Language“, konkrétně kapitolou „Can Truth be Defined?“.

logika má tentýž vztah k pravdivosti jako fyzika k hmotnosti nebo teplu.“[4] Frege věnoval prakticky celý svůj profesní život hledání toho, co sám označoval za „zákony pravdivosti“. Dal vzniknout přesvědčení zvanému „logicismus“, podle něhož nejen logické, ale též veškeré matematické pravdy jsou odvoditelné za pomoci pouhých logických nástrojů (logických axiomů a odvozovacích pravidel). Zbylé, totiž empirické pravdy, se poté opírají kromě logických zákonů transcendujících veškeré zvláštnosti poznávaných objektů o zkušenostní fakta.[5]

Stať Myšlenka je jednou z pozdních prací Frega, zpracovanou v období, kdy se Frege zaměřoval již výhradně na filozofii logiky.[6] Myšlenka, napsaná v roce 1918 několik let po obou částech Fregem nikdy nedokončeného komplexního spisu Logika, je první částí Logických zkoumání, jejichž ambicí bylo rovněž komplexně a systematicky zachytit Fregovu filozofickou logiku. Společně s druhou částí Logických zkoumání nazvanou „Negace“ představuje Myšlenka patrně nejobsáhlejší výklad Fregova pojetí pravdy, přestože názvy obou částí naznačují opak. Strukturu Myšlenky lze stručně shrnout následovně. Nejprve jsou představeny pokusy o objasnění nejasné představy o cílech a celkové povaze logiky. Poté se předkládá analýza užití slova „pravdivý“, především však objasnění primitivního a nedefinovatelného pojmu pravdy. Frege následuje metodiku svého postupu, kterou později shrnul tak, že začíná primitivním pojmem pravdy, aby následně ihned představil myšlenku jako ústřední logický objekt zkoumání a nositele pravdivosti. Ve třetím odstavci jsou uvedeny – podle standardní interpretace – klíčové argumenty proti možnosti definovat pravdu obecně, respektive proti možnosti definovat pravdu jako korespondenci. To je pro účely tohoto článku stěžejní část Myšlenky. V následujících pasážích Frege zpřesňuje své pojetí myšlenky jako nositele pravdy. Opouští však pojem pravdy jako vlastnosti a argumentuje ve prospěch pojímání pravdy *sui generis*. Pravdu vztahuje k aktu soudu – k aktu rozeznání pravdivosti myšlenek následujícím po uchopení myšlenky. Zbývající část Myšlenky je věnována diskusi o povaze myšlenek, jejich strukturních prvcích, jejich zasazení do sémantiky přirozeného jazyka a zejména jejich odlišení od idejí, a tedy jejich vyloučení z oblasti psychologie. Jak tedy indikuje název spisu, Frege se zde zabývá primárně povahou myšlenek, které považuje za významy (smysly) vět. Současně se však stať dotýká také otázek povahy logiky a povahy pravdy.

3 PARDEHYO INTERPRETACE MYŠLENKY A JEJÍ KRITIKA

Frege začíná třetí odstavec věnovaný otázce nositelů pravdivosti zkoumáním čtyř subjektů, o nichž je pravdivost vypovídána: *obrazů*, *idejí*, *vět*, *myšlenek*. Standardní interpretace kontext hledání nositelů pravdivosti klade do pozadí, za stěžejní pasáž třetího odstavce považuje kritiku korespondenčního pojetí pravdivosti, respektive argument proti jakékoli možnosti definovat pravdivost. Pardey naopak tento kontext akcentuje, podle něj Frege argumentaci třetího odstavce proti korespondenční teorii a definovatelnosti pravdivosti vede stále důsledně v linii řešení otázky, do jaké domény (vědecká) pravdivost náleží a o čem je správně vypovídána. Stěžejní pro Pardeyho interpretaci třetího a čtvrtého odstavce je poté rozlišení *I-pravdivosti* a *S-pravdivosti* jako dvou základních kandidátů na nositele absolutní vědecké pravdivosti.[7] *I-pravdivost* je pravdivost uvažovaná v souvislosti s obrazy a idejemi[8]; je charakteristicky relační a spočívá v korespondenci. *S-pravdivost* je pravdivost uvažovaná

[4] Myšlenka, s. 351 (Frege, 1984). V textu cituji Fregova díla pomocí uvedení překladu jejich originálního názvu spolu s uvedením publikace, v níž se daný Fregův text nachází.
[5] Pojmopis, s. 5 (Heijenoort, 1967).
[6] Poté, co se na několik let odmlčel po zdrcujícím nezdaru právě zmíněného logicismu, když Russell poukázal na spornost Fregova formálního systém aritmetiky založeného na čistě logických prostředcích.
[7] Srov. Pardey, 2012, s. 14.
[8] Pardey zmiňuje pasáže z jiných děl Frega, které naznačují, že ideje Frege považoval za typ obrazů.

v souvislosti s větami a myšlenkami. Je to právě *S-pravdivost,* kterou Frege nakonec prohlašuje za vědeckou pravdivost.

Pardeyho interpretaci třetího a čtvrtého odstavce lze shrnout následovně. Frege se snaží zodpovědět otázku nositelů vědecké pravdivosti, respektive obecněji domény vědecké pravdivosti. Na výše uvedených čtyřech subjektech predikátu „být pravdivý“ (obraz, idea, věta, myšlenka) ukazuje, že pravdivost (resp. predikát „být pravdivý“) je ambigní: jinak je pravdivost pojímána v souvislosti s obrazy a ideami (*I-pravdivost*), jinak v souvislosti s větami a myšlenkami (*S-pravdivost*). Pravdivost idejí (obrazů), tj. *I-pravdivost,* je definována pomocí korespondence s objektem, který ideje záměrně reprezentují. Definice pravdivosti pomocí korespondence však vede ke sporu (kompletní korespondence), respektive k nekonečnému regresu (korespondence v „určitém ohledu“, resp. v jistých charakteristikách). Nadto *I-pravdivost* je redukovatelná na *S-pravdivost.* Tudíž *I-pravdivost* nemůže být vědecká pravdivost.

Ve třetím odstavci podle Pardeyho tedy Frege definuje výlučně *I-pravdivost,* a to prostřednictvím korespondence. Je to proto také pouze *I-pravdivost*, jíž se týká Fregova kritická argumentace v tomto odstavci.[9] Pardey však následně kvalifikuje svoji interpretaci a připouští, že Fregův poslední argument ve čtvrtém odstavci, tj. argument regresem proti definovatelnosti pravdivosti, se týká pravdivosti *obecně,* nikoli jen *I-pravdivosti.* Platnost argumentu regresem ve vztahu k *S-pravdivosti* však podle Pardeyho předpokládá redukovatelnost *I-pravdivosti* na *S-pravdivost.*

Argumentační struktura třetího a čtvrtého odstavce je tudíž podle Pardeyho následující:[10]

a) Kontext obou odstavců tvoří otázka zkoumání nositelů vědecké, tj. podle předpokladu absolutní pravdivosti: o čem je správně vypovídána vědecká pravdivost – o *obrazech, idejích, větách,* nebo *myšlenkách*?
b) Pravdivost je vypovídána o obrazech a idejích v jiném smyslu než o větách a myšlenkách. Pravdivostí obrazů a idejí (*I-pravdivost*) se rozumí jejich korespondence s objektem, který reprezentují.

> Argument proti *I-pravdivosti* jako vědecké pravdivosti 1): Korespondence je relace, což odporuje absolutnímu pojetí vědecké pravdivosti.
> Argument proti *I-pravdivosti* jako vědecké pravdivosti 2): Vědecká pravdivost je perfektní, není otázkou míry.
> Argument proti *I-pravdivosti* jako vědecké pravdivosti 3): Vědecká pravdivost je nezávislá.
> Argument proti *I-pravdivosti* jako vědecké pravdivosti 4): Analytická definice *S-pravdivosti* vede k bludnému kruhu.

c) Zodpovězení původní otázky nositelů pravdivosti: co se nesprávně nazývá pravdou obrazů a myšlenek, je redukováno redukuje na pravdivost vět.

> Argument proti *I-pravdivosti* jako vědecké pravdivosti 5): Argument regresem.

Pardeyho interpretace stojí v prvé řadě na nesprávné premise, že vše, co Frege tvrdí ve třetím a čtvrtém odstavci, směřuje k finálnímu zodpovězení otázky nositelů pravdivosti na konci

[9] Pardey, 2012, s. 16.
[10] Pardey, 2012, s. 17 až 20.

čtvrtého odstavce. S tím souvisí i Pardeym předložená lineární (násobná) argumentační struktura Fregova textu. Fregova argumentace kritizující korespondenční pojetí pravdivosti a definovatelnost pravdivosti vůbec naproti tomu značně vybočuje z kontextu uvažování idejí či obrazů jako nositelů pravdivosti. To vyplývá ostatně již z nelineární struktury argumentace k otázce nositelů pravdivosti. Třetí a čtvrtý odstavec každý obsahují dva samostatně stojící argumenty proti tezi, že ideje či obrazy jsou nositeli pravdivosti: výše uvedený argument proti *I-pravdivosti* jako vědecké pravdivosti 1) a argument redukcí *I-pravdivosti* na *S-pravdivost* [uvedena výše pod c)]. Oba tyto argumenty se opírají o dílčí závěr, že pravdivost je non-relační vlastnost, a tvrdí, že připisovat pravdivost idejím předpokládá pojetí pravdivosti jako relační vlastnosti. Argument proti *I-pravdivosti* 1) ve třetím odstavci tvrdí, že relační pojetí odporuje jazykovému úzu používání predikátu „být pravdivý". Argument redukcí [sub. c)] ve čtvrtém odstavci sice též vychází z relačního pojetí *I-pravdivosti*. Jeho podstata však spočívá v tom, že relace korespondence ideje s objektem, který má reprezentovat, musí být vyjádřena větou, tak aby byla patrná intence reprezentace; tudíž relační pravdivost idejí (obrazů) lze redukovat na pravdivost vět.

Z uvedeného plyne hlavní problematický aspekt Pardeyho interpretace: argumentační návaznost třetího a čtvrtého odstavce Myšlenky, a tudíž i celkový kontext hledání nositelů pravdivosti, jsou zachovány též v případě, pokud pasáž třetího odstavce obsahující kritiku korespondenční teorie pravdivosti a definovatelnosti pravdivosti považujeme za zcela samostatnou kritiku definice pravdivosti, nikoli vázanou k otázce, zda *I-pravdivost* je vědeckou pravdivostí. Ostatně Frege explicitně popírá korespondenční pojetí pravdivosti též ve vztahu k myšlence (smyslu věty) jako nositeli vědecké pravdivosti. *„V každém případě pravdivost nespočívá v korespondenci smyslu s něčím jiným, neboť jinak by se otázka pravdivosti opakovala donekonečna",* říká Frege v poslední větě čtvrtého odstavce, která nehovoří pouze o *I-pravdivosti*.

Kritice je nutno podrobit také některé Pardeyho výchozí logické duální kategorie, jejichž prostřednictvím se snaží kvalifikovat Fregovu argumentaci. Když Pardey hovoří o vlastnostech, zřejmě mylně zaměňuje dichotomii absolutní – relativní s dichotomií singulární – relační. Frege pak kritiku *I-pravdivosti* nevede pouze po linii dichotomie singulární – relační, kdy vědecká pravdivost nemůže být relační, ale též po linii absolutní – relativní. Zatímco první se týká logické povahy pravdivosti, tj. zda jde o unární, nebo n-ární predikát (vlastnost, nebo relaci), dichotomie absolutní – relativní se týká podmínek, za nichž je X pravdivé, tj. možných světů. Frege přirovnává pravdu idejí k „pravdě" hmotných věcí. Frege poté ve třetím odstavci tvrdí, že chce-li někdo mluvit o pravdě hmotných věcí, nemůže mít bez dalšího na mysli *vlastnost* náležející těmto věcem. Predikát "být pravdivý" těmto věcem náleží pouze s ohledem na intenci, že něco reprezentují, což souvisí s oběma dichotomiemi. Frege staví relativní pravdu do protikladu k pravdě absolutní: první (relativní) vyžaduje intenci, záměr nositele „pravdivosti" něco reprezentovat, druhá (absolutní) náleží věci bez dalšího. Zastávat absolutní pojetí pravdy však nutně neznamená vyloučit pravdu jako relační predikát. Relace (n-ární predikát) může být stejně absolutní jako vlastnost, tj. jednomístný predikát. Být větší než je relace, která absolutně – bez další kvalifikace – náleží mimo jiné uspořádané dvojici čísel tři a dva. Pravdivost jako korespondence je sice relace, ne však absolutní, neboť vyžaduje kvalifikaci v podobě vyjádření intence.

4 STANDARDNÍ INTERPRETACE (MODIFIKOVANÁ)

V následujícím textu je uveden výklad jednotlivých odstavců Myšlenky, především třetího a čtvrtého odstavce. Spis Myšlenka Frege začíná programovým přehledem logiky. Na jedné straně se dočteme, že logika se zabývá pravdou stejně jako přírodní vědy přírodními jevy, na

druhé straně se však logika dle Frega podobá etice nebo dokonce estetice v tom, že – podobně jako slova „dobrý“ a „krásný“ – slovo „pravdivý“ označuje predikát, jehož obsah určuje základní obrysy pole této vědní disciplíny. Proto je třeba analyzovat užívání predikátu „pravdivý“ v běžném diskurzu. Proto navzdory tomu, že Frege chápe pravdu zásadně objektivně, jako něco na nezávislého na jazyce a mysli (tj. jako onticky nezávislý objekt), je důležitou součástí metodologie jeho logických zkoumání, byť nikoli explicitně přiznanou, analýza přirozeného jazykového užití slova „pravdivý“.

Tomu odpovídá deklarovaný cíl logiky: objevovat a formulovat zákony pravdy. Frege však nechápe zákony pravdy jako zákony, jimiž se řídí každý proces získávání poznání ve smyslu pravdivých přesvědčení. Termín „zákony pravdy” neoznačuje nějaká definitivní a vyčerpávající kritéria pravdivostního hodnocení *každé* propozice: v různých vědách existuje mnoho pravd rozeznávaných a zdůvodňovaných specifickými metodami a tuto specifickou metodologii vypracovanou každou konkrétní vědou zjevně nelze považovat za a výdobytek v oblasti logiky. Jednotlivé vědy nejsou pouhými odvětvími logiky – zákony pravdy odrážejí pouze to, co platí o pravdě nejobecněji, tj. bez ohledu na konkrétní předmět myšlení.

O zákonech mluvíme buď ve smyslu přírodních zákonů (např. zákony pohybu nebo určité fyzikální síly), nebo předpisů (morální nebo právní zákony). Mají být zákony pravdy jedním z těchto dvou druhů zákonů, nebo jsou to zákony v nějakém zvláštním smyslu? Frege v Myšlence naznačuje podobnost zákonů pravdy s přírodními zákony tím, že srovnává vztah logiky a pravdy se vztahem fyziky a hmotnosti nebo tepla. V důsledku toho vyvstává otázka domény zákonů pravdy. Přírodní zákony totiž popisují vlastnosti a změny přírody (čímž zhruba myslím strukturu prostoru, času, hmoty a energie), ale bylo by poněkud zvláštní pojímat zákony logiky tímto způsobem. Vlastnost čeho, resp. jaký pozorovatelný a empiricky testovatelný jev by tyto zákony popisovaly? Logika nepopisuje žádný přírodní jev, neboť se zabývá naším myšlením o (mimo jiné) přírodních jevech, tj. strukturovaným abstraktním uchopením vnímaného obsahu. Frege však dále varuje před tím uvažovat zákony pravdy ve smyslu zákonů poznání či myšlení jako empirické zákony individuálního přemýšlení, tj. jako psychologické zákony. Proces, kterým jednotlivec dospěje k omylu, podléhá těmto psychologickým zákonům stejně jako proces, jímž jednotlivec dospěje k rozeznání pravdivé myšlenky. Frege proto zákony pravdivosti míní naopak zákony, které určují samotnou pravdivost myšlenky. Nikoli zákony tvorby individuálního přesvědčení o pravdivosti.

Poté, co Frege ve druhém odstavci vyloučí z filozofických úvah pro logiku irelevantní užití slova „pravdivý“, totiž užití tohoto slova vyskytující se v umění nebo při subjektivním popisu vlastních pocitů, je pozornost upřena na otázku nositelů pravdivosti: čemu lze význam slova „pravdivý“ predikovat. Třetí odstavec skutečně začíná na první pohled jednoznačným prohlášením o svém účelu: blíže vymezit subjekty, jimž lze pravdu připisovat (nositele pravdivosti), nebo, což je ekvivalentní, určit věci, které mají vlastnost pravdy, mluvíme-li v termínech domény reference. Doslovně vzato se tato otázka může zdát zvláštní v kontextu celkového předmětu této úvodní pasáže Myšlenky, jímž je stále ještě objasnění významu slova „pravdivý“. Vymezení obsahu predikátu a vymezení oblasti jeho působnosti jsou zjevně oddělené záležitosti, pokud neredukujeme obsah jakéhokoli pojmu na jeho extenzi (třídu objektů, jimž je predikován). Fregovi však byla myšlenka redukce pojmu na extenzi zcela cizí. Nicméně Frege ukazuje, že v případě pravdy jsou vymezení nositelů pravdivosti a objasnění pojmu pravdy úzce propojeny. Jedním z důvodů je to, že smysl, v němž se slovo „pravdivý“ používá v souvislosti s různými předměty, se liší – nelze používat slovo „pravdivý“ zcela ve stejném smyslu, když ho připisujeme na jedné straně myšlenkám a na druhé straně obrazům a představám. Lze tedy objasnit logicky správný smysl slova

„pravdivý“ tím, že vyloučíme užití tohoto výrazu, které je v rozporu s vědeckým pojetím pravdy, které Frega primárně zajímá. Hlavním důvodem však je to, že vymezení subjektu predikátu „pravdivý“ je zároveň vymezením domény logiky, a tím i její povahy (ve smyslu dilematu psychologismus vs. antipsychologismus / platonismus). Předpokládejme totiž, že by ideje jako subjektivní mentální obrazy byly skutečnými nositeli pravdivosti. Pak by logika byla odvětvím psychologie, neboť ideje jsou subjektivní duševní obsahy vlastní každému jednotlivci.

V souladu s tím, jaký cíl Frege formuluje na konci prvního odstavce, je klíčovou tezí mé interpretace Myšlenky, že cílem třetího odstavce je dále objasnit vlastní smysl slova „pravdivý“. Tedy zkoumání otázky, co je významem slova „pravdivý“ vhodným pro vymezení vědecké pravdy (pravdy zkoumané logikou), je primární, zatímco odpověď na otázku, o čem je „pravdivý“ správně predikován, je spíše prostředek, jímž jsou uváděny konkrétní příklady v rámci řešení prvního cíle.

Že je třetí odstavec výslovně věnován otázce definice pravdy, je zřejmé z několika výroků samotného Fregea Vezměme si jeho jedenáctou větu: *„Z toho by se dalo usuzovat, že pravda spočívá v korespondenci obrazu s tím, co zobrazuje.“* Hovoří se zde o předpokladu, v čem pravda – obecně – spočívá, totiž o předpokladu, že „pravdivý“ má význam „korespondující s“. Tím se význam věty „P je pravdivé“ mění na „P koresponduje s W“, kde „P“ označuje nikoli jen obraz nebo ideu, ale též větu či myšlenku, a „W“ věc, s níž má nositel pravdivosti korespondovat. To je v souladu s pozdější formulací ve třicáté větě třetího odstavce: „Pokus o vysvětlení pravdy jako korespondence se tedy rozpadá“. Rovněž následující formulace ukazuje, že Frege ve skutečnosti zabývá významem (užíváním) slova „pravdivý“: „*to je v rozporu s použitím slova pravda, které není relativním termínem a neobsahuje žádný údaj o něčem jiném, čemu má něco odpovídat"* (Myšlenka, 353 – Frege, 1984). Třetí odstavec se proto obecně týká otázky, zda pojetí pravdy jako korespondence odpovídá vědeckému (logickému, absolutnímu) významu slova „pravdivý“. Frege odpovídá, že nikoli, protože relační pojetí pravdy jako korespondence věci s tím, co má reprezentovat, odporuje absolutní povaze pravdy a korespondence nemůže být kritériem pravdy vůbec, a to z několika důvodů.

Strukturu argumentace třetího a čtvrtého odstavce lze proto vyjádřit následovně:

A. Obecný kontext úvodních jedenácti odstavců Myšlenky tvoří otázka, jaký je význam slova „pravdivý“ užívaný ve vědě (a logice). Frege zde nakonec dospívá k závěru, že „pravdivý“, resp. „pravda“ neoznačuje vlastnost (ani singulární, ani relační).

> A.1 dílčí kontext třetího a čtvrtého odstavce tvoří otázka nositelů pravdivosti, avšak to pouze pro demonstraci odlišností v užívání slova „pravdivý“. Primární zůstává kontext A.

B. Pravdivost je v jiném smyslu vypovídána o obrazech a idejích, v jiném o větách a myšlenkách

C. Smysl vypovídání pravdivosti o obrazech a idejích se neliší primárně tím, zda pravdivost spočívá korespondenci, ale tím, že v případě obrazů a idejí musí být přítomna intence reprezentace.

> C.1 Argumenty proti korespondenčnímu pojetí pravdivosti se proto neomezují na smysl výrazu „pravdivý“ užívaný v souvislosti s obrazy a idejemi.

D. Pravdivost (obecně) nemůže spočívat v korespondenci.

D.1 Korespondence je relace. Predikát „pravdivý“ však není užíván jako relační.
D.2 Korespondence vyžaduje intenci reprezentace. Predikát „pravdivý“ je věcem připisován bez dalšího – bez indikace, že a co by měly reprezentovat.
D.3 Korespondence idejí s realitou nikdy nemůže být kompletní.
D.4 Korespondenční pravdivost obecně vede k nekonečnému regresu.

E. Zobecnění argumentu D.4 – definice pravdivosti pomocí redukce na určité charakteristiky vede obecně ke kruhu (správně: k regresu).

F. Pravdivost obrazů a idejí je redukovatelná na pravdivost vět.

5 ŠIRŠÍ SOUVISLOSTI FREGOVA POJETÍ PRAVDY

Frege si byl dobře vědom přesahů zkoumání základních logických pojmů do epistemologie, ontologie či filozofie jazyka, proto se v jeho úvahách odrážejí širší filozofické souvislosti. Většina disciplín současné logiky omezuje svůj úkol na vymezení – pomocí formálních inferencí podléhajících příslušným pravidlům – maximální množiny formulí, které lze na základě těchto pravidel dokázat z přijatých axiomů. Pro Frega byl projekt logiky širší a zahrnoval nejen objevování a formulování, ale také zdůvodňování zákonů pravdy, a to zdůvodňování v co nejširší možné míře, tak aby zůstala co možná minimální množina nezdůvodněných premis a pojmů. Proto musel podrobit kritickému zkoumání pojmy pravdy, odvozování a důkazu, což vyžadovalo filozofickou analýzu nositelů pravdy a prostředků provádění důkazů, tj. jazyka.

Fregova filozofická zkoumání základních logických a matematických (ale i sémantických) pojmů je proto třeba uvažovat vždy jako součást širšího filosofického systému. Fregovo pojetí pravdy úzce souvísí s jeho pojetím nositelů pravdy (myšlenek), s existencí nezávislé oblasti reference (Fregův realismus), povahy soudu atd. Ačkoli lze pochybovat o tom, zda byl Frege platonik, jak bývá často poněkud pejorativně označován, realistou byl zcela určitě, neboť pevně věřil v existenci abstraktních objektů (k nimž patřily i Pravda a Nepravda) a v jistém smyslu i pojmů (jako funkcí s objekty na místě argumentů). Také myšlenky jako významy asertorických vět existují pro Frega objektivně: mnoho jednotlivců je schopno uchopit jednu a tutéž myšlenku. Na straně druhé, pokud jde o čistě o pojem pravdy, nejsou Fregovy poznámky v celé šíři jeho díla zcela systémové: lze nalézt odlišnosti v závislosti na tom, zda se Frege pojmem pravdy zabývá v rámci logického zkoumání, nebo v souvislosti se sémantickou analýzou. Fregovy teze o pravdivosti se liší také v průběhu času: nakonec Frege dospěl až k závěru, že pojem pravdy je z hlediska logiky jako takové zcela redundantní, jeho potřeba vyplývá pouze ze nedokonalosti našich jazykových prostředků.[11]

Měli bychom skutečně rekonstruovat dějiny Fregova pojetí pravdy tak, že se počínají pevným přesvědčením o primitivní, objektivní a absolutní povaze pravdy, přes pochybnosti o oprávněnosti či užitečnosti pojmu pravdy vyplývající ze sporů, které vznikají při pokusech jej definovat, až po jeho úplné odmítnutí a nahrazení pojmem asertorické síly? Jsem přesvědčen, že nikoliv, neboť pozdní Fregovy práce v oblasti filozofické logiky je třeba nahlížet optikou rozčarování a frustrace, které Dummett výstižně zmiňuje v úvodu citované knihy k

[11] V jedné ze svých nepublikovaných poznámek z roku 1915 nazvané v překladu „Mé základní logické postřehy“ píše: „*Nebylo by možné ... se [slovu ‚pravda‘] úplně vyhnout, když může působit jen zmatek? To, že tak nemůžeme učinit, je způsobeno pouze nedokonalostí jazyka. ... [T]o, co nejzřetelněji ukazuje na podstatu logiky, je asertorická síla, s níž je věta vyslovena.*“

interpretaci Frega. Stručně: poté, co Russell objevil známý rozpor ve Fregově formálním systému, začal Frege pomalu ustupovat ze svých pozic silného realismu. Je možné, že část této skepse ovlivnila i jeho nahlížení pravdy.

Frege v každém případě zastával názor, že pravda náleží myšlenkám – myšlenky jsou skutečné nositele pravdivosti. Myšlenka však není něco mentálního. Myšlenky jsou objektivní entity, které mohou být „uchopeny" subjektivní myslí jednotlivce. Totéž proto musí platit pro pravdivost, jen s tou výjimkou, že Frege hovoří spíše o „rozeznatelnosti" pravdivosti než o „uchopitelnosti". Uchopení myšlenek a rozeznání jejich pravdivosti jsou však psychologické akty, které nelze zkoumat pomocí logiky. Navíc rozeznávání mimologických pravd má podle Frega studovat epistemologie. Ty pravdy, které studuje logika, jsou však zřejmě rozeznatelné samotnou schopností rozumu, Frege však k otázce epistemického přístupu k objektivním myšlenkám a pravdě vyjadřuje pouze velmi sporadicky. [12]

Pravda je rovněž pojem formující filozofickou analýzu významu v přirozeném jazyce. To by se mohlo zdát v rozporu s tím, co bylo dosud řečeno, totiž že filozofické úvahy o přirozeném jazyce naopak poskytují nezbytné filozofické pozadí jednak při budování formálních systémů na bázi ze zákonů pravdivosti, jednak pro samotné poznání a zdůvodnění zákonů pravdivosti. Pro Frega však formulace zákonů pravdy a vymezení pojmu pravdy není jeden a týž úkol: zatímco první je cílem logiky a lze říci, že Frege byl v jeho dosažení do značné míry úspěšný, druhý je podle Frega nemožný. Frege tvrdí nejen ve stati Myšlenka, ale i v řadě dalších nepublikovaných poznámek, že pravda je nedefinovatelná. Jak říká Hans Sluga:

„Fregův názor na povahu pravdy [...] lze nejsnáze charakterizovat slovy, že pojem pravdy považuje za základní sémantický pojem. [...] Frege shrnul svůj celkový pohled [...] následujícími slovy:

‚Pro mé pojetí logiky je charakteristické, že dávám prioritu významu slova „pravdivý", a hned nato zavádím myšlenku jako to, čeho se otázka „Je to pravda?" v zásadě týká.'"[13]

Pro Frega jsou jakékoliv pokusy o definici pravdy odsouzeny k nezdaru: to je jedna z klíčových tezí prezentovaných v Myšlence i v jeho dřívějších nepublikovaných pracích. Pojem pravdy je tedy třeba spíše předpokládat jako daný a lze jej pouze objasnit, zejména srovnáním s jinými pojmy, respektive demonstrací jeho vazeb k jiným pojmům, tedy zasazením do celkového filozofického systému. Frege proto ve řadě spisů věnovaných filosofické logice používá různé „nepřímé" prostředky, aby čtenáři představil metodu logiky a pravdu jakožto předmět logiky: srovnává logiku s jinými vědami, uvádí argumenty pro vyloučení předmětu logiky z oblasti psychologie, zabývá se otázkou nositelů pravdy atd. Fregovi v tomto nelze vytýkat metodickou nedůslednost, jde o záměr osvětlit obsah určitého primitivního pojmu tím, že jej zasadí do širšího filozofického systému. To je ostatně metoda široce rozšířená v současných filozofických pracích.

[12] Ke kritice Frega týkající se nedostatečného vysvětlení této zvláštní rozumové mohutnosti schopné odhalovat logické pravdy, srov. Burge, T. Frege on Knowing the Third Realm. *Mind, New Series,* Vol. 101, No. 404 (Oct., 1992), s. 633-650.

[13] Hans Sluga. Truth before Tarski. In J. Woleński and E. Köhler (eds.). *Alfred Tarski and the Vienna Circle. Austro-Polish Connections in Logical Empiricism* (Dordrecht: Kluwer Academish Publishers, 1999, s. 27).

6 ZÁVĚR

Příspěvek představil pojetí pravdy Gottloba Frega, především jak bylo představeno ve známém Fregově spisku Myšlenka. Nejprve byl načrtnut kontext Fregova díla a standardní interpretace argumentů, které Frege formuloval ve třetím a čtvrtém odstavci Myšlenky a které jsou filozofy logiky vnímány kontroverzně. Následně příspěvek představil konkurenční interpretaci uvedených odstavců formulovanou v nedávné době Ulrichem Pardeym. Tuto interpretaci posléze podrobil kritice. Konečně příspěvek modifikoval standardní interpretaci prostřednictvím zasazení Fregových poznámek o pojmu pravdy do širšího kontextu jeho filozofického systému.

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OF OBSCURE T. G. RAYNAL AND OF THE FORGOTTEN HISTORY OF THE TWO INDIES

Natália Tarnóczyová

Abstract

This contribution aims to shed light on the lasting impact and significance of a pivotal work from the French Enlightenment era. *A History of the Two Indies*, despite facing censorship and being deemed controversial, sparked widespread discussions, and influenced renowned philosophers, nations, and societies. Despite its still relevant and powerful legacy, it fell into oblivion, and it is essentially unknown nowadays. This article tries to initially fill the gap in our understanding of the Enlightenment tradition and in the history of philosophy as such. Recognizing *A History* as a central monument of the Enlightenment, the author endeavours to introduce and analyse its fundamental ideas and perspectives. While the author primarily consulted the original eighteenth-century French edition, translations are provided for paraphrases and quotations.

Keywords: *Raynal. Diderot. History of the Two Indies. Enlightenment.*

INTRODUCTION

"It may be doubted whether liberty can complain more of those who have the audacity to attack it, or of the imbecility of those who cannot defend it," stated Raynal in *A Philosophical and Political History of the Settlement and Trade of Europeans in East and West Indies* (Raynal 1770, p. 482). The Enlightenment is without a doubt one of the most diverse and interesting eras, even when it comes to the issues such as freedom, law, and equality. Numerous works have been published about personalities such as Montesquieu, Rousseau and Voltaire, and their references do not stop. We still deal with them today, whether in the field of literature, history, or philosophy. Apart from them, however, there are also other writers and works that are unfairly underestimated and even forgotten. One, maybe the best example is *A History of the Two Indies* written by G. T. Raynal, despite being referred to as the source of the spread of the intellectual atmosphere for the Great French Revolution (1789), or even as the central monument of the entire Enlightenment. Mathew Sharpe (2019, p. 12) argues that the works of the Enlightenment lack a comprehensive and influential perspective that resonated globally, as opposed to *A History of the Two Indies*.

1 GUILLAUME-THOMAS RAYNAL

Guillaume-Thomas Raynal was a French historian, writer, and philosopher. With his opinions, he contributed to many value, legal and social changes. He was born on April 12, 1713, in French Lapanouse, and died on March 6, 1796, in Chaillot. In his youth he belonged to the Jesuit order, but later he gave up the pious life in favour of writing. His nickname Father Raynal[1] remained from his school days. Over time, he wrote many works and between 1750 and 1754 even edited the government-sponsored literary periodical *Mercure de France*, earning him literary respect and a place in society. Already at the beginning of his literary activity, he became a great source of inspiration for many individuals - writers, philosophers, but thanks to his most important and most discussed work *Histoire philosophique et politique des établissements & du commerce des Européens dans les deux Indes* (*A Philosophical and*

[1] From fr. l´abbé Raynal

Political History of the Settlements and Trade of the Europeans in East and West Indies) we can even talk about entire nations and states – Poland, America or Russia.... It is about six-volume history of European colonies in America and India. About thirty different editions were published between 1770 and 1789, and more than fifty were published abroad. The translation of the text in America was highly regarded by the so-called revolutionaries because it promoted revolutionary discourse and similar ideals.

The first edition of the text in 1770 was followed by several expanded versions in which the atmosphere became increasingly critical. The European approach to colonial peoples, religious intolerance, cruelty, and arbitrary authority faced the greatest criticism. One of the anonymous authors contributed to these increasingly radical passages, who was eventually identified as the philosopher and encyclopaedist Denis Diderot. This constant increase in critical tone probably caused an unfavourable fate for the author and the book itself. In 1774, *A History* were included in the index of forbidden books of the Roman Catholic Church, and in 1781 the authorities ordered Raynal to go into exile and his war machine[2] burned (Michaud 2014). Masaryk (1934, p. 59) evaluated Raynal's file as follows: "Abbé Raynal preached the same thing: There is no other council than the ministerial royal council. Where the rulers of the land gathered, there the church also gathered... There are no other apostles than the lawgiver and his servants, there are no other holy books than those that have been recognized as holy. There is no other divine right than the welfare of the state. So wrote before the revolution a priest, a Jesuit inmate, whose liberalism was so disliked by Parliament in 1781 that he burned his famous writing." Raynal was later forgiven, and this exile lifted, but he never changed his views. Although Raynal had been elected to the Estates-General since the first days of the revolution, he refused this service, as it would have taken the side of violence. Later, he even prepared a report that was read before the National Assembly in May 1791. It presented the desire to change the system to a constitutional monarchy according to the English system. As a result, his property was confiscated by the National Assembly, and he lived out his life in poverty (Michaud 2014).

2 *A PHILOSOPHICAL AND POLITICAL HISTORY OF THE SETTLEMENTS AND TRADE OF THE EUROPEANS IN EAST AND WEST INDIES*

„We are here going to display scenes, still more terrible than those which have so often made us shudder," announces the introduction of A History of the Two Indies (Raynal 1788, p. 2), described as a history of colonial criticism - one of the key texts of the Enlightenment. In the final nineteen volumes, he deals with European relations with the "East Indies" (everything east of Persia and south of Russia) and the "West Indies" (America and Africa).

Behind the educational title History of the Two Indies is hiding the whole range of their observations, which we can label with adjectives such as spectacular, excessive, or ambitious, because they discuss the world as such. Its program, announced in the first lines and running through the entire work, is the discovery of a new world. This is a question that has captured public opinion (Bancarel 2009). "For the human race in general, and for European nations in particular, no event is more interesting than the discovery of the New World and the passage of the Cape of Good Hope to India. This discovery revolutionized the commerce, power, customs, industry, and government of all nations. At this moment, even men from the most distant corners became necessary: productions from equatorial climates are consumed in climates near the pole, industry from the north is transported to the south, eastern fabrics are dressed in the west, and people everywhere communicate their opinions, their power, their laws, habits, means, diseases, virtues, and vices. Everything has changed and must change

[2] From fr. machine de guerre – the term was first used by Hans Wolpe (1957)

again..."(Raynal 1770, p. 2). Likewise, the incipit[3] of *A History* presents an "archaeology of globality", which is based on the awareness of double globalization, namely at the end of the 15th century and in the second half of the 18th century. Movement and change are the definition, with trade and profit being the driving force and dynamism of such a changing world. According to Donath, A History was among the best-selling works of the eighteenth century and laid the foundation for thinking and debate about the colonial issue in France and abroad for decades after its discovery (Donath 2012).

Raynal's writing technique consists of interrupting the narrative, which allows him to add personal commentary to historical events and greatly enlighten the reader. His contributions often consist of emotional pressures or warnings. While considering the colonies, he uses the terms "theater of bloodshed and destruction", "theater of dishonor", where the Manichaean forces of good (colonized nations) and evil (European conquerors) meet. "The sword that will never be blunted: and we shall not fee stop till it meets with no more victims to strike," (Raynal 1788, p. 2). His purpose is to warn against any despotic temptation and prevent history from repeating itself. He attacks the Inquisition, persecution, and the church or even religion as such, as a political invention of terror and horror. It was religious belief, among other things, that often served as a measure of the maturity of that country or nation. Ethical principles of respect were almost always limited to members: members of one's own tribe, nation, religion, or civilization, while all others outside the group were regarded as undeserving of moral respect. Such a view of foreign nations basically legitimized the cruel treatment of different groups of people (Israel 2006). A justifiably sharp, at that time shocking, reaction of *A History* even described Pierino Gallo (2017) as a legal assassination – "Hate monsters, stop. (...) You infamous priests and shameless monks, are not even your crimes sufficient to arouse the wrath of heaven? Make amends, bow down at the altar, cover yourselves with sackcloth and ashes, beg for mercy instead of executing the innocent at the stake. To please God, burn people! You are followers of Moloch," (Raynal 1770, p. 59). The text explicitly mocked the imperial policy, which tried to explain and defend its practices by relying on any religion. Therefore, if we combine the above with many lines about the actions of the powerful, we will understand that the authors of the text took the very "war strategy" that is implemented throughout *A History* (Raynal 1770, p. 114): "Sovereigns, what will stop you? If justice is not just an empty word for you, prove it. What is the use of treaties that do not guarantee peace, to which the weakest are forced to accede."

Several Enlightenment writers expressed concerns about the fairness of the imperial powers' treatment of the colonies (Donath 2012). On the other hand, only few of them really rejected colonialism. The paradox was that even opinions that were directed against it were later used to support it and dehumanize the natives. However, A History was not so naive. In our opinion, even if their authors rejected the practices of imperial politics, it was clear to them that the train that was running would not stop so quickly. Therefore, a new alternative is presented in the text. They come up with the concept that "government" can be established over the local people through persuasion, i.e., through their own consent to individual imperial decrees. They believed that such a form of government could be more in line with the Enlightenment tradition and liberal principles. For us today it is a trivial and banal matter, but it was *A History* that crystallized and promoted these visions. Within them, Raynal, while telling the history of unsuccessful French colonization efforts (in Madagascar), presents this alternative approach to the establishment of colonies, and describes it as a "gentle path of persuasion"[4]. This is a system of legislation that should be provided to the people, and this

[3] The opening word of ancient manuscripts, usually followed by a summary of the contents of the work and replaced the title page.

[4] From fr. la voie douce de la persuasion

alternative route is of course accompanied by an optimistic prospect of industry benefits. All this was to lead to the alignment of a plan (and trade) beneficial to both parties (Donath 2012). The whole concept based on persuasion is still criticized to this day, and from the same point of view, the work with the adjective anti-colonial/anti-imperial tends to be doubted. We are of the opinion that it is inevitable to look at the text through a contemporary lens. Work radically rejected that non-European peoples should be inferior and unvalued, it opposed unfair treatment, its slogans were respect and humanity, these are some of the many factors that irrefutably confirm its position in favor of basic human rights and freedoms. It is therefore indisputable that it stood out at least against the practices of the colonial powers and proposed a better, more legitimate, and "softer" variant of colonial efforts to acquire territories than the old one. Even from that point of view, there is no reason to deny its many firsts, merits and changes stemming from them, which it contributed to.

Another central to Raynal's work was a reconsideration of the relationship between imperial policy and the rise of new nations, politics and trade, a defence of trade and colonization as factors of civilization towards which A History of the Two Indies (under certain conditions) leans. It is a theory of progress based on the theory of universal history and "gentle trade"[5], considering the inequality between the great Mexican and Peruvian empires and the savages, and at the same time the backwardness of American civilizations compared to Europe. The opinion that commerce is synonymous with civilization became popular. It became "the new soul of the moral world." The Enlightenment theory of civilization was expressed through the formula "double trade" - a form of trade that recognized the need for European conquest of non-European countries and peoples and the possibility of bringing European civilization to other peoples without violence. Montesquieu was the first, who expressed this idea precisely with the condemnation of the Spanish Empire and its conquest. In *A History of the Two Indies*, this idea was also discussed dramatically, until finally Diderot showed with his contributions that civilization was only a mask of violent conquest, and thus contributed to an extraordinary and unusual refutation of the Enlightenment ideology and its civilizational strategy (Imbruglia 2015). *A History of the Two Indies* is therefore an ambivalent work for many reasons. Many of its passages are reminiscent of the so-called genre business dictionaries or geopolitical descriptions, which largely contributed to its popularity. In those years, similar works were referred to as statistics and were read mainly by "political analysts" of the time. Historical and economic geography, the various forms of trade and their development, as well as the administrative organization of states, were all subject to extensive debate, but the work continued to provide answers to a growing volume of problems over the next several decades (Imbruglia 2015).

Girolamo Imbruglia (2015) describes *A History* as an extraordinary comparative history of civilization, the first study of its kind, covering both European and non-European societies. In addition to this systematic view, another strong factor is also present in the work, namely the need to identify forces and elements, whether crisis or support of the entire historical process. The core of *A History of the Two Indies* project remains the idea that geographical discoveries and the new trade relations that grew out of them represented a watershed in the history of modern Europe and created a new identity. It was clear that European civilization was transforming itself and other civilizations, and that it was still too early to identify what advantages or disadvantages this would bring to humanity in the future. A completely new era had begun, dominated by trade and the need to maintain relations with populations that had previously been ignored: this need was indeed so urgent that it was necessary and common to look for new areas with which to communicate in this direction, respectively over which dominion could be exercised. A good example is Raynal's condemnation and even disgust

[5] From fr. le doux commerce

with Spanish colonial policy. On the other hand, he never doubted the right of Europeans to explore and conquer new territories. The balance between these two positions changed only in the third edition of *A History of the Two Indies*, through the contributions of Denis Diderot, which began to increase both in number and in sharp criticism of this theory.

The contradiction between its most important authors, Diderot and Raynal, is also characteristic of *A History of the Two Indies*. One could say, as Diderot also describes it, that they engaged in a dialogue between philosophers of commerce ("commercants philosophes") and philosophers of history ("historiens philosophes"), with Raynal among the former and Diderot among the latter. (Imbruglia 2015). But in the disagreement between them, we can see the culture of the Enlightenment, which engages in a passionate analysis of its languages and ideals: their dialogue was a profound internal verification of the power of the Enlightenment (Imbruglia 2015).

A History is, as we mentioned, a magnificent work to which many anonymous co-authors contributed (in addition to Denis Diderot, among them were, for example, Naigeon and d'Holbach). After 1776, Raynal commissioned Diderot to make certain changes concerning the style of the text. As a result, between 1776 and 1780, Diderot added another 700 pages of content, including very significant passages, mostly in the prefaces or conclusions of chapters and books, dealing with the slave trade, the inhuman brutality of the colonialists. These new additions completely changed the tone of the work and turned *A History* into a "rehearsal with declamations." Had it been in his power, Diderot would have called the 1780 edition: "the book that I love, and that kings and courtesans hate, the book that gives birth to Brutus" (Sharpe 2019). Thus, the contradiction between its most important authors, Diderot and Raynal, is characteristic of *A History of the Two Indies*. One could say, as Diderot also describes it, that they engaged in a dialogue between philosophers of commerce ("commercants philosophes") and philosophers of history ("historiens philosophes"), with Raynal among the first and Diderot among the second. But in the disagreement between them, we can see the culture of the Enlightenment, which engages in a passionate analysis of its languages and ideals: their dialogue was a profound internal verification of the power of the Enlightenment (Imbruglia 2015).

A History is thus perhaps the first treatise of the modern period that is really directed against the practices of imperial politics. Diderot's (1770) contributions, in which he considers the maintenance of the status of countries, mostly contain expressions such as "great evil" or "against nature". He holds the opinion that every person is primarily brought up within their national cultures and characters. According to him, such enculturation forms only a "mask" of customs and traditions, which restricts or artificially ennobles individuals, but he adds: "The greater the distance from the capital, the more the mask loosens, it is lost." At the borders, it will disappear completely. What happens when you pass from one world to another? Nothing... Beyond the equator, one is neither English, Dutch, French, Spanish, nor Portuguese. He retains only those principles and prejudices from his native land that justify and justify his behavior... he is a domestic tiger, returning to the forest, the thirst for blood again seizes him..."(Raynal 1788, p. 22). Europeans - colonizers are like that, in Diderot's words, greedy people without talent and morals, knowing no sense of honor or the idea of justice, scornful of the higher status of the state. The absence of witnesses and judges of their actions evokes the worst that is hidden in these people (Raynal 1788). These men tend to act "contrary to all humanity, against the interests of its safety, and the first dawn of reason, (so that) ... they continue to become more barbarous than savages..." (Raynal 17988, p. 384). Diderot characteristically addresses several lines to the colonizer. He describes them as thieves and murderers, who have no choice to complete the absurd portrait of their character but to become what (according to Diderot) they really are - a band of vile sophists, and puts into their mouths the words characteristic of them: "Let my country perish, let the region also

perish: natives and strangers perish: my companions perish, provided I enrich myself with the spoil. All parts of the world are the same to me. If I have left one country desolate, exhausted, and impoverished, I will find another…" (Raynal 1770, p. 262). In addition, the text is enriched with Diderot's lofty style: apostrophes, personifications, admonitions, warnings and zoomorphisms, such as: "O barbarous Europeans! I was not dazzled by the splendor of your deeds. Their success has not masked their injustice... if I cease to see you even for a moment as a flock of pitiless and cruel vultures, with a similar degree of minimal morality and conscience to these birds of prey, let this work and my memory become the object of the utmost contempt and repugnance" (Raynal 1770, p. 22). No wonder Anthony Padgen (2013, p. 169) describes the 1780 edition as a mini encyclopedia of all the evils of European colonization, which at that time afflicted the whole world. The text itself lets us know on the first page that it is not a happy reading - "I am describing history and my eyes are almost always full of tears" (Raynal 1788, p. 1).

3 CONCLUSION

As we have already mentioned, *A History of the Two Indies* has gained popularity in a striking way. Not only personalities such as Jefferson, Franklin, the creators of the American Constitution, but also the heralds of the ideals of the French Revolution found inspiration in them. The Polish looked for everything related to the preservation of national independence in them, the Russians used them to demonstrate the need for the liberation of the peasants and the abolition of despotic tsarist power (Bancarel 2009). This is so for various reasons, most likely the heterogeneous nature of views and arguments regarding such general concepts as freedom, colonization, equality, or law. Also, for that reason, it is undoubted that there is a huge potential for various fields of research in such an extensive and demanding work. However, our modest intention was to present, or rather to remind, the essential worldwide influence of *A History of the Two Indies* and its authors. We have also presented at least their most basic ideas and arguments. Our effort was to bring closer the indisputable reasons for their success as well as condemnation. Because of its nature, it was a dangerous work for several higher-ranking church and state officials, colonizers, tyrants, and all those who act in violation of basic human rights.

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PROFESIONALIZMY, SLANG, ARGOT A ICH PERCEPCIA POUŽÍVATEĽMI JAZYKA

THE PROFESSIONAL WORDS, SLANG, ARGOT AND THE PERCEPTION OF THEM BY THE LANGUAGE USERS

Zoja Dubovcová

Abstrakt

Príspevok sa zaoberá profesionalizmami, slangom a argotom a to najmä v ohľade ako vnímajú a rozumejú týmto termínom študenti a učitelia slovenského jazyka. Cieľom príspevku je zistiť a opísať percepciu skúmaných pojmov respondentmi. Na základe výsledkov nášho prieskumu usudzujeme, že nie je jednoznačné porozumenie termínom profesionalizmy a argot. Na druhej strane, termín slang bol zrozumiteľný pre väčšinu účastníkov prieskumu, ktorí vyplnili krátky dotazník.

Kľúčové slová: *profesionalizmy, slang, argot, vnímanie, študenti, učitelia*

Abstract

The study deals with the professional words, slang and argot and it focuses on the understanding of the people, both students and slovak language teachers, to the meaning of these terms. The main aim is to find out and describe the perception of the terms by the respondents. On the basis of the research, we deduce, that there is no clear understanding of the terms professional words and argot among the asked participants who completed the short questionnaire. On the other hand, we found out that the term slang is understandable for the majority of the participants.

Key words: *professional words, slang, argot, perception, students, teachers*

1. Úvod

Cieľom príspevku, ktorý je parciálnou časťou dizertačného výskumu, je opísať a charakterizovať vnímanie a uchopenie pojmov profesionalizmy, slang a argot jednak študentmi, ale tiež pedagógmi, učiteľmi slovenského jazyka. Podnetom k tejto štúdii bola nedostatočná informovanosť respondentov pri komunikácii s nimi, ktorí uvádzali pochybnosti a nejasnosti pri termíne *profesionalizmy.* Častokrát nerozumeli, čo uvedený termín znamená, prípadne ho stotožnili so slangom. Rozhodli sme sa preto zaznamenať túto situáciu a následne ju analyzovať a vyhodnotiť.

2. Charakteristika pojmov

S ohľadom na rozsah príspevku sa budeme venovať len vybraným kľúčovým myšlienkam, ktoré sú nevyhnutné pre záverečnú syntézu. Zameriame sa na definície skúmaných pojmov, s ktorými sa študenti bezprostredne stretli na hodinách slovenského jazyka a tiež na definície dostupné verejnosti na slovníkovom portáli Jazykovedného ústavu Ľ. Štúra SAV.

V učebnici *Slovenský jazyk pre stredné školy* sú profesionalizmy charakterizované takto: „*jazyk ľudí s tým istým povolaním; šnek (=závitovka), hasák (=rúrkové kliešte)“,* slangové slová sú:

„expresívne slová typické pre ľudí s rovnakou profesiou, záujmami s potrebou vyčleniť sa (elina, riďas, oblbovák, slepák). Argot je podľa autorov uvedenej učebnice *„jazyk spodiny; v minulosti tajný jazyk, napr. drotárov) tráva, fet, tác, fízel.* (Caltíková a kol., 2006, s. 102-103). Profesionalizmus je v Krátkom slovníku slovenského jazyka (KSSJ) 4 z roku 2003 opísaný ako *„orientácia v športe, umení ap. vychádzajúca z plateného vykonávania danej činnosti“.* V Slovníku cudzích slov z roku 2005 sú uvedené dve definície profesionalizmu:

1. *vykonávanie nejakej činnosti (športovej, umeleckej), z povolania (op. amaterizmus)*
2. *lingv. výraz al. prostriedok používaný určitou profesionálnou skupinou*

Argot je definovaný v KSSJ 4 nasledovne: *„reč protispoločenskej skupiny, v kt. vyjadrovacie prostriedky majú utajiť komunikované skutočnosti“.* Slovník cudzích slov z roku 2005 opisuje argot ako *„reč príslušníkov spoločensky izolovaných, deklasovaných vrstiev, založená na súbore výlučných, iným nezrozumiteľných slov a obratov (s gramatickou stavbou a základným slovným fondom prevzatým z bežnej hovorenej podoby národného jazyka).*

Domnievame sa, že respondenti zapojení do nášho prieskumu by mali vychádzať z hore uvedených definícií a mali by vedieť dostatočne poznať skúmané pojmy tak, aby dokázali nájsť odlišné a spoločné prvky.

3. Prieskum medzi študentmi

Prvá časť (pilotného) prieskumu bola zameraná na študentov gymnázia v Ružomberku a uskutočnila sa v júni 2022. Prieskumu sa zúčastnilo 24 študentov druhého ročníka. Úlohou študentov bolo charakterizovať pojmy *slang, profesionalizmus, argot, onomatopoje, oxymoron* a zároveň uviesť aj konkrétne príklady na dané termíny.

Náš predpoklad, že študenti budú dobre vedieť charakterizovať slang sa naplnil a z 24 študentov správne vystihlo slang 20 študentov, čo predstavuje 84%. Študenti uviedli napríklad takéto charakteristiky:

- *„modernejšie skrátenie slova, typické pre mladšiu generáciu: biológia - biola“*
- *„hovorené slovo/ slová, ktoré sú skrátené, využíva ich dáka časť ľudí, záleží od veku, prostredia profesie: slovenčina – slovina, sú nespisovné“*
- *„každá skupina ľudí (vojaci, učitelia, školáci, robotníci) majú svoje slová, ktoré si skrátili, prispôsobili podľa svojich potrieb (učka, matika, slovina)“*

Pri charakterizovaní pojmu profesionalizmus mali študenti oveľa väčšie problémy a z 24 študentov správne opísal profesionalizmus iba jeden žiak, čo predstavuje 4%. Podľa tohto respondenta je profesionalizmus „*slovo, ktoré sa používa v profesionálnej komunikácii, napr. v pracovnom prostredí“.* Pri analyzovaní výsledkov prieskumu sme si uvedomili, že singulár (profesionalizmus) bol nevhodne zvolený a tak študentov mohol viesť k nesprávnej interpretácii pojmu čo je zjavné aj v nasledujúcich odpovediach:

- *„keď je niekto na vysokej úrovni a je v tom „profík“*
- *„obsiahnutie odborného slovníka“*
- *„odborné vyjadrenie k nejakej skutočnosti“*
- *„odbornosť v danej činnosti (v športe)“*
- *„spôsob správania sa v profesii, neprejavovanie emócií “*
- *„oficiálne, odborné slová používané hlavne pri odborných opisoch, návodoch “*
- *„profesionálne pomenovanie“*

Ďalším pojmom v dotazníku bol *argot,* ktorý tiež študenti nedokázali charakterizovať, z celkového počtu študentov iba jeden študent čiastočne opísal argot ako *„jazyk“ sociálne špecifickej skupiny.* Iní študenti uviedli tieto odpovede:

- *„slang, ktorý používajú deti“*
- *„MArgotka – chutná doboška zaliata v čokoláde a zabalená v modrom obale“*

Okrem pojmov z oblasti sociolektu sme zámerne do dotazníka zaradili aj termíny *onomatopoje* a *oxymoron,* s ktorými sa študenti stretávajú najmä na hodinách literatúry. Zaradením pojmov z inej oblasti slovenského jazyka sme sa chceli vyhnúť akejsi kategorizácii študentov na študentov *„slabých, alebo šikovných“*, resp. chceli sme získať komplexnejší pohľad na osvojené vedomosti. Pri charakterizovaní obidvoch termínov študenti dosiahli pomerne dobrú úspešnosť. Onomatopoje správne opísalo 19 študentov, čo predstavuje úspešnosť 79%:

- *„zvukomaľba“*
- *„Duní Dunaj a luna za lunou sa valí – zvukomaľba“*
- *„zvukomalebné slovo, napr. brr“*
- *„slová ktoré nabudzujú pocit zvukov – Duní Dunaj a luna za lunou sa valí“*
- *„zvukomalebný výraz, znie to zvučne“*

Oxymoron správne charakterizovalo 17 respondentov, čo predstavuje 71%. Študenti uviedli napríklad tieto odpovede:

- *„spojenie slov, ktoré si navzájom protirečia (hlasný šepot)“*
- *„spojenie slov protichodného významu – chudobný boháč“*
- *„protirečiace slovné spojenie – živá mŕtvola“*
- *„protikladné slová – nálož ticha“*

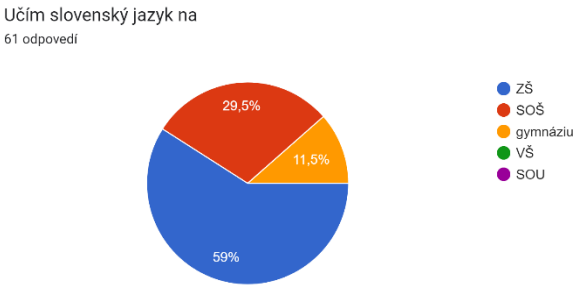
Z uvedeného prieskumu vyplynulo, že skúmaná vzorka študentov dokázala charakterizovať pojmy v nasledovnej škále:

Slang: 20/ 24 ..... 83%
Onomatopoje: 19/ 24.....79%
Oxymoron: 17/ 24 .....71%
Profesionalizmus: 1/ 24.....4 %
Argot: 1/24.....4 %

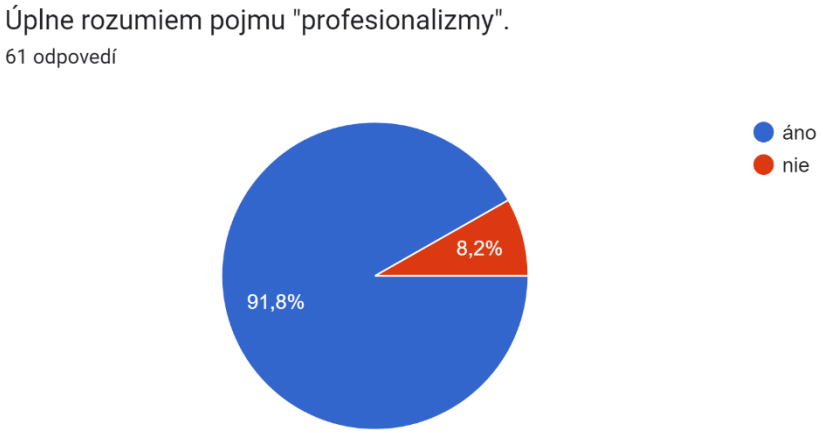
To teda znamená, že oslovená skupina študentov nie je dostatočne oboznámená s pojmami *profesionalizmy a argot,* na druhej strane termínom *slang, onomatopoje a oxymoron* väčšina študentov rozumie a respondenti bez problémov dokázali uviesť osvojené príklady na dané pojmy.

4. Prieskum medzi pedagógmi

Ďalšiu časť nášho prieskumu sme smerovali na pedagógov, učiteľov slovenského jazyka, ktorých sme oslovili prostredníctvom skupiny Spoločenstvo slovenčinárov, priateľov školy a vyučovania slovenčiny na sociálnej sieti Facebook a požiadali sme ich o vyplnenie formulára. Okrem toho bol formulár odoslaný aj do mailových schránok niektorých učiteľov slovenského jazyka. Odpovede sa prijímali od 22.05. 2023 do 07.06. 2023. Formulár vyplnilo spolu 61 respondentov. V prvej otázke nás zaujímalo pôsobisko respondentov. Najvyšší počet respondentov pôsobí na základnej škole, je to 36 pedagógov, na strednej odbornej škole pôsobí 18 učiteľov a najnižšie číslo tvoria slovenčinári pôsobiaci na gymnáziu, čo predstavuje nasledujúce grafické percentuálne zobrazenie:



Pedagógovia pôsobiaci na odborných učilištiach a vysokých školách sa do prieskumu nezapojili. V ďalších otázkach boli učitelia požiadaní, aby sa vyjadrili, či úplne rozumejú pojmom *slang, profesionalizmy a argot* a následne mali uviesť aj konkrétne príklady týchto pojmov. Naša hypotéza, že pedagógovia budú mať najväčší problém vymenovať profesionalizmy sa potvrdila a v porovnaní s ďalšími dvomi pojmami sa ukázalo najviac nejasností práve pri profesionalizmoch. Kým pri otázke slangu sa vyjadril iba jeden respondent, že úplne nerozumie pojmu *slang*, pri *profesionalizmoch* to boli až piati účastníci, čo predstavuje 8,2%.



Pri *argote* sa dvaja učitelia vyjadrili, že nie úplne rozumejú tomuto pojmu, čo predstavuje 3,3%. Pri otázke, v ktorej mali pedagógovia napísať konkrétne slová ktoré patria do slangu, väčšina pedagógov uvádzala slová patriace do školského slangu:

- *učka, matika, deják, prďák /prírodopis/, zemák /zemepis/, slovina, klasák /klasif. záznam/, pracák /prac. zošit/*
- *Ako učiteľka vnímam, prirodzene, školský slang, kam patria slová ako učka, slovina, matika, telák, geoša a podobne.*
- *zemák (= zemepis), učka (= učiteľka), prďák (= prírodopis), profák (= profesor) atď.*
- *učka, didžina, profák, guľa (päťka), vysvečko, slovina, matika, oháknuť sa, ségra*
- *profák, slovina, litika, čávo, čajočka*
- *slanina, matika, učka, veget*

Z morfologického hľadiska prevažovali substantíva, ale objavili sa aj verbá:

- *kecať, čilovať, kešovať, opajcnúť, oháknuť sa, čorchol.*

Ako sme sa už zmienili vyššie, jeden respondent zvolil možnosť, že úplne nerozumie pojmu *slang* a zároveň jeden nedokázal uviesť žiadny príklad na slangizmus. Pri analyzovaní odpovedí

sme zistili, že respondent (č. 45), ktorý síce označil možnosť, že úplne nerozumie pojmu *slang* uviedol správne príklady *„matika, slovina“* a respondent (č. 28), ktorý označil možnosť, že úplne rozumie pojmu slang, nevedel uviesť žiadny príklad na slangové slovo.

V nasledujúcej časti formulára boli učitelia slovenčiny požiadaní aby uviedli konkrétne príklady na *profesionalizmy.* Štyria účastníci nevedeli napísať žiadny profesionalizmus, ostatní uvádzali zväčša po jednom príklade, ojedinele to boli dve alebo tri slová. Tematicky sa opäť uvádzané profesionalizmy opierali o školské prostredie ako napríklad *diplomovka, bakalárka, triedna, klasifikačný, klasifikačná, písomka, previerka, rigorózka, kontrolka, slovenčina, komisionálky, plachta (dokument v učiteľskej praxi), ižetko (IŽK – internetová žiacka knižka), Pkačka (predmetová komisia), Edupage, BéOZetko.* Objavili sa však aj profesionalizmy z iných oblastí, najmä zo zdravotníctva: *slepák, subkutánka, muskulárka, pacoš, očiar, operačka, labák, urgent, emerko,* ale tiež z ďalších pracovných odvetví: *kancelák, spinkovač, cestovka, pásak (pásový traktor), praktikábel (vyvýšené drevená plocha na javisku), trigas (trigonometrický bod, geodézia), káblovka, áčko, béčko (hasičské výrazy), hasák, čítačka, mláťačka, hobľovačka, pulírka, šefing (chafing dish).* Väčšina z uvedených výrazov bola správne identifikovaná ako profesionalizmy, niektoré sa však svojou štruktúrou a expresívnosťou radia k slangizmom: *pacoš, labák, slepák, klasák, drviť sa.* Ďalšie uvádzané slová, vnímané respondentmi ako profesionalizmy, boli tieto: *faul, nález, pedagogický, gramatika, štylistika, lingvistika, sémantika, lexikológia, učebné osnovy, mimoškolské aktivity, technický parameter, justičná stráž, terina, osobné údaje, výkon, projekt, medicína, skalpel, terapia, vydedukovať, kolízia, laserový zameriavač, katedra, hárok, úroková sadzba, blanšírovať, ordinovať, curriculum, sylabus, badget, skalpel, terapia.* V týchto výrazoch však črty profesionalizmov nenachádzame a môžeme konštatovať, že boli nesprávne určené ako profesionalizmy. Z celkového počtu 86 zaznamenaných slov, pričom opakujúce sa výrazy sme započítali len jedenkrát, nesprávne určené profesionalizmy tvoria 44%, to znamená, že ani vyučujúci slovenského jazyka (zaradení do skúmanej skupiny) si neboli istí v tejto oblasti.

Najnáročnejšou úlohou pre respondentov bolo uviesť slová, ktoré patria do argotu. Deviati respondenti uviedli *„neviem“,* niektorí uviedli, že sa s takýmito výrazmi bežne nestretávajú, a preto si nevedia spomenúť. Ostatní respondenti uviedli tieto slová: *mariška, tráva, melón, prašule, prachy, čiara, žuvák, fet, kilečko, tráva, lup, vybieliť, koleso, molly (extáza), haluz, halušky, socka, žravka, alkáč, budka, blcha, blška, ploštica, koks, bonznúť, bubáky, moták, motáky, lóve, bachar, fízel, poliš, sneh, zajac, gang, basa, chládok, mord, klepetá, lepák, huby-buby (peniaze), kapustnica - tajný jazyk olejkárov, chillovať.* Možno konštatovať, že všetky uvedené výrazy spája téma väzenia, zločinu, návykových látok, dílerstva. Napriek tomu, že lexikálne jednotky argotu respondenti bežne nepoužívajú, v porovnaní s profesionalizmami urobili menší počet chýb v uvádzaní konkrétnych príkladov. Za nesprávne označený argot možno považovať napr. *matika, učka* a pravdepodobne aj *čakan, glaibaz.*

Posledným bodom vo formulári bola otázka *„Uveďte ako vnímate rozdiel medzi slangizmami, profesionalizmami a argotom.“* Štrnásti respondenti neuviedli vôbec nič, dvaja napísali *neviem* a ďalší štrnásti účastníci buď nevedeli vymedziť rozdiel, alebo pojmy určili nesprávne:

- *Je to problém vysvetliť žiakom rozdiely.*
- *Nevidím moc rozdiel, zdajú sa dosť podobné.*
- *V súčasnej komunikácii sa rozdiel potiera.*
- *Niekedy sú ťažko odlíšiteľné. Dôležitý je kontext.*
- *Viac-menej sa podobajú. Málokto ich vie rozoznať. Pretože všetky môžu znieť akoby boli slangové.*

- *Pomaly sa rozdiely začínajú stierať.*
- *Argot je jasný, slang a profesionalizmy majú niekedy malé odtienky.*
- *Nikdy predtým som sa nad tým nezamýšľala, ale rozdiel pravdepodobne súvisí s oblasťou, v ktorej sa slova používajú, ako aj so sociálnou rolou používateľa.*
- *Profesionalizmy sú podľa mňa poddruh slangu, argot je tajná reč spoločenských vyvrheľov, čiže v podstate sa nedá uviesť dobrý príklad, lebo už by nebol tajný.*

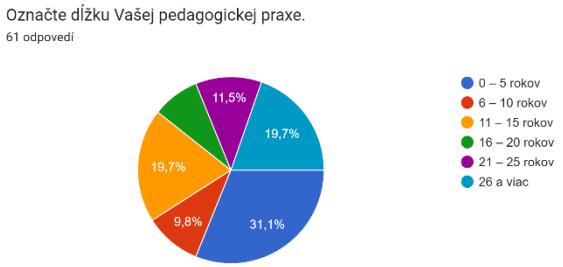
Ostatné odpovede vo formulári boli komplexnejšie a možno ich považovať za správne:

- *„Spoločným cieľom profesionalizmov a slangu je ekonomizácia reči, zatiaľ čo argot sa nesnaží slová skrátiť, ale znejasniť, resp. utajiť ich význam. Pomenúvajú jav iným slovom, ktorému rozumejú len "zasvätení" (chládok - väzenie). Argot je metaforický jazyk. Profesionalizmy - skrátené pomenovania vecí využívaných, resp. vyskytujúcich sa v špecializovanom odbore (napr. muskulárka - injekčné formy na aplikáciu do svalu pacienta). Slang - skrátené pomenovania javov, s ktorými sa dennodenne stretávame, nie sú nám cudzie i keď slangové označenie nám musí byť jasné , ak sme sa s ním ešte nestretli (kamarátka - kamka).“*
- *„Termíny slangizmy a profesionalizmy si myslím sú jasné a ľahko ohraničené, jednoducho sa používajú. Je pravda, že v praxi sa skôr stretávame s používaním slangu než profesionalizmami. Aj tie niekedy zvyknú nadobudnúť hovorovú alebo slangovú podobu. Argot je pojem, kt. na ZŠ nepoužívame dokonca ho ani nespomíname pri rozčleňovaní slovnej zásoby. Skôr mi príde, že slová, kt. by sa mali radiť k argotom bežne žiaci používajú ako slangové výrazy.“*
- *„Slang - používaný v bežnej hovorovej reči, medzi rôznymi vrstvami obyvateľov. Profesionalizmy - termíny, ktoré používajú istí predstavitelia jednotlivých povolaní (iná banka slov patrí napr. k učiteľom, iná k lekárom, k pracovníkom v banke atď.) Argot - rôzne vrstvy obyvateľstva ho využívajú (rozumie mu len konkrétna skupina ľudí - napr. mládež ma svoj na utajenie niečoho pred rodičmi, učiteľmi, iný argot majú napr. mafiáni, díleri…)“*
- *„Všetko je slovná zásoba, ktorá prislúcha k určitej skupine ľudí. A na základe toho, aká skupina ľudí tieto slová používa, ju delíme na slang = slovná zásoba využívaná medzi mladými ľuďmi, profesionalizmy= slovná zásoba, ktorú používajú ľudia v určitej profesii (lekári, učitelia...) a argot= slovná zásoba zo sociálneho nárečia spodiny a asociálov.“*
- *„Študentský slang sa mení, ovplyvňuje ho aj internet a sociálne siete (preberanie z cudzích jazykov/ Anj)& profesionalizmy sú známe len odborníkom, je to akoby slang istej profesie& argot nie je všeobecne známy, je tajný jazyk kriminálnikov v base, nesmie sa prezradiť (preto neviem príklady: v base som ešte nebola)“*
- *„Slang = nespisovná forma jazyka určitej sociálnej skupiny (napr. žiakov); profesionalizmy = slová používané v profesiách na pomenovanie špecifických objektov, predmetov, osobne ich vnímam ako spisovné (hovorové); argot = tajná reč, už samotné uvedenie dajakého príkladu na argot protirečí jeho definícii.“*
- *„Je to ohraničená slovná zásoba rôzneho druhu a hovoriacich. Pri S - väčšinou mladých ľudí?, P - ľudí z daného profesijného prostredia, A - tajné slová, šifry? ktorým rozumejú len určitý ľudia“*
- *„Slang vzniká skracovaním pôvodných slov, tieto slová používa nejaká skupina ľudí (žiaci, medici, policajti), profesionalizmy sú slová typické pre istú profesiu, charakterizujú ju (klasifikačný, písomka) a argot je tajná reč, dohodnutá, slová majú iný význam, používajú ju najmä väzni (blcha - miesto vpichu, visieť niečo - dlhovať).“*

- *„Argot - utajenie informácie, profesionalizmus- urýchlenie komunikácie, slang- ozvláštnenie komunikácie, priblíženie sa ostatným."*

Po analyzovaní jednotlivých odpovedí vyplynulo, že len 22 odpovedí je možné hodnotiť ako správne a komplexné. Toto číslo predstavuje 36% učiteľov slovenského jazyka (zapojených do prieskumu), ktorí vhodne dokázali vysvetliť odlišnosti medzi skúmanými pojmami.

Zaujímala nás tiež dĺžka pedagogickej praxe respondentov a jej spojitosť so správnymi, nesprávnymi alebo neúplnými odpoveďami. Najvyšší počet respondentov tvorili pedagógovia s dĺžkou praxe 0 - 5 rokov (19) čo predstavuje 31,1% z celkového počtu zapojených pedagógov. Rovnaký počet učiteľov (12) tvorili pedagógovia s dĺžkou praxe 11-15 rokov a 26 a viac. Najnižší počet respondentov (5) bol v skupine s dĺžkou praxe 16 – 20 rokov.



Na záver sme sa pokúsili analyzovať a hľadať súvislosti medzi dĺžkou praxe, pôsobiskom respondentov a správnosťou ich vyjadrení.

- *respondent č. 3, učiteľ na SOŠ, dĺžka praxe 11-15 rokov uvádza takýto rozdiel medzi skúmanými termínmi: „Niekedy sú ťažko odlíšiteľné. Dôležitý je kontext."*
- *respondent č. 4, učiteľ na ZŠ, dĺžka praxe 0 - 5 rokov, neuviedol žiadnu odpoveď*
- *respondent č. 6, učiteľ na gymnáziu, dĺžka praxe 11-15 rokov uvádza takýto rozdiel medzi skúmanými termínmi: „Slang zahŕňa všetky tri pojmy, čiže aj profesionalizmy aj argot patrí k slangu. Profesionalizmy sú typický slang v určitej profesii a argot je slang používaný zločincami - bežné slová použité vo význame, ktorému rozumie len určitá skupina ľudí."*
- *respondent č. 7, učiteľ na SOŠ, dĺžka praxe 26 a viac rokov uvádza takýto rozdiel medzi skúmanými termínmi: „Je to problém vysvetliť žiakom rozdiely."*
- *respondent č. 8, učiteľ na SOŠ, dĺžka praxe 0 – 5 rokov, medzi profesionalizmy zaradil tieto pojmy: lingvistika, sémantika, lexikológia, rozdiel medzi skúmanými termínmi neuviedol.*

Po celkovej analýze získaných faktov možno konštatovať, že miesto (základná škola, stredná škola, gymnázium), kde pedagógovia pôsobia a rovnako aj dĺžka pedagogickej praxe sa v istom zmysle odrazili na správnosti a úplnosti dotazníkových odpovedí. Pokiaľ ide o učiteľov, ktorí pôsobia na základnej škole, 50% z nich správne uviedlo príklady na skúmané pojmy a vedeli dostatočne definovať rozdiely medzi nimi. Z pedagógov pôsobiacich na gymnáziách 42% respondentov dokázalo uviesť vhodné príklady a z pedagógov vyučujúcich slovenský jazyk na stredných odborných škola len 27 percent napísalo úplnú a adekvátnu odpoveď. Pri pohľade na dĺžku pedagogickej praxe sa ukázalo, že najmenej nejasností mali učitelia s dĺžkou praxe nad 21 rokov (63% sa vyjadrilo správne a dostatočne) a naopak najviac problémov s popisom skúmaných pojmov bolo v skupine začínajúcich pedagógov, kde 55% respondentov vedelo objasniť rozdiel medzi slangizmami, profesionalizmami a argotom.

5. Záver

Z doposiaľ realizovaného výskumu vyplynulo, že nielen študenti, ale ani ich pedagógovia vždy nedokážu rozpoznať rozdiely medzi profesionalizmami, slangizmami a argotom. V zásade platí, že kým profesionálne slová vznikajú aby pokryli komunikačnú potrebu pomenúvať veci, slangové slová sú vnímané skôr ako „nadštandard" a tvoria ich ľudia s rôznou motiváciou, je tu častá hravosť, kreativita, sebaprezentácia atď. Aj keď argot sa väčšinou spája s marginalizovanými skupinami, čo sa potvrdilo aj v našom prieskume, zámerné zastieranie významu slova môže mať aj ďalšie príčiny, napríklad zachovanie profesijného tajomstva príslušníkov istých umení, remesiel či služieb (porov. Orgoňová – Šmajdová, 2015) a teda s argotom je možné sa stretnúť aj mimo skupiny asociálov, dílerov, alebo väzňov. Patria sem aj výrazy kódovanej reči Ozbrojených síl SR, či niektoré výrazy príslušníkov Policajného zboru.

Nazdávame sa, že na to, aby pedagógovia vyučujúci slovenský jazyk dokázali správne vnímať a pochopiť súvislosti a odlišnosti medzi profesionalizmami, slangom a argotom je vhodné sprístupňovať profesionalizmy z rôznych profesijných oblastí širšej verejnosti a to formou slovníkov. Doposiaľ boli na Slovensku vydané dva takéto tituly a to *Slovník divadelných profesionalizmov (2019)* a *Slovník policajných profesionalizmov (2021).*

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RODOVÉ STEREOTYPY: ICH POVAHA A VPLYV NA KAŽDODENNÝ ŽIVOT

GENDER STEREOTYPES: THEIR NATURE AND IMPACT ON EVERYDAY LIFE

Michaela Tóthová

Abstrakt

V príspevku s názvom *Rodové stereotypy: ich povaha a vplyv na každodenný život* sa autorka zameriava na charakteristiku samotných rodových stereotypov a ako sa prejavujú v životoch ľudí. Príspevok je rozdelený do piatich častí. Prvá časť je úvodom práce. Druhá, sa venuje rodovým stereotypom, vysvetľuje samotný pojem, ich vplyv v životoch mužov a žien a podľa nich charakterizuje jednotlivé pohlavia. V tretej časti príspevku, sa autorka snaží poukázať na to, ako sa s rodovými stereotypmi stretávame od malička a ako ovplyvňujú naše rozhodnutia v budúcnosti. Štvrtá časť poskytuje priestor oblasti médií ako jedným so šíriteľov takýchto stereotypov. Napokon, poslednú, piatu časť príspevku, tvorí záver. Cieľom príspevku je priblížiť problematiku rodových stereotypov a poukázať na ich vplyv na naše životy ako v súkromnej, tak aj vo verejnej sfére.

Kľúčová slova: *stereotypy, rod, pohlavie*

Abstract

In the article entitled Gender stereotypes: their nature and impact on everyday life, the author focuses on the characteristics of gender stereotypes themselves and how they manifest themselves in people's lives. The paper is divided into five parts. The first part is the introduction of the work. The second one deals with gender stereotypes, explains the concept itself, their influence in the lives of men and women and characterizes individual genders according to them. In the third part of the post, the author tries to point out how we encounter gender stereotypes from a young age and how they affect our decisions in the future. The fourth part provides space for the area of the media as one of the spreaders of such stereotypes. Finally, the last, fifth part of the paper is the conclusion. The aim of the paper is to bring closer the issue of gender stereotypes and to point out their influence on our lives both in the private and in the public sphere.

Key words: *stereotypes, gender, sex*

1 ÚVOD

Každý človek sa v živote stretol a je vychovávaný s očakávaniami, ako by sa mal ako muž či žena správať. Ako by sa mal obliekať, čo by mal preferovať, akú sociálnu rolu a úlohu má zastávať. Tieto hodnoty, normy, obrazy či očakávania nachádzame v každej kultúre. Charakteristiky, ktorými daná kultúra disponuje poukazujú na to, *„ako by mali členovia jej spoločnosti vyzerať, správať sa, myslieť, cítiť, konať a rovnako sa každá spoločnosť usiluje tento súbor odovzdávať mladším generáciám a vytvárať tak istú hodnotovú kontinuitu, ktorá by mala zaručovať relatívnu spoločenskú stabilitu“* (Farkašová, Kiczková, Szapuová 2003). Tieto vzorce správania typické pre mužov a ženy sú zakotvené v takých spoločenských inštitúciách ako je hospodárstvo, trh práce, vzdelávanie či usporiadanie rodiny. S jednotlivými pohlaviami sa nám spája to, čo je „ženské“ a čo je „mužské“. Týmto spôsobom si v nás

pestujeme obraz ako by sa mal správať a vyzerať pravý muž alebo žena. „*Napríklad obraz „správneho muža“ najčastejšie tvoria vlastnosti ako schopnosť finančne zabezpečiť rodinu, samostatne sa rozhodovať, autorita doma a v rodine, podnikavosť, fyzická sila, túžba vyniknúť v práci, kým za špecificky ženské atribúty sa považuje schopnosť postarať sa o domácnosť, jemnosť, citlivosť k problémom druhých, príjemný vzhľad a krása*“ (Mesežnikov, Ivanyštyn 1999 in Farkašová, Kiczková, Szapuová 2003). Hoci „*moderná doba prináša zmeny v názoroch a presvedčeniach týkajúcich sa mužských a ženských úloh v spoločnosti a vo verejnom, aj politickom živote sa čoraz častejšie spomína rovnosť šancí oboch pohlaví*“ (Anonym 2012) , na základe takýchto presvedčení a zaužívaných ideí sa stále vytvárajú a pretrvávajú rodové stereotypy.

2 RODOVÉ STEREOTYPY V ŽIVOTE ŽIEN A MUŽOV

Na život žien a mužov sa často dívame skrze naše presvedčenia ako by sa mali správať, čo ich prezentuje a naopak čomu by sa mali jednotlivé pohlavia vyvarovať. „*Keď uvažujeme o ľuďoch ako o ženách a mužoch, zvykneme paradoxne namiesto podobnosti, ktorá ich ako ľudí zbližuje, zdôrazňovať rozdielnosť, ktorá ich ako ľudské bytosti ženského a mužského pohlavia odlišuje“* (Cviková, Debrecéniová, Kobová 2007, s.1). Na muža sa pozeráme na ako na toho, ktorý pochádza z Marsu, je silnejším pohlavím a riadi sa skôr rozumom ako citmi. Naopak, žena pochádzajúca z Venuše je citlivejšia a mnohokrát charakterizovaná ako slabšia. Práve rodové stereotypy zabezpečujú, aby tieto obrazy správneho muža a ženy ďalej pokračovali a pretrvávali. „*Rodové stereotypy môžeme charakterizovať ako ustálené, zjednodušené až rigidné, presvedčenia o „vhodnom a primeranom“ správaní sa mužov a žien a ich „vhodných a primeraných“ vlastnostiach a ďalších psychických či sociálnych kvalitách“* (Lukšík 2003). Usmerňujú náš duchovný, sociálny svet a oblasť komunikácie. Tak ako aj iné stereotypy aj tieto rodové sa vyznačujú veľkou zotrvačnosťou a bývajú v danej osobe pevne zakotvené. Sú teda považované za nemenné. Tým, že ich aplikujeme do každodenného života, vytvárajú akýsi dojem „normality“, kedy správanie v nesúlade s týmito stereotypmi môže vytvárať pocity zahanbenia a nedostatočnosti. „*Ich porušovaním* (rodových stereotypov) *sa človek vystavuje riziku odsúdenia až označenia za nenormálneho*“ (Pietruchová 2007 in Brozmanová Gregorová, Šolcová 2014, s.2). V spojitosti s nimi *„rod označuje sociálne rozdiely medzi mužmi a ženami, ktoré nie sú vrodené, ale naučené, menia sa v čase a priestore a variujú aj v rámci spoločnosti a medzi spoločnosťami“* (Kiczková 2006, s. 21). Spoločnosť jednotlivcovi prideľuje tzv. rodovú rolu, na základe ktorej dostáva aj súbor úloh a očakávaní odvíjajúcich sa od predstáv o mužoch a ženách. „*Rodová rola je jednou zo sociálnych rolí udržiavaných spoločnosťou a potvrdzovaných každodenným životom. Je utváraná obrazmi „mužskosti“ a „ženskosti“, ktoré sú formované prostredím a menia sa jednak historicky v čase vývojom spoločnosti, ale i podľa rôznych kultúr na základe sociálnych, kultúrnych a náboženských vplyvov a tradícií*“ (gender.gov.sk) Tak sa v našej spoločnosti vytvára priestor pre rodové stereotypy. Tým, že v spoločnosti často prevládajú, sú mužské a ženské roly presne stanové a kontrolované. Žena by ich vplyvom nemala chcieť robiť to, čo je charakteristické pre muža, lebo bude označená ako „mužatka“. Naopak, muž by nemal vykonávať činnosť charakteristickú pre ženu, lebo bude označený za „babu“. Takýmto spôsobom rodové stereotypy „*neumožňujú pestrejšie a pružnejšie rozhodovanie a fungovanie jednotlivým príslušníkom obidvoch rodov“* (Farkašová, Kiczková, Szapuová 2003). Vidíme to aj pri výbere povolania, kedy si muži vyberajú skôr „mužské“ povolania ako je elektrikár, automechanik, technik,..., zatiaľ čo ženy si vyberajú typicky „ženské“ povolania ako sú učiteľka, zdravotná sestra, kozmetička a iné.

Casad a Timko (2017) uvádzajú takéto delenie rodových stereotypov:

- Pozitívne rodové stereotypy – sú také, ktoré udeľujú pozitívne vlastnosti jednotlivým rodovým skupinám – napr. že sú ženy priateľské či starostlivé a mužom, že sú

sebavedomí či asertívni. Hoci sa môže zdať, že tento typ stereotypu je dobrý, autorky upozorňujú na problém. Spoločnosť očakáva, že jednotliví príslušníci budú mať tieto vlastnosti, ak ich nemajú, stretávajú sa so súdením, prípadne negatívnymi dôsledkami.

- Negatívne rodové stereotypy - sú opakom pozitívnych a sú to napríklad: ženy sú príliš emocionálne, iracionálne a nekompetentné, zatiaľ čo muži sú temperamentní, násilní a nemajú empatiu. Problémom tu je to, že takéto stereotypy sú pripisované ako vrodené aspekty. Neberú do úvahy situačné vplyvy.
- Explicitné rodové stereotypy - sú vedomé a kontrolované.
- Implicitné rodové stereotypy - bez vedomia a kontroly.
- Deskriptívne rodové stereotypy - zaujatosť nastáva vtedy, keď sa predpokladá, že muži a ženy nemajú vhodné mužské alebo ženské vlastnosti pri danej situácií alebo práci.
- Preskriptívne rodové stereotypy - zaujatosť sa vyskytuje v reakcii na protistereotypné správanie, napríklad keď sa žena správa asertívnym spôsobom a je považovaná za „neslušnú“, a preto zažíva negatívny odpor.

Rodové stereotypy sú jednou z hlavných príčin udržiavania nerovného vzťahu medzi mužmi a ženami a vytvárajú východisko pre diskrimináciu žien. Netreba avšak zabúdať, že sú škodlivé aj pre mužov (napr. vytvárajú tlak na úlohu živiteľa rodiny, znevýhodňujú mužov pri rozvodoch v otázke zverenia detí do výchovy a pod.). *„Rodové stereotypy vedú k vytláčaniu žien a mužov z rôznych sfér oblastí života podľa toho, aká rodová rola a hodnota sa v týchto oblastiach ženám alebo mužom pripisuje“* (Pietruchová 2013, s 20).

Na to, aby sme tieto rodové stereotypy prelomili je potrebné podľa Farkašovej, Kiczkovej, Szapuovej (2003) nasledovné:

- spochybňovanie tých modelov myslenia, ktoré plnia vylučujúcu a hierarchickú úlohu;
- pochopenie, že pre dosiahnutie rovnosti rodov nestačia len politické a právne zmeny, formálne garantujúce rovnosť príležitostí, ale je potrebná dekonštrukcia celého patriachálneho systému;
- tematizovanie (nanovo) a pomenovávanie ženskosti a mužskosti v ich rôznorodosti, uvažovanie o nich z iného uhla pohľadu;
- vnímanie štruktúry a fungovania mocenských vzťahov a používanie monitorovania, ako aj analyzovania rôznych foriem diskriminácie.

Podľa Karstena (2006 in Gurgová, Debnárová 2012, s. 3) najtypickejšie charakteristicky prisudzované ženskému pohlaviu sú milá, dobrá, starostlivá, bezmocná, empatická, citovo založená, jemná, nerozhodná, nesamostatná, iracionálna, nežná, ohľaduplná, slabá, závislá, vyžadujúca ochranu, submisívna. Medzi najtypickejšie charakteristiky mužov patria silný, ambiciózny, samostatný, súťaživý, spoľahlivý, tvrdý, statočný, aktívny, ctižiadostivý, dominantný, nezávislý, racionálny, sebavedomý, schopný sebaovládania. Badinter (1999 in Birknerová, Frankovský 2014, s.22) uvádza, že muži sa považujú *„za silnejších, tých, čo kontrolujú, vedú, sú nezávislí a racionálni. Ženy sú na druhej strane vnímané ako nežnejšie, zamerané na medziľudské vzťahy, so zmyslom pre výchovu, starostlivosť a lásku k druhým ľuďom.“* Môžeme k nim pridať aj takéto charakteristiky chlapca/muža/otca: neplačú, neprejavujú svoje city, vedia čo chcú, nerobia kompromisy, predstavujú autoritu, ochrancu a živiteľa rodiny. Medzi ďalšie charakteristiky dievčaťa/ženy/matky zaradzujeme okrem spomínaných aj: materstvo, žena ako tá, ktorá sa vzdá ambícií a kariéry v prospech rodiny a muža, tá, ktorá sa stará a spokojnosť a čistotu domácnosti, má príjemný vzhľad (Brozmanová Gregorová, Šolcová 2014, s. 2). Takéto delenie poukazuje na to, akoby žena mala pôsobiť len v súkromnej sfére, kde sa bude starať o rodinu, domácnosť a nebude vstupovať do „sveta mužov“ – verejnej sféry, v ktorom majú muži podľa rodových stereotypov väčšie slovo. Pre ženu je potom ťažšie vstupovať do verejnej sféry a muži sa zase

nebudú cítiť sebaistí v tej privátnej. Takéto delenie môže viesť ku znevýhodňovaniu žien, ale aj mužov.
Jesenská (2009, s. 22-23) uvádza, že podpora a prezentovanie rodových stereotypov spôsobuje:

- Segregáciu povolaní – rozdelenie povolaní na typické ženské či mužské, s čím súvisí aj ich nerovnomerné ocenenie v spoločnosti. Zatiaľ čo mužské práce sú na Slovensku cenené spoločensky vyššie minimálne o tretinu, ženy sú častokrát slabšie platené.
- Ponižovanie – nedocenenie názoru žien, výsmech, zosmiešňovanie v každodennom živote (napr. vtipy o blondínkach a svokrách, žena-vodička, za všetkým hľadaj ženu,...).
- Domáce násilie – fyzické, ekonomické (vydeľovanie finančných prostriedkov, psychické (odopieranie spánku, nadávky,..), spoločenská izolácia, kontrolovanie,...
- Mnohé iné.

3 RODOVÉ STEREOTYPY V ŽIVOTE DETÍ

Rodové stereotypy sa netýkajú len dospelých. Už od útleho veku sú deti vystavované tomu, že chlapec a dievča sa odlišujú nie len tým ako vyzerajú, ale aj tým čo si obliekajú, ako sa majú správať alebo s čím sa môžu ako chlapci alebo dievčatá hrať. Postupne si v procese socializácie osvojujú tieto odlišnosti. „*Socializáciou sa v človeku od mala upevňuje presvedčenie, že jestvujúce rodovo-diferencované vzory správania, typy myslenia, videnia skutočnosti, spôsoby konania, zvyky, obrazy rolí a pod. sú správne*“ (Farkašová, Kiczková, Szapuová, 2003). Pri ich výchove sa následne odvolávame na to, že takto prijímané vzory správania sú nejakým spôsobom biologicky determinované alebo že sú už overené tradíciou. Môžeme teda konštatovať, že už narodenia a zistenia pohlavia dieťatka, nepoznáme len jeho biologické pohlavie, ale stereotypne ho zaradzujeme do určite sociálnej roly, ktorú očakávame, že bude zastávať. Medzi prvými darčekmi, ktoré deťom darujeme sú autíčka pre chlapcov a bábiky pre dievčatá. Prečo je to práve tak? Priraďovanie darčekov nevyplýva z našej biologickej podstaty, ale skôr zo spoločenského zaužívaného presvedčenia. Avšak narušenie týchto presvedčení spôsobí odlišné reakcie spoločnosti. *„Chlapčeka s bábikou v náručí sa zväčša nikto neponáhľa upozorniť, ako má „bábätko“ pestovať, ani ho hneď nenazvú oteckom. Okolie sa nezvykne nadchýnať jeho „vrodeným otcovským pudom“. Naopak, pri hre dievčatka s bábikou zvyknú pokyny a ocenenia smerovať k jej jednoznačne predpokladanému budúcemu materstvu“* (Cviková, Debrecéniová, Kobová 2007, s.10). Ako ďalej autorky uvádzajú, už v šlabikároch nachádzame stereotypnú deľbu práce v rodine. Zatiaľ čo sú dievčatá pripravované na materskú rolu, chlapci svoju rolu otca, takto explicitne predostretú nemajú.
Farkašová, Kiczková a Szapuová (2003) uvádzajú spôsoby, akými sa obrazy toho, čo je mužské a čo zase ženské môžu preberať:

a) Cieľavedome (zámerne) – prostredníctvom rodičov alebo školy, ktorí odovzdávajú deťom presné rodovo-diferencované vzorce správania, odievania, značne rigidnými mechanizmami podporujú primerané správanie, prípadne vykonávajú sankcie v prípade neprimeraného správania detí;
b) Mimovoľne – na základe pôsobenia vzorov, kedy mechanizmy kontroly majú charakter náznakov.

Rovnako aj iní autori (Gurgerová, Debnárová 2012, gender.gov.sk) považujú rodinu, vzdelávacie inštitúcie, médiá a reklamu za hlavné zdroje formovania jednotlivca a toho ako vnímajú rodové stereotypy. Pridávajú k nim aj tradície, predstavy, zvyky, náboženstvo, jazyk. Dončevová (2012, s. 314) uvádza, že naše predávanie rodových stereotypov je tak prirodzené, že si to ani neuvedomujeme, „*pretože používa také spoločensky účinné nástroje, ako je reklama, médiá, politika, škola, literatúra či dokonca detské rozprávky*.“

4 RODOVÉ STEREOTYPY V MÉDIÁCH

S rodovými stereotypmi sa stretávame všade na vôkol nás. Ako sme spomínali jedným z ich zdrojov sú aj médiá, reklamy. Lukšík (2003) uvádza, že v reklame sú muži zobrazení ako tí, ktorí „*musia byť silní, bohatí, sebavedomí, úspešní, atletickí (podobne staršiemu ideálu udatného vojaka či nezdolného roľníka) a ženy musia byť krásne a mladé ako modelky a keď nie sú mladé, tak starajúce sa o domácnosť. Ženy sú tiež zobrazované ako sexuálne prístupné, ako sexuálne objekty, sexuálne nezrelé - pasívne, bezmocné a závislé*" (voľne podľa Bačová, Jeleňová, 2001 in Lukšík 2003). Na slovenských bilboardových plochách sa objavili napr. tieto popisy: žena ako spríjemnenie mužského konzumu (piva), ako odmena za konzum, nespokojnosť so ženským telom, ktoré treba zmeniť, žena sa za každých okolností stará o svoj vzhľad alebo žena redukovaná na svoje poprsie. „*Farebné stvárnenie reklamných letákov kopíruje rodovo stereotypné pravidlá ružového a modrého sveta*" (Cviková, Debrecéniová, Kobová 2007, s.11).

Časom sa v reklame postupne oslabil stereotyp matky slúžky, no zosilnel stereotyp krásy a mladosti ženy. V niektorých európskych krajinách preto využívajú Medzinárodný kódex reklamnej praxe (v SR zatiaľ nie). Tento kódex hovorí napríklad o tom, že reklama by nemala obsahovať nič, čo by naznačovalo, že ženy sú svojou povahou menej inteligentné, chýba im rozhodnosť alebo analytické schopnosti, že sú nevzdelané, alebo principiálne plnia úlohu slúžky (Radimská 2002 in Lukčík 2003).

Preto by sa mala spoločnosť usilovať o rodovú rovnosť, ktorá by mala zabezpečiť spravodlivé zaobchádzanie so ženami aj mužmi, keďže „*vychádza z princípu, že všetky ľudské bytosti majú právo slobodne rozvíjať svoje schopnosti a vyberať si z možností bez obmedzení rodovými rolami"* (Pietruchová 2013, s 20). Avšak bez eliminácie rodových stereotypov dosiahnutie reálnej rodovej rovnosti možné nie je.

5 ZÁVER

Cieľom tohto príspevku bolo predstaviť problém rodových stereotypov a aký vplyv majú na náš život. V príspevku sme sa venovali stereotypom nie len v živote dospelých, ale aj detí, ktoré sú od malička vystavené určitým očakávaniam, podľa ktorých spoločnosť očakáva, že budú konať a správať sa. Na jednej strane život s rodovými stereotypmi prináša situácie, v ktorých sa môže jedno z pohlaví dostať do znevýhodnenej situácie, ale na druhej strane prináša aj akúsi predstavu o tom, ako bude žena či muž konať a čo od nich môžeme približne očakávať. Príspevok podľa nás prináša ucelený pohľad na to, že počas celého nášho života sme ovplyvňovaní určitými názormi, ako by sme sa mali správať a je len na nás či sa im vzoprieme alebo nie.

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THE LEGAL REGULATION OF THE STATE OF EMERGENCY IN SLOVAKIA IN TERMS OF "DE CONSTITUTIONE LATA" AND THE CHALLENGES "DE CONSTITUTIONE FERENDA"

Peter Juriša

Abstract

In the contribution, the author describes the legal regulation of the state of emergency in Slovakia - as well as the authority of the state to limit basic rights and freedoms during this crisis legal regime, in order to ensure the preservation of the normal functioning of society. The author also points to international and European standards regarding this issue and references the authoritative point of view of the Venice Commission regarding the process of declaring and controlling the state of emergency. In the end, the author presents topics for improving the quality of Slovak legislation from the point of view of de constitutione ferenda.

Key words: *state of emergency, government, constitutional act on state security, international law, Venice Commision*

1 INTRODUCTION TO THE ISSUES OF CRISIS LEGAL REGIMES

It is an undeniable fact that at a certain stage of social development, many states are confronted with serious crisis situations such as wars, pandemics or other social upheavals, and that in such situations it is sometimes necessary - in order to restore peace and order - to restrict fundamental rights and freedoms. However, the result can be catastrophic, not only for the persons they concern, but also for freedom, peace, and the rule of law in general.

A fundamental breakthrough in the constitutional regulation of the state of emergency was caused by the global COVID-19 pandemic and the need to respond to an unexpected emergency situation caused by new diseases. The rapid proliferation of such unusual circumstances was a distinct concern when considering the restriction of human rights adapted to be adapted in addressing the declared state of emergency.

The crisis caused by the diseases of COVID-19 brought - in addition to the immediate impact on healthcare and the economy - a wide range of challenges, especially for public administration and legal and constitutional systems. Many states have taken emergency measures to protect public health, and most have declared some form of emergency or granted emergency powers based on constitutional provisions or public health laws. Changing or suspending the usual national system of checks and balances can present particular challenges to the rule of law, and this development has become a major topic of public debate in some states. A state of emergency represents a deviation from the normal functioning of society. It means something that occurs in a situation where the use of ordinary company management tools is not sufficient, but due to the influence of various factors, company management is forced to use extraordinary measures. Even if the state of emergency is a manifestation of an unusual state and itself represents an unusual tool for its management, in a democratic and legal state this non-standard tool should be the object of standard constitutional regulation with predictable actions and elements.[1] The aim of this contribution is to evaluate the constitutional regulation of the state of emergency in Slovakia in terms of "de constitutione

[1] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Commitee and the Commitee of Regions, Rule of Law Report 2020, State of the Rule of Law in the European Union: [Online]. [cited 2023-05-17]. Available from: https://eur-lex.europa.eu/legal-content/SK/TXT/HTML/?uri=CELEX:52020DC0580&from=EN

lata" (in terms of the applicable law) and to propose a legal regulation "de constitutione ferenda" (how the law should look).

2 STATE OF EMERGENCY IN SLOVAKIA "DE CONSTITUTIONE LATA"

The Constitution of the Slovak Republic (hereinafter referred to as "the Constitution") and its second chapter represent one of the basic guarantees of the protection of basic rights and freedoms in our territory. In order to ensure their comprehensive protection, however, it is necessary to establish certain conditions, upon fulfillment of which it is possible to proceed. The constitutional basis for encroachment on these rights is represented by Article 13 of the Constitution, which, in addition to the possibility of imposing obligations, stipulates: "The limits of fundamental rights and freedoms can be adjusted under the conditions established by this Constitution only by law... Legal restrictions on fundamental rights and freedoms must apply equally to all cases, which meet the established conditions. When restricting fundamental rights and freedoms, their essence and meaning must be taken into account. Such restrictions may only be used for the intended purpose.[2] According to prof. Drgonec, the restriction of fundamental rights and freedoms "can be carried out in two constitutional regimes - the standard one, which applies to ordinary situations and is determined directly by the Constitution, and the extraordinary regime, which applies to extraordinary situations."[3] In connection with the possibility of limiting fundamental rights and freedom in the extraordinary regime, the Constitution itself assumes that a certain crisis situation may occur on the territory of the Slovak Republic, to which it will be necessary to respond without delay. The response to the emerging crisis situation, if the required conditions are met, should be the constitutional law described in Art. 51 par. 2 of the Constitution, according to which: "The conditions and extent of restriction of basic rights and freedoms and the scope of obligations in time of war, state of war, state of emergency and state of emergency shall be established by constitutional law." This constitutional law regulating the state of emergency relevant for us is Constitutional Law No. 227/2002 Coll. on State Security in Time of War, State of War, State of Emergency and State of Emergency (hereinafter referred to as "the Constitutional Law on State Security"). This represents the basic adjustment of the position of the Government of the Slovak Republic (hereinafter referred to as "the Government") as in cases where one of these states is declared.

The Government, as an executive body, has many powers, and in connection with ensuring the protection of the country and the population, one of the most important is the possibility of deciding on the declaration and end of a state of emergency. The state of emergency has recently been in place in the Slovak Republic, similarly to the rest of the European Union, perceived mainly in connection with the Covid-19 pandemic. However, the conditions and reasons for its declaration are conceived much more broadly when applied to the protection of life and health of persons or the protection of the environment or important property values. It is this broad interpretation of conditions and reasons that establishes the strong position of the Slovak government in connection with the state of emergency.

The general constraints of the state of emergency include the absolute autonomy of the Government in deciding on the state of emergency, without any possibility of even secondary intervention by another body or power. This concerns the overall authority of the government to declare a state of emergency - among other things - due to the threat to the life and health of persons, regardless of whether or not it is related to the existence of a pandemic. However, we can perceive a kind of special regime precisely after the amendment of the Constitutional Act on State Security carried out by Constitutional Act No. 414/2020 Coll., which the Slovak Parliament adopted during the culminating state of emergency caused by the COVID 19

[2] Provisions of article 13 of the Constitution of the Slovak republic No. 460/1992 Coll. as amended

[3] DRGONEC, J.: Constitutional substantive law. 1st edition. Bratislava: C.H. Beck, 2018, 528 p

pandemic. According to this amendment, the Slovak government is allowed to extend the state of emergency for a period of up to 40 days – not just once, but multiple times. The peculiarity in this case lies in the need to provide the consent of the National Council of the Slovak Republic (hereinafter referred to as "the National Council") with each such extension, no later than 20 days from the first day of the extended state of emergency. "If the National Council does not give its consent, the extended state of emergency will cease on the day of disapproval of the government's proposal to express consent to the extension of the state of emergency." Likewise, consent is also required in the case of its re-declaration "if 90 days have not passed since the end of the previous state of emergency declared for the same reasons."[4]

The wording of the Constitutional Law on State Security assumes the possibility of limiting fundamental rights and freedoms, or imposing obligations for the period of the declared state of emergency - according to the seriousness of the threat, for the necessary time and to the necessary extent. The Government of the Slovak Republic may proceed with the following interventions and restrictions of these rights: "limiting the inviolability of a person and their privacy by way of forced stay in a dwelling or evacuation to a designated place; imposing a work obligation; limiting the exercise of ownership rights to movable things and real estate; prohibiting the entry of motor vehicles or limiting their use; limiting the inviolability of dwellings for housing evacuees; limiting the delivery of postal items; restricting freedom of movement and residence; restricting or prohibiting the exercise of the right to peaceful assembly; limiting the right to freely disseminate information; ensuring access to radio and television broadcasting; prohibiting the exercise of the right to strike."[5]

3 STATE OF EMERGENCY FROM THE INTERNATIONAL LEGAL PERSPECTIVE

In international law, a crisis legal regime - and in a narrower sense for the purposes of our contribution, a state of emergency - is regulated in the two basic international conventions that follow. In Article 15 of the The European Convention on Human Rights (hereinafter referred to as "the Convention"), which allows withdrawal from the rights granted by the convention in case of "war or other public threat to the existence of the state". Next, it is Article 4 of the International Covenant on Civil and Political Rights (hereinafter referred to as "the International Covenant"), which refers to an "emergency situation that threatens the life of the nation." A party bound by the Convention and to the International Covenant may take measures aimed at withdrawing from the obligations arising from these conventions in order to effectively resolve the crisis situation. Part of these exceptional provisions is the obligation of the state to notify the Secretary General of the Council of Europe, vice versa to the Secretary General of the United Nations, of the provisions of the Convention or of the International Covenant that were deviated from, and about the reasons for doing so.

The European Commission for Democracy through law "Venice Commission" - which is the internationally recognized advisory body of the Council of Europe on constitutional issues - provides legal advice to member states and helps align their legislation with European and international standards. It is composed of individuals from the university environment, experts in constitutional and international law, constitutional judges and judges of the highest courts, members of national parliaments and high civil servants. In its April 16, 2020 report - intended to serve as a reference source and general standards for the drafters of constitutions and legal regulations - the Venice Commission formulated a summary of opinions on the state

[4] Provisions of article 5 par. 2 of the Constitutional Act no. 227/2002 Coll. on the security of the state in time of war, state of war, state of exception and state of emergency

[5] Provisions of article 4 par. 4 of the Constitutional Act no. 227/2002 Coll. On the security of the state in time of war, state of war, state of exception and state of emergency

of emergency. This report points out that the state's emergency powers have been abused in the past by authoritarian governments to maintain power in the country, silence opposition and generally limit human rights. It is therefore necessary to set strict limits on the duration, circumstances and scope of these powers. The security of the state and the public can only be effectively ensured in a democracy that fully respects the rule of law. This requires parliamentary control and judicial review of the existence and duration of the declared state of emergency to prevent its abuse. Emergencies that may lead to the declaration of states of emergency should be clearly defined by the constitution. Even the UN Special Rapporteur for Human Rights, in accordance with Article 4 of the International Covenant, ruled that states must observe the principle of temporality, public declaration, legality, preservation of the rule of law, and inviolability of fundamental rights in a state of emergency.

3.1 Defining and enshrining the state of emergency in the constitution

According to the Venice Commission, the constitution should clearly define and delineate the situations that can lead to the declaration of a state of emergency. The danger must be real or imminent; its effects extend to the entire nation; the life of an organized community must be threatened; the crisis or danger must be exceptional, that is, the normal measures or restrictions to protect safety, health and public order permitted by the Convention must be wholly inadequate. Under no circumstances should the result of constitutionalization be a "blank cheque" in favor of the legislature, much less in favor of majority power, which would otherwise have the power to impose very substantial derogations from protected liberties, even after a state of emergency has been declared. For this reason, it seems necessary to avert this risk by enshrining in the constitution not only the possibility to declare and extend any emergency regime, including a state of emergency, but also the formal, material and time limits by which these regimes must be governed.[6]

3.2 Parliamentary oversight

The Venice Commission says that it is essential that the constitution and legislation provide mechanisms – in particular parliamentary and judicial oversight of the executive – to prevent the abuse of extraordinary/emergency powers by national authorities. This basic principle is reaffirmed in Recommendation 1713 (2005) of the Parliamentary Assembly of the Council of Europe, which states that emergency measures must be supervised by parliaments.

The question of who, how and when to end the state of emergency cannot be left only to the executive branch, which already enjoys extended powers. Therefore, the situation in Slovakia in the form of a constitutional guarantee of approving the extension of the state of emergency by a simple (half) majority of the parliament seems to be inconsistent with the opinion of the Venice Commission, because the government usually has no problem in obtaining the approval of a simple majority of the parliament. Parliamentary control over the executive power's decision to declare a state of emergency is the first available control mechanism.

3.3 Legal reasoning

As a general rule, the executive power must provide a good justification for its decision to declare a state of emergency, as well as concrete measures to deal with the situation. Most parliaments also have the power to periodically review the decision to declare a state of emergency and suspend it as necessary. Therefore, in our opinion, the Constitutional Court

[6] European Commision for Democracy through law (Venice Commision) Summary of opinions and reports of the Venice Commision on the state of emergency [Online]. [cited 2023-05-22]. Available from: https://www.ustavnysud.sk/documents/10182/42829548/CDL-AD%282020%29018_opatrenia+počas+COVID19_s+logom.pdf/1b914988-8c53-4287-a68c-31a6747d74f3

should not only examine the formal side of the declaration of a state of emergency, but should also look at the solutions provided by the executive power "pro futuro". The very existence of a threat to the life and health of persons, the environment, or significant property values therefore appears to us to be too general. In our opinion, the lack of justification for the government's resolution only makes it worse. This was also confirmed by the Constitutional Court of the Slovak Republic (hereinafter reffered to as "the Constitutional Court") in its decision no. PL. ÚS 2/2021 of March 31, 2021, in which it stated that the government's resolution declaring a state of emergency should contain at least a framework justification.

3.4 Judicial inquiry

Attributes such as legal certainty and the right to a fair trial are associated with a judicial review of the state of emergency. The Venice Commission points out that in a parliamentary democracy, the executive power is made up of political party leaders and other leaders of the armed forces, and legislative control by the parliament may not be effective enough in practice. In a state based on the principles of the rule of law, legislative control must be supplemented by effective means of judicial control. [7] The judicial system must also provide individuals with effective remedies in the event that government officials have violated their human rights. The Venice Commission cites the control carried out by the French administrative court mainly through preliminary measures (référés), which in the view of the Commission represent an effective means of redress in the case of state emergency measures.

4 STATE OF EMERGENCY IN SLOVAKIA "DE CONSTITUTIONE FERENDA"

In the context of the above mentioned and in accordance with the requirement arising from Art. 1 paragraph 2 of the Constitution, according to which *"the Slovak Republic recognizes and observes the general rules of international law, international treaties by which it is bound and its other international obligations," it would be appropriate, in our opinion, to establish limits on the extension of the state of emergency in the Slovak constitutional amendment.*

4.1 Duration of the state of emergency and its approval

Therefore, several solutions come into consideration:

1) establish a maximum period after which the state of emergency cannot be extended,

2) establish that in the case of repeated extensions of the state of emergency, it is necessary that a qualified constitutional majority of the members of the National Council express their consent to it. Since the government part of the National Council usually has a simple majority, increasing the quorum from one half of the present deputies to three fifths of all deputies would strengthen the legitimacy of the extension, or re-declaration of the state of emergency,

3) establish that the extension or re-declaration of the state of emergency must first be approved by the parliament, and no later than the last day of the period for which the state of emergency was declared. We do not like the twenty-day period that the parliament has for approving the extension of the state of emergency, which we consider too long. The government therefore has 20 days during which the state of emergency can apply, but it does not have to be subsequently approved by parliament. This does not change the fact that - on this basis - the parliament could also exercise constitutional-political responsibility against the

[7] European Commision for Democracy through law (Venice Commision) Summary of opinions and reports of the Venice Commision on the state of emergency [Online]. [cited 2023-05-22]. Available from: https://www.ustavnysud.sk/documents/10182/42829548/CDL-AD%282020%29018_opatrenia+počas+COVID19_s+logom.pdf/1b914988-8c53-4287-a68c-31a6747d74f3

government, i.e. express her distrust.[8] In such a situation, the Parliament must be able to meet on very short notice. The National Council of the Slovak Republic has 20 days to vote, but authorized entities can challenge the declaration of a state of emergency only within five days, which seems to us to be an inconsistency. The twenty-day period theoretically also provides another "exploitable" option. After its expiration, the state of emergency should cease to apply if it is not approved by the parliament. The question is whether the government will not be able to announce it again the next day, thus gaining another 20 days even without his consent.
We are leaning towards the second alternative, since increasing the quorum from one half of the present deputies to three fifths of all deputies would strengthen the legitimacy of the extension, or re-declaration of the state of emergency. This would also transfer responsibility to opposition MPs, who sometimes a priori criticize the decisions of the governing majority of MPs. In our opinion, the increase in the powers of the government and other executive bodies in the sphere of limiting fundamental rights and freedoms - for which the already mentioned amendment to the Constitutional Act on State Security from 2020 created the constitutional basis - also deserves criticism. Before the amendment, it was possible to restrict the freedom of movement only in affected territories. After the amendment, the freedom of movement can be restricted without any teritorial limitations. The possibilities of interference with fundamental rights and freedoms are expanding. According to the already mentioned constitutional lawyer Kresák, the amendment on extending the state of emergency is confusing. He pointed out that the amendment significantly expands interference with basic rights and freedoms by introducing forced residence and increasing the possibility of restricting people's movement and residence. The government can therefore extend this restriction in any way and form. It is irresponsible and unjustified. He also does not like the fact that the text about the possible extension of the state of emergency, which was announced before the amendment took effect, was inserted into the amendment. In this way, the already existing state of emergency could be extended retroactively, which borders on the principle of retroactivity and is not legally sound.[9] According to the former constitutional judge Orosz, "it is in any case a violation of the constitutional law and basically a violation of the Constitution".[10]

4.2. Content and legal form of the government's decision to declare a state of emergency

The Constitutional Law on State Security as it is written establishes the method and conditions for declaring a state of emergency, but it does not specify the essentials of the government's decision to declare a state of emergency. The Constitutional Court - in its decision PL. ÚS 22/2020 of October 14, 2020 - stated that if the reason for declaring a state of emergency is not explicitly stated in the challenged government resolution, this does not affect its compliance with the Constitution and the Constitutional Law on State Security. At the same time, though, the Constitutional Court proffer that the government's resolutions on the state of emergency should generally state the basic reason for their adoption, due to their documentary reviewability.
The above is only supported by the finding of the Constitutional Court of the Czech Republic, which, by its finding no. PL. ÚS 106/20 of February 22, 2021 canceled part of the anti-

[8] JURIŠTA, P.: The amendment of the Constitutional Act no. 227/2002 Coll. On state security in time of war, sate of war, state of exception and state of emergency of 2020.
[9] According to Kresák, the amendment on extending the state of emergency is confusing, it borders on retroactivity. [Online]. [cited 2023-06-02]. Available from: https://www.hlavnydennik.sk/2020/12/08/podla-kresaka-novela-o-predlzovani-nudzoveho-stavu-je-zmatocna-hranici-to-s-retroaktivitou/?fbclid=IwAR1o_P46ut2v4Z7EGjyK6XLJU9cywBvCUX2G7lENNgeqKMNawLGs6mkCvLA
[10] Standard. Orosz: Extending the state of emergency gives room for the establishment of a government dictatorship. [Online]. [cited 2023-06-03]. Available from: https://standard.sk/4057/orosz-predlzovanie-nudzoveho-stavu-dava-priestor-na-zavedenie-vladnej-diktatury/

epidemiological measures that related to retail trade and services. According to the opinion of that Constitutional Court, the government did not sufficiently justify them. The proposal to that Constitutional Court was filed by a group of 63 senators in November 2020. They claimed that the ban disproportionately and irrationally interfered with the fundamental right to conduct business freely. They objected to unequal access to entrepreneurs according to the goods sold. At the same time, the government did not explain in the challenged resolutions why it proceeded with the ban on some establishments and why others are exempt from the ban.

In the Slovak legal system, the justification of court decisions contains, in addition to the factual claims of the parties to the proceedings, the evidence on which the decision is based, the facts proven and those that have not been proven, or points to established decision-making practice. The court makes sure that the reasoning behind the decision is convincing. The right to a proper justification of the decision is an attribute of the right to a fair trial. The government's decision to declare a state of emergency is linked to the decisions that are reviewed in the administrative judiciary, because here, too, the state (a public authority) acts on one side, and on the other, a citizen, natural person, or legal entity. Due to the insufficient justification of the statement of the decision in the administrative court, the decision of the public authority can be annulled with the help of a cassation complaint.

Also according to the jurisprudence of the Constitutional Court of the Slovak Republic, the right to a fair trial includes the right to proper justification of the court decision, the predictability of the decision and the prohibition of arbitrary court proceedings.[11] We understand that the urgency of the government's resolution regarding the declaration or extension of the state of emergency may entail a lack of justification in the interest of a quick and effective resolution of the crisis situation, but such a practice may lead to abuse of power, which is characteristic of autocratic state regimes.

The Constitutional Court in its decision no. PL. ÚS 22/2020 of October 14, 2020 constructed the conception of constitutional prudence towards the declared state of emergency and expressed the idea that the declaration of a state of emergency "also requires expert, conceptual and ultimately political consideration", and also that "the government (as the chief decision-making body with wide-ranging substantive competences) is in a better position to assess such circumstances and is democratically responsible for this assessment and the consequences of its decision." However, the Constitutional Court also stated that "government resolutions on the state of emergency should generally state the basic reason for their adoption due to documentary reviewability and to identify a clear connection to the decision to declare a state of emergency". Every crisis measure is a political decision that must be based on expert evidence, but the responsibility for them lies with the government, not its expert advisers. Therefore, the government must consider not only the specific expert documents at its disposal, but must take into account the overall context and the effects of its measures.

In connection with the cited argumentation of the Constitutional Court, it is possible to point to a comparable legislation in Portugal, which explicitly states that the declaration of a state of emergency must be sufficiently justified and must specify which rights, freedoms and guarantees are to be suspended.

Therefore, the question arises as to whether the resolution of the Slovak government declaring a state of emergency should not have at least a framework justification, since it affects the rights of not only a limited number of participants in the proceedings, as is the case in the administrative judiciary, but also generally affects the rights of all citizens of the state. In our opinion, the Constitutional Law on State Security should stipulate that part of the decision to

[11] BARICOVÁ, J., FEČÍK, M., ŠTEVČEK, M., FILOVÁ, A., et al.: Correct court order: commentary. 1st ed. Prague: C. H. Beck, 2017. 1617 p. ISBN 978-80-7400-678-4.

declare a state of emergency must include at least a framework justification, in order to prevent an arbitraty decision and secure solid legal standing.

4.3. Review of the state of emergency by the Constitutional Court of the Slovak Republic

In addition to the aforementioned proposals for a possible amendment to the Constitutional Law on State Security, we also want to scrutinize the control mechanism of the Constitutional Court regarding the review of the declared state of emergency and offer suggestions for improving the quality of the legal regulation.

Law no. 314/2018 Coll. on the Constitutional Court of the Slovak Republic and on the Amendment and Supplementing of Certain Acts as amended (hereinafter referred to as the "Act on the Constitutional Court") in § 189 provides for an exhaustive calculation of the subjects procedurally legitimated to file a motion to initiate proceedings pursuant to Article 129 par. 6 of the Constitution of the Slovak Republic, for the Constitutional Court to examine whether the decision on the declaration of a state of emergency and the decisions following it were issued in accordance with the Constitution and the Constitutional Act. These entities are one fifth of the members of the National Council of the Slovak Republic, the President of the Slovak Republic, the Government of the Slovak Republic and the Prosecutor General. The period in which the authorized entity can submit a proposal for the initiation of proceedings is five days from the date of declaration of the state of emergency. After receiving the proposal, the Constitutional Court has ten days to decide whether the declared state of emergency, extended state of emergency, or re-declared state of emergency is in accordance with the Constitution or the constitutional law.

Among its previous rulings, the Constitutional Court of the Slovak Republic has twice assessed the constitutionality of the declaration of a state of emergency, namely in decision no. PL. ÚS 22/2020 of October 14, 2020 when considering Government Resolution No. 587 of September 30, 2020 on the proposal to declare a state of emergency due to the incipient second wave of the spread of COVID-19, and in the decision no. PL. ÚS 2/2021 of March 31, 2021 on the proposal to repeatedly extend the duration of the state of emergency. In the first judgment, the Constitutional Court was based on the limitation of its authority when it stated that the declaration of a state of emergency "also requires expert, conceptual and ultimately political consideration". Therefore, the Constitutional Court declared that "the government (as the supreme executive body with extensive, materially related competences) is in a better position to assess such circumstances and for this assessment and the consequences of its (positive, but also negative) decision on whether to declare state of emergency, is democratically responsible".

This approach was also based on the Constitutional Court of the Slovak Republic in the second decision, where it asked "a natural question whether, in the case of a situation that has persisted for a longer period of time, the Constitutional Court should be stricter when examining its justification and necessity than it is in the case of the initial declaration.". Subsequently, the Constitutional Court of the Slovak Republic in point 76 of the decision no. stamp PL. ÚS 2/2021 of March 31, 2021 stated that "suspicion when investigating the (repeatedly) extended state of emergency, despite the need for the consent of the National Council, is higher due to the objective fact of the passage of time and requires a stricter assessment than is the case in the event of a declared state of emergency. However, the severity is essentially determined by the seriousness and nature of the ongoing threat." Different opinions of the judges of the Constitutional Court were attached to both findings of the Constitutional Court of the Slovak Republic. To find PL. ÚS 22/2020 of October 14, 2020, Peter Straka attached a different opinion, in which he expressed concern that the extension of the state of emergency "offers the government the opportunity to rule indefinitely or there is a standardization of a non-standard." To the finding of PL. ÚS 2/2021 of March 31,

2021, a concurring opinion of judges Michal Ďuriš and Jana Laššáková was attached, in which, pointing to the jurisprudence of the European Court of Human Rights and the Court of Justice of the EU, they emphasized that the declaration of a state of emergency should fulfill the requirements of necessity, proportionality, and temporality. In connection with the above, it seems appropriate for us to consider the following topics de lege ferenda:

The range of entities authorized to initiate proceedings pursuant to Art. 129 par. 6 of the Constitution before the Constitutional Court of the Slovak Republic could and should be supplemented by a public defender of rights, mainly for the reason that the declaration of a state of exception and a state of emergency, as well as their course, is integrally connected with restrictive interference with fundamental rights and freedoms, while the primary role of the public defender of rights is to protect fundamental rights and freedoms from public authority.[12]

Another topic aimed at increasing constitutional control over the declared state of emergency could be the introduction of the Constitutional Court's authority to review its declaration even without a proposal. We are aware that the action of an "ex offo" judicial body should be quite exceptional. Considering the extraordinary situation related to the circumstances under which the state of emergency was declared, such an exception could be considered.

The third topic that we cover concerns the automatic review of the constitutionality of an already declared state of emergency, if it has been declared for 90 days. This would be an ongoing control carried out "ex offo" in the middle of the state of emergency, i.e. after the 45th day after its declaration. The above appears to us to be a suitable tool for continuous control. We justify this topic by highlighting the fact that even if the actively legitimated entities use their right to file within the 5-day period a proposal to initiate proceedings under Art. 129 par. 6 of the Constitution of the Slovak Republic and the Constitutional Court will decide on this proposal within a 10-day period, the remaining approximately 75 days are left without review by the Constitutional Court.[13] The mentioned solution would be the fulfillment of the concept of suspicion: "the Constitutional Court must be suspicious when examining the state of emergency", which the Constitutional Court stated in point 45 of its decision PL. ÚS 22/2020 of October 14, 2020. In relation to the mentioned legislative topics, it should be noted that their implementation would require changes not only at the legal level, i.e. by amending the Act on the Constitutional Court of the Slovak Republic, but in the interest of legal clarity, also by changing the constitutional arrangement.

5 CONCLUSION

The aim of this contribution was to evaluate the constitutional regulation of the state of emergency in Slovakia in terms of "de constitutione lata" and to propose its legal regulation "de constitutone ferenda". It can be said that the Slovak legislation regarding the state of emergency is set to face even more challenges and it would be beneficial to implement them in the near future. It is not good to sew it with a hot needle, as it was solved during the Covid-19 pandemic, when an amendment to the Constitutional Law on State Security was adopted in Slovakia in abbreviated legislative proceedings and brought with it a lot of criticism. It is therefore reasonable to prepare well even for unlikely emergency situations and to adopt a high-quality constitutional law that would go through a proper legislative process so that the professional public could comment on it. The current legal situation does not seem to us to be

[12] PATAKYOVÁ, M.: Public defender of rights and his legal means in the protection of fundamental rights and freedoms during a state of emergency and during other special legal regimes.

[13] PAŽITNÝ, L.: Control mechanisms when declaring a state of emergency. Proceedings of the international scientific conference April 22-23, 2021: CONSTITUTIONAL BODIES AND CONSTITUTIONAL PROTECTION OF FUNDAMENTAL RIGHTS IN CRISIS SITUATIONS. Bratislava Legal Forum 2021. Bratislava 2021, p. 62.e European Union

in accordance with the views of the Venice Commission. We therefore proposed solutions. In a democratic and legal state, mechanisms must be prepared that will be functional even in such a crisis period.

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TELEFONOVÁNÍ A SVAČINKA ZA VOLANTEM Z PERSPEKTIVY DOPRAVNÍCH PŘESTUPKŮ

MAKING A PHONE CALL OR REFRESHMENT WHILE DRIVING MOTOR VEHICLE IN THE FOCUS OF TRAFFIC VIOLATION

Michal Márton

Abstrakt

Příspěvek se zabývá odpovědností za přestupek v souvislosti s nevěnováním se řízení motorového vozidla, a to na pozadí obecné odpovědnosti za nevěnování se řízení motorového vozidla a držení hovorového zařízení jako speciálního zákazu. Na pozadí vývoje právní úpravy a aplikační praxe řeší otázku, zda je nutná speciální právní úprava zákazu držení hovorového zařízení.

Klíčová slova: *přestupek, dopravní přestupek, povinnost řidiče věnovat se řízení vozidla, zákaz držení hovorového zařízení.*

Abstract

The paper deals with responsibility of traffic violation based on loose of concentration while driving motor vehicle, on the background of the basic responsibility of loose of concentration while driving motor vehicle and the holding of the phone or other instrument as the special ban. Through the history of legal regulations and the legal practice the paper tries to find the answer on the question if it is necessary to hold special regulation of ban on holding the phone.

Key words: *offence, traffic offence, duty of driver to be concentrate on driving vehicle, ban on holding the phone*

1 ÚVOD

Jak samotný název příspěvku napovídá, bude zaměřen na otázku odpovědnosti řidiče vozidla za jednání, které jej vyvádějí z koncentrace, resp. v jejich důsledku řidič plně nevěnuje svou pozornost situaci v provozu na pozemních komunikacích. Nevěnovat se plně řízení vozidla lze docílit různými způsoby – právě onou „svačinkou“, tedy konzumací jídla a nápojů během jízdy, odháněním vosy, která vlétla za jízdy do auta, laděním rádia, komunikací se spolujezdcem, nebo držením hovorového či záznamového zařízení během jízdy. Pouze jednání spočívající v držení hovorového či záznamového zařízení během jízdy zákonodárce shledal natolik závažným, že je mu vyčleněna speciální skutková podstata. Cílem příspěvku je zamyšlení nad smyslem speciální skutkové podstaty upravující „telefonování“ za volantem proti obecné povinnosti věnovat se plně řízení vozidla.

2 HISTORICKÝ EXKURS

Již od počátku automobilismu zde existují pravidla silničního provozu a s nimi související povinnost řidiče věnovat se plně řízení vozidla. Prvním předpisem stanovujícím pravidla pro řízení motorových vozidel na území českých zemí bylo nařízení ministeria vnitra v dohodě s ministeriem obchodu, ministeriem veřejných prací a s ministeriem financí č. 81/1910 Sb., jímž se vydávají bezpečnostní ustanovení policejní pro jízdu jízdných silostrojů (automobilů, motorových vlakův a motorových kol); obsahovalo 9 paragrafů, a mimo jiné vyslovovalo v §

45 obecnou povinnost, podle níž *jízdná rychlost budiž zvolena za všech okolností tak, aby byl řidič pánem své rychlosti a aby bezpečnost osob a majetku nebyla ohrožována. Řidič vozidla má zmírniti přiměřeně jízdnou rychlost, třeba-li také zůstati státi a zaraziti motor, kdyby nehody nebo poruchy dopravy mohly býti způsobeny jeho vozidlem. Těchto opatrností budiž zejména šetřeno, blíží-li se jízdná a tažná zvířata nebo hnaný dobytek.* Toto nařízení bylo nahrazeno zákonem č. 81/1935 Sb. z. a n., o jízdě motorovými vozidly, v rámci něhož ustanovení § 38 odst. 2 stanoví řidiči *povinnost jízdě splniti vše, čeho je z jeho strany třeba k tomu, aby vozidlo stále ovládal a aby bezpečnost osob a majetku nebyla ohrožena; to týká se zejména i rychlosti jízdy*. Předmětný zákon byl nahrazen nařízením vlády č. 242/1939 Sb., o chování v silniční dopravě, podle jehož ustanovení § 7 odst. 3 *řidič vozidla jest povinen zachovávati při řízení a obsluze náležitou opatrnost. na vozidle nebo vedle něho má si své místo zvoliti tak, aby měl postačující rozhled. Smí míti vedle sebe osoby nebo předměty jen, pokud mu nepřekážejí v řízení a obsluze vozidla.* Toto nařízení bylo následně nahrazeno vyhláškou Ministerstva národní bezpečnosti č. 327/1951 Ú.l., kterou se stanoví pravidla silničního provozu, čímž byla odstartována éra úpravy pravidel silničního provozu cestou vyhlášek, která trvala až do současné zákonné úpravy, přičemž vyhlášky obsahovaly s drobnými jazykovými změnami povinnost řidiče věnovat se plně řízení vozidla a sledování situace v silničním provozu.[1] Tento stav přitom setrval až do účinnosti stávající právní úpravy, totiž zákona č. 361/2000 Sb., o provozu na pozemních komunikacích, v platném znění (dále jen „zákon o silničním provozu“). Po celou dobu mohl být řidič postižen toliko za obecný přestupek spočívající v porušení příslušného ustanovení právního předpisu. Dlužno dodat, že je na právní předpisy nutno nahlížet optikou doby, ve které vznikaly, např. nahrazení zákona nařízením vlády a posléze tohoto nařízení vyhláškou, což neodpovídá hierarchii právních předpisů ani normotvorné činnosti moderního právního státu,[2]avšak z hlediska obsahové, která nevyjadřuje politický obsah, je možné bez dalšího v rámci sledování vývoje právní úpravy s těmito předpisy pracovat.

3 SOUČASNÁ PRÁVNÍ ÚPRAVA

V rámci aktuální právní úpravy je nutno se opřít o ustanovení § 5 odst. 1 písm. b) a ustanovení § 7 odst. 1 písm. c) zákona o silničním provozu, a na to navazující skutkové podstaty dopravních přestupků. Podle § 5 odst. 1 písm. b) zákona o silničním provozu je řidič povinen *věnovat se plně řízení vozidla nebo jízdě na zvířeti a sledovat situaci v provozu na pozemních komunikacích.* Podle § 7 odst. 1 písm. c) zákona o silničním provozu řidič nesmí *při jízdě vozidlem držet v ruce nebo jiným způsobem telefonní přístroj nebo jiné hovorové nebo záznamové zařízení.*

Přestupku podle § 125c odst. 1 písm. f) bod 1 zákona o silničním provozu se dopustí ten, kdo *v rozporu s § 7 odst. 1 písm. c) drží v ruce nebo jiným způsobem telefonní přístroj nebo jiné hovorové nebo záznamové zařízení*. Přestupku dle § 125 odst. 1 písm. k) zákona o silničním provozu se dopustí ten, *kdo jiným jednáním poruší povinnost podle hlavy II. zákona o silničním provozu*; tedy jeho ustanovení § 3 – 79a, kam spadá rovněž povinnost věnovat se plně řízení vozidla a sledovat situaci v provozu na pozemních komunikacích. Pokud jde o sankci, za oba přestupky se ukládá podle § 125c odst. 5 písm. g) zákona o silničním provozu správní trest pokuty od 1.500 Kč do 2.500 Kč. Za přestupek podle § 125c odst. 1 písm. f) bod

[1] § 4 odst. 2 písm. b) citované vyhlášky; § 10 odst. 2 písm. b) vyhlášky Ministra vnitra č. 196/1953 Ú.l. o provozu na silnicích; § 10 odst. 2 vyhlášky Ministra vnitra č. 146/1956 Ú.l. o provozu na silnicích; § 4 odst. 5 vyhlášky Ministra vnitra č. 141/1961 Sb., kterou se vydávají pravidla v silničním provozu; § 4 odst. 1 písm. a) vyhlášky Ministerstva vnitra č. 80/1966 Sb., o pravidlech silničního provozu; § 5 odst. 1 písm. b) vyhlášky Ministerstva vnitra č. 100/1975 Sb., o pravidlech silničního provozu a § 5 odst. 1 písm. b) vyhlášky Ministerstva vnitra č. 99/1989 Sb., o pravidlech provozu na pozemních komunikacích.

[2] Hendrych, D. a kol. *Správní právo. Obecná část.* 9. vydání. Praha: C. H. Beck, 2016, str. 312-316.

1 zákona o silničním provozu se však řidiči zaznamenávají 2 body podle přílohy č. 1 zákona do registru řidičů. Není tak pochyb, že jednání spočívající v držení telefonu nebo jiného hovorového či záznamového zařízení, je jednáním závažnějším, a to i díky záznamu bodů, které jsou sankcí sui generis.[3]

Následující náhled provede problematikou skrze jednotlivé složky skutkové podstaty přestupku.[4] Subjektem je řidič vozidla, veřejný zájem chrání náležitou koncentraci osoby na řízení vozidla. Jedná se o speciální povinnost, resp. zákaz vyjádřený v ustanovení § 7 odst. 1 písm. c) zákona o silničním provozu ve vztahu k obecné povinnosti řidiče vyjádřené v ustanovení § 5 odst. 1 písm. b) zákona o silničním provozu. Podle ustanovení § 7 odst. 1 písm. c) zákona o silničním provozu řidič *nesmí při jízdě*[5] vozidlem držet v ruce nebo jiným způsobem telefonní přístroj nebo jiné hovorové nebo záznamové zařízení.

Jednání řidiče spočívá v tom, že řidič drží v ruce nebo jiným způsobem některé ze zařízení v citovaném ustanovení jmenované. Na pojem držení z hlediska sémantického lze nahlížet tak, zde jde o vůlí řízený svalový úkon spočívající v takovém uchopení věci, které zaručuje uchopivšímu možnost s touto manipulovat. Skutková podstata přestupku je naplněná již tím, že řidič takovéto zařízení za jízdy uchopí, bez ohledu na to, zda došlo k uskutečnění hovoru nebo například pořízení fotografie. Ve shodě s touto premisou se vyjadřují i komentářová znění. Podle Kovalčíkové jde o držení jiným způsobem např. pomocí ramene a ukloněné hlavy.[6] Nelze však souhlasit s tezí autorky, že zajímavá situace by nastala, pokud by řidič telefon nedržel v ruce, ale telefonoval by s pomocí spolucestujícího, který by mu telefonní přístroj přidržoval. Takový řidič by sice neporušil tento zákaz, ale zpronevěřil by se jiné základní povinnosti stanovené v § 5 odst. 1 písm. b), která mu ukládá plně se věnovat řízení vozidla a sledovat situaci v provozu. Je totiž prokázáno, že telefonováním za jízdy dochází k rozptýlení pozornosti řidiče a ke snížení fyzické a psychické schopnosti adekvátně reagovat na nenadálé dopravní situace. Tento stav může způsobit opožděné brzdění a tím prodloužení brzdné dráhy i o několik desítek metrů nebo přehlédnutí dopravního značení a následné nedání přednosti v jízdě, což může mít v konkrétním případě fatální důsledky. Akceptováním uvedeného přístupu by totiž bylo vyučeno i samotné telefonování za volantem, což zakázáno není, stejně tak musí řidiče rozptylovat hovor se spolujezdcem či realizovaný prostřednictvím hands-free sady, či dnes už u běžného i phonu umístěného v stojanu se zapnutým reproduktorem. To, že samotné telefonování zakázáno není, vyplývá ze znění zákona o silničním provozu, ledaže by automaticky řidič porušoval uskutečňováním hovoru ustanovení § 5 odst. 1 písm. b) zákona o silničním provozu, což nebylo v rámci vývoje právní praxe reflektováno.[7]

Řidič se musí zdržet držení telefonního přístroje, hovorového nebo jiného záznamového zařízení. Není nutné rozebírat blíže otázku telefonního přístroje, kdy v tomto směru jde o přístroj k uskutečňování přenosu hovoru v rámci provozní sítě (mobilní přenosný či zabudovaný ve starších typech automobilů). Hovorové zařízení je možno definovat tak, že jde o ostatní hovorová zařízení k přenosu informace cestou hlasu vyjma telefonu,

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[3] Márton, M. *Sankční charakter bodového hodnocení* řidičů. In Masarykova univerzita. Cofola 2019. Brno: Masarykova univerzita, 2019. s. 48-58

[4] Objekt, objektivní stránka, subjekt, subjektivní stránka, zavinění. Podrobněji k jednotlivým složkám skutkové podstaty viz Márton, M., Gonsiorvá, B. *Průvodce novým přestupkovým zákonem pro správní praxi.* Praha: Leges, 2017, str. 31-45.

[5] Jde o jízdu vozidla v pohybu, což je užší pojem než řízení vozidla. Když řidič např. stojí před železničním přejezdem v důsledku činnosti varovné signalizace či na světelný signál „Stůj“ v křižovatce či jiném řízení provozu, vozidlo je řízeno, ale nejede a za přestupek proto nebude odpovědný.

[6] Kovalčíková,D., Štandera,J. *Zákon o provozu na pozemních komunikacích. Komentář.* 2. vydání. Praha: C. H. Beck, 2011, str. 43-47.

[7] Shodně též Bušta, P. Kněžínek, J. Zákon o silničním provozu. Komentář. Walter Kluwer. Aspi, právní stav k 1. 2. 2022, Kučerová, H. Zákon o silničním provozu. Komentář. 4 vydání. Praha: Leges, 2018, str. 45.

např. vysílačka. Záznamovým zařízením pak lze definovat vše, co slouží k záznamu a uchování informací (fotoaparát, videokamera, diktafon, mikrofon k němu připojený atp.).[8] Z hlediska technického vývoje však dnešní i phony pokrývají všechna zařízení – telefon, jiné hovorové zařízení i záznamové zařízení. Je nutné mít na paměti okamžik, že samostatná skutková podstata přestupku spočívající v držení hovorového nebo záznamového zařízení byla jako ustanovení § 22 odst. 1 písm. f) bod 1 vložena v rámci velké novely č. 411/2005 Sb. do tehdy platného přestupkového zákona s účinností od 1. 7. 2006[9] a pamětníci potvrdí, že v této době byl stále převažujícím přístrojem tlačítkový mobilní telefon, často bez fotoaparátu a nahrávání. Lze však nicméně shrnout, že i když v dnešní době naplní skutkovou podstatu v plné šíři držení i phonu, platí účinnost tohoto ustanovení i na fotoaparáty, vysílačky, diktafony aj.

Ustanovení upravující zákaz držení hovorových zařízení zřejmě reagovala na revidovaný čl. 8 odst. 6 Úmluvy o silničním provozu,[10]podle kterého vnitrostátní legislativa měla stanovit pravidla o používání telefonů řidiči vozidel tím, že zakáže řidičům motorových vozidel používání telefonů držených rukou, jestliže je vozidlo v pohybu, což ostatně dokladují obdobná ustanovení v zahraničních právních řádech, např. v sousedním Slovensku a Polsku. Podle slovenského zákona o silničním provozu platí zákaz používání telefonního přístroje vyjma systému „volné ruky“ anebo vykonávat jinou obdobnou činnost, která nesouvisí s řízením vozidla.[11] Přestupkový zákon pak neobsahuje speciální skutkovou podstatu, která by toto jednání postihovala, kdy se jedná o jiné porušení zákona o silničním provozu (cestnej premávke), který je postižitelný pokutou do 100 euro.[12] Systém bodového hodnocení řidičů na Slovensku není zaveden. Jde-li o právní úpravu v Polsku, pak podle polského zákona o silničním provozu platí zákaz telefonování za jízdy mobilním telefonem přístroje vyjma systému hands-free.[13] Přestupkový zákon neobsahuje speciální skutkovou podstatu, která by toto jednání postihovala, obdobně jako na Slovensku se jedná o jiné porušení pravidel silničního provozu, které je však postižitelné pokutou do 3.000 zlotých.[14] Systém bodového hodnocení řidičůje v Polsku zaveden, přestupek spočívající v telefonování za jízdy řidičem

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[8] Cit. z rozhodnutí NSS č.j. 5 As 77-2010 ze dne 27. května 2011: *„Pojem „záznamové zařízení“ tedy není obecně v právním řádu České republiky definován. Proto je nutno při výkladu tohoto pojmu vycházet z jeho obecného chápání ve společnosti. „Záznamovým zařízením“ se pak obecně myslí produkt lidské činnosti (výrobek, zařízení), jímž je možno pořídit záznam, ať již zvukový, obrazový, písemný či jiný, a to bez ohledu na to, zda se jedná o záznam delšího děje (např. videozáznam) či záznam jednotlivého okamžiku (fotografie). Ze smyslu a účelu ust. § 22 odst. 1 písm. f) bodu 1. zákona o přestupcích přitom jednoznačně vyplývá požadavek na zamezení situace, kdy řidičova pozornost při řízení je snížena ovládáním jiného technického prostředku („zařízení“) než vozidla samotného. Není pochyb (a stěžovatel to též nenapadá), že „hovorovým zařízením“ podle tohoto ustanovení je produkt lidské činnosti (výrobek, zařízení), který může sloužit k hovoru (pravidelně mobilní telefon). Používá-li tedy ve stejné souvislosti zákonodárce pojem „záznamové zařízení“, je evidentní, že tím myslí právě produkt lidské činnosti (výrobek, zařízení), které může sloužit k pořízení záznamu (tedy i videokamera, diktafon, fotoaparát, apod.). Nejvyšší správní soud proto uzavírá, že fotoaparát je přístrojem podřaditelným pod pojem „záznamové zařízení“ užitým v § 22 odst. 1 písm. f) bodě 1. zákona o přestupcích.“*

[9] Zákon č. 200/1990 Sb., o přestupcích, účinný do 30. 06. 2017.

[10] Sdělení Ministerstva zahraničních věcíč. 83/2013 Sb. m.s.o Úmluvě o silničním provozu (Vídeň 1968).

[11] Ustanovení § 4 odst. 2 písm. l) zákona č. 8/2009 Z.z., o cestnej premávke.

[12] Ustanovení § 22 odst. 1 písm. k) zákona č. 372/1990 Sb., o priestupkoch, 1 euro=25.65 Kč, kurz ke dni 01. 08. 2012.

[13] Článek 45 odst. 2 bod 1 Ustawy Dz.U. 1997 Nr 98 poz. 602, prawo o ruchu drogowym.

[14] Článek 97 Ustawy Dz.U. 1971 Nr 12 poz. 114, kodeks wykroczeń, v platném znění, 1 zlotý (PLN) = 5.40 Kč, kurz ke dni 01. 08. 2012.

[171] Článek 130 odst. 4 a článek 140 odst. 5 Ustawy Dz.U. 1997 Nr 98 poz. 602, prawo o ruchu drogowym, prováděcí předpis Rozporządzenie ministra spraw wewnętrznych i administracji Dz.U. 2002 Nr 236 poz. 1998, w sprawe postępowania z kierowcami naruszającymi przepisy ruchu drogowego, písm. I) položka 04

skrze mobilní telefon není bodově hodnocen.[15] Je evidentní, že právní úpravy jednoznačně upřednostňují v silničních zákonech stanovení zákazu manipulace s telefonním přístrojem, avšak ne vždy generují samostatnou skutkovou podstatu přestupku toto jednání pokrývající.
Je možné vyslovit tezi, že právě zákonem chráněný zájem nevyžaduje úpravu prostřednictvím speciální skutkové podstaty, když by měla být respektována obecná povinnost věnovat se plně řízení vozidla, která by následně byla precizována rozhodovací činností správních orgánů a soudů jednajících ve správním soudnictví. Dlužno dodat, že v minulosti se autor zabýval touto problematikou v rámci rigorózní práce, v rámci níž vyslovil spekulativní závěr, že skutková podstata přestupku je výsledkem úspěšného lobbingu výrobců a distributorů hands-free zařízení, což však, především s ohledem na technický vývoj, je nutno zásadně korigovat, když je evidentní, že „hands-free" hovor je již možno realizovat cestou i phonů zcela bez užití hands-free sady, přesto však zde zůstává otázka nutnosti speciálního sankčního ustanovení.
Veřejný zájem chráněný skutkovou podstatou přestupku podle § 125c odst. 1 písm. f) bod 1 zákona o silničním provozu představuje speciální objekt v podobě zdržení se užívání vymezených zařízení řidičem během jízdy, a to ve vztahu k objektu obecnému (náležité věnování se řízení vozidla – § 5 odst. 1 písm. b) ZSP).
Následuje představení klasické modelové situace, v jejímž rámci *řidič řídí motorové vozidlo, za jízdy drží v ruce hovorové záznamové zařízení (mobilní telefon), z něhož uskutečňuje hovor*. Tento řidič se řízení vozidla nevěnuje tím, že *nemá volné obě ruce k ovládání vozidla (v jedné drží mobilní telefon).* Existuje však řada situací, kdy řidič nemá obě ruce volné při řízení vozidla, pouze příkladem lze uvést ladění autorádia, zapalování, popotahování, odklepávání popela a hašení cigarety,[16] konzumace jídla a nápojů za jízdy. Za tyto však může být řidič odpovědný maximálně pro porušení obecné povinnosti věnovat se řízení vozidla, tedy za porušení ustanovení § 5 odst. 1 písm. b) zákona o silničním provozu, přesto jde o jednání stejně nebezpečná a způsobilá vyvolat nehodovou situaci v důsledku ztráty koncentrace řidiče.
Druhá poloha představuje *rozptýlení pozornosti řidiče uskutečňováním hovoru, pořizováním fotografií atp.* Logicky se v této souvislosti nabízí otázka, zda je pozornost řidiče ovlivňována samotným uskutečňováním hovoru. Pozornost osoby, která řídí motorové vozidlo, je nepochybně ovlivňována uskutečňováním hovoru. Zákonodárce však vymezuje jako přestupek samotné držení telefonu, nikoli uskutečňování hovoru, což je logické ve vztahu k faktu, že v případě postihování jednání spočívajícího v uskutečňování hovoru, by muselo být zakázáno používat i sady hands-free, díky nimž lze hovor uskutečnit. Obdobně jako hovor však bude řidiče rozptylovat např. poslech rádia (nemusí slyšet zvukové výstražné znamení přijíždějícího sanitního vozu), nebo rozhovor se spolujezdci. Je věcí jiného než právního posouzení, zda se právě řidič realizující hovor bezkontaktním způsobem o to více soustředí na obsah rozhovoru než řidič, který si je vědom handicapu spočívajícího v držení telefonního přístroje, a proto věnuje větší pozornost situaci v provozu než řidič realizující hovor bezdotykově a současně snaží se hovor co nejrychleji ukončit.
Zajímavý je retrospektivní náhled na dokazování tohoto jednání, který již aktuálně bude ztrácet glanc v kontextu rozvoje technického vybavení policistů o záznamová zařízení. Když je má po ruce každý běžný uživatel, je o to logičtější, že jimi budou disponovat policisté za

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[16] Otázkou je, zda na kouření vůbec dopadá obecné ustanovení § 5 odst. 1 písm. b) zákona o silničním provozu, neboť podle ustanovení § 7 odst. 1 písm. d) zákon o silničním provozu výslovně zakazuje kouřit pouze řidiči jízdního kola, mopedu a motocyklu. Podle názoru autora lze pojem kouření vnímat v širším smyslu jako veškeré úkony spojené s manipulací s kouřeným předmětem (cigareta, doutník, dýmka, fajfka) spočívající v jeho zapálení, vlastní inhalace = kouření, jakož i úkony spojené s jeho uhašením, nebo užším smyslu jako vlastní inhalace, přičemž ustanovení § 5 odst. 1 písm. b) zákona o silničním provozu bude na kouření řidiče automobilu dopadat pouze ve chvíli, že by některý z úkonů spojených s kouřením vedl k tomu, že se pozornost řidiče bude výrazně ovlivněna, např. upadnutím žhavého uhlíku do interiéru automobilu.

účelem dokumentace protiprávních jednání, takže je možno na následující pasáž nahlížet jako ohlédnutí s případným využitím v situaci, kdy technika selže.
Jde-li o dokazování přestupku, pak obecně podle správního řádu platí, že *k provedení důkazu lze užít všech důkazních prostředků, které jsou vhodné ke zjištění stavu věci a které nejsou získány nebo provedeny v rozporu s právními předpisy. Jde zejména o listiny, ohledání, svědeckou výpověď a znalecký posudek.*[17]
Výčet důkazních prostředků je demonstrativní. V rámci správního řízení je nejmenší problém přestupek zjistit v případě, že je pořízena fotografie či kamerový záznam, což je stav ideální a jdoucí s moderní dobou, ale mohou nastat situace, kdy bude přestupek nutno prokázat cestou svědecké výpovědi osoby vykonávající dohled nad bezpečností silničního provozu – strážníka obecní policie či příslušníka Policie České republiky (dále jen policista). Nesouhlasí-li řidič s uložením příkazu na místě, pak se věc následně oznamuje do správního řízení s tím, že řidič má možnost se na místě vyjádřit a policista, případně policisté sepíší úřední záznam z přestupku, který však v řízení nelze jako důkaz zpravidla použít.[18] Následující výklad bude vycházet ze standardní situace, kdy obviněný spáchání skutku popírá, a tento usvědčován svědeckými výpověďmi policistů. Svědecká výpověď policisty, stejně jako kterákoli výpověď jiného svědka, podléhá hodnocení důkazů co do jejího vztahu k dokazované skutečnosti a věrohodnosti. Popírá-li obviněný přestupek, a stojí-li proti jeho verzi skutkového děje výpovědi policistů, pak při hodnocení této výpovědi se může správní orgán opřít o rozsudek Nejvyššího správního soudu č.j. 4 As 19/2007-114 ze dne 27. 09. 2007, kde se v zásadě Nejvyšší správní soud přiklonil k závěru, že policista jako svědek je osoba, která přestupek zjišťuje v rámci plnění svých služebních povinností, kde je vázána zásadou zákonnosti při zásahu, a z těchto důvodu nemá na výsledku řízení na rozdíl od obviněného jakýkoli zájem.[19] Tato teze je dále rozvíjena pozdější judikaturou, podle níž v zásadě bude platit, že policisté jako úřední osoby nemají na výsledku řízení zájem, neprokáže-li se něco jiného, přičemž v rámci hodnocení důkazů je nutno vzít v potaz všechny okolnosti případu, a nelze automaticky výpovědím policistů přikládat vyšší věrohodnost než jiným důkazům. [20]Pokud tedy nejsou výpovědi policistů jak vnitřně, tak navenek rozporné a současně nevykazují rozpory mezi skutečnostmi uvedenými v úředním záznamu a obviněný nepředloží důkazy, kterými by tyto účinně zpochybnil, lze se přiklonit k výpovědím policistů a mít tak přestupek zjištěný v souladu se zásadou vyšetřovací a materiální pravdy.[21] Vyšší nároky na hodnocení výpovědí zasahujících policistů přinesly pozdější rozsudky Nejvyššího správního soudu, z nichž vyplynulo, že samotný obsah výpovědí policistů může být zpochybněn nesprávnou taktikou zásahu.[22] Správní orgán tak musí současně zkoumat v rámci hodnocení výpovědi

[17] Ustanovení § 51 odst. 1 správního řádu.
[18] Přípustná analogie ustanovení § 158 odst. 5 trestního řádu, též rozh. NSS č.j. 1 As 96/2008-115 ze dne 22. ledna 2009, který vyloučil užití úředního záznamu (jednostranného úkonu osoby, která jej vyhotovila) jako důkazu, kdy tento může sloužit výhradně jako podklad pro úvahu správního orgánu o tom, zda osoba, která jej vyhotovila má být v řízení vyslechnuta jako svědek. I když není úřední záznam důkazem, může však být využit jako podklad pro rozhodnutí, což je ve smyslu ustanovení § 50 odst. 1 správního řádu pojem širší než „důkaz“, kdy výčet v tomto ustanovení obsažený ve své množině zahrnuje důkaz. Pozdější rozsudky Nejvyššího správního soudu č.j. 1 As 15/2010-90 ze dne 16. března 2010, jakož i 1 As 34/2010 ze dne 9. září 2010 připouští možnost rozhodnout v situaci, kdy podklady pro rozhodnutí jsou úřední záznamy policisty sepsané za současného vyjádření obviněného, který spáchání skutku nepopírá. Pokud však jsou jediným potenciálním důkazem výpovědi policistů, nelze se spokojit pouze s přečtením úředních záznamů (rozh. NSS č.j. 1 As 60/2016-30 ze dne 22. června 2016).
[19] Obdobně rozh. NSS č.j. 1 As 64/2008-42 ze dne 22. října 2008. Shodně též rozh. NSS č.j. 4 As 270/2015-42 ze dne 11. března 2016.
[20] Rozh. NSS č.j. 4 As 216/2016-34 ze dne 26. ledna 2017.
[21] Ustanovení § 50 odst. 3 správního řádu, § 3 správního řádu.
[22] Rozh. NSS č.j. 7 As 83/2010-63 ze dne 17. června 2011 a dále č.j. 7 As 102/2010-86 ze dne 22. července. 2011.

policisty i okolnosti a průběh zásahu. Nutno dále dodat, že na rozdíl např. od fotografie či kamerového záznamu, je svědecká výpověď ovlivněna standardním procesem zapomínání, kdy v tomto je řidič vždy ve výhodě oproti policistovi, který provádí zásah několikrát denně, zatímco pravděpodobnost zastavení řidiče policistou je podstatně menší, takže stopy v paměti řidiče budou výrazněji lepší, než tomu bude u policisty. Je tedy nutno k hodnocené těchto výpovědí přistupovat kriticky a hodnotit i otázku, zda policisté mohli vůbec takový přestupek spatřit.[23]Mobilní telefon však jako věc důležitou pro přestupkové řízení zajistit nelze.[24]

4 ZÁVĚR

Nevěnování se řízení motorového vozidla je nepochybně nežádoucí věc způsobilá v provozu na pozemních komunikacích vyvolat v důsledku ztráty koncentrace nebezpečný stav či přímo nehodovou situaci, což zákonodárce v rámci historického vývoje reflektoval a povinnost řidiče věnovat se plně řízení vozidla se stala v obdobné dikci součástí právních předpisů regulujících automobilismus od jeho počátku. Zjevně v důsledku realizace revidovaného textu Vídeňské úmluvy ve snaze speciálně potírat telefonování řidičů jsou zaváděna do právních řádů evropských států ustanovení zakazující manipulaci s telefonním přístrojem, nikoli však realizaci hovoru, která může proběhnout bez držení přístroje. Přesto lze konstatovat, že i bez speciální zákonné úpravy by bylo možno tato jednání pokrýt skrze obecnou povinnost řidiče věnovat se plně řízení vozidla, což však autor nevidí jako zásadní problém, a s ohledem na 18 let existence stávající právní úpravy lze konstatovat, že se aplikační praxe v souvislosti s odpovědností řidiče za přestupek podle § 125c odst. 1 písm. f) bod 1 zákona o silničním provozu ustálila. Nelze se však spokojit se situací generující přísnější potrestání řidiče, který v ruce držel hovorové zařízení tím, že jsou mu za toto jednání zaznamenány 2 body v registru řidičů, zatímco za stejně nebezpečná jednání, která rozptylují pozornost řidiče, k záznamu bodů nedojde. Je tak nasnadě, aby se přistupovalo i k těmto jednáním stejně nebo naopak se nezaznamenávaly body za držení hovorového zařízení.

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V obou případech policisté ve chvíli, kdy řidič odmítl na místě zaplatit blokovou pokutu za přestupek dle ustanovení § 125c odst. 1 písm. f) bod 1 ZSP, provedli důkladnou kontrolu vybavení vozidla, což zpochybnilo profesionalitu zásahu tím, že byla provedena nedůvodná důkladná kontrola vybavení vozidla, kdy toto jednání policistů může zakládat pochybnost v tom směru, že mohlo jít buď o snahu zjistit za každou cenu přestupek (přímá či nepřímá motivace k výběru pokut) nebo arogantní jednání řidiče vyvolalo potřebu odplaty.

[23] Rozh. NSS č.j. 1 As 414/22018-25 ze dne 14. března 2019.

[24] Rozh. NSS č.j. 5 As 203/2017-28 ze dne 13. prosince 2019.

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PRÁVNÍ PŘEDPISY
HISTORICKÉ
nařízení ministeria vnitra v dohodě s ministeriem obchodu, ministeriem veřejných prací a s ministeriem financí č. 81/1910 Sb., jímž se vydávají bezpečnostní ustanovení policejní pro jízdu jízdných silostrojů (automobilů, motorových vlakův a motorových kol)
zákon č. 81/1935 Sb. z. a n., o jízdě motorovými vozidly
nařízení vlády č. 242/1939 Sb., o chování v silniční dopravě
vyhláška Ministerstva národní bezpečnosti č. 327/1951 Ú.l
vyhláška Ministra vnitra č. 196/1953 Ú.l. o provozu na silnicích
vyhláška Ministra vnitra č. 146/1956 Ú.l. o provozu na silnicích
vyhláška Ministra vnitra č. 141/1961 Sb., kterou se vydávají pravidla v silničním provozu
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PLATNÉ
Sdělení Ministerstva zahraničních věcí č. 83/2013 Sb. m.s.o Úmluvě o silničním provozu (Vídeň 1968)
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ZAHRANIČNÍ
zákon č. 8/2009 Z.z., o cestnej premávke
Ustawa Dz.U. 1997 Nr 98 poz. 602, prawo o ruchu drogowym
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rozsudek Nejvyššího správního soudu č.j. 4 As 270/2015-42 ze dne 11. března 2016
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rozsudek Nejvyššího správního soudu č.j. 5 As 203/2017-28 ze dne 13. prosince 2019

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MARGARET NAUMBURG: PROGRESSIVE EDUCATION AND THE BIRTH OF ART THERAPY

Marie Bajnarová

Abstract

The paper focuses on the approaches of Margaret Naumburg, who was the first to attempt to apply psychoanalytic principles to pedagogical practice. Naumburg pointed out in 1954 that as early as 1914, when she founded New York's Walden School, she had defended her position on the importance of psychoanalysis in relation to education, and then added: *"At that time it was like the voice of crying in the wilderness."* (Naumburg, 1954. In Geneser, 2022) While other progressive schools in the early twentieth century emphasized the cooperative nature of play and collaborative exploration, Naumburg advocated an individual approach to the child and initiation of children's free (not only) artistic expression. She believed that children's emotions should be liberated through art, imagination, and creative self-expression.

Key words: *Margaret Naumburg, Walden School, Education, Art, 20th Century*

1 MARGARET NAUMBURG

Naumburg was born 14.05.1890 in New York and died at the age of 92. After completing a teacher training course led by Maria Montessori in Rome, she founded the first Montessori kindergarten in New York. Naumburg's approaches violated Montessori principles, which led, firstly, to a departure from Montessori pedagogy (Gutek G., Gutek P., 2020) and secondly, to the establishment of its own progressive education, which subsequently influenced the educational philosophy of the American nation (Kennedy, 1983). Naumburg was inspired by psychoanalysis, Montessori pedagogy, modern surrealist art, primitive art. These inspirational impulses helped her develop her own art therapy.

In 1914, Naumburg founded the first Montessori kindergarten in the USA, which gave impetus to the development of her own institution called the Walden School. The Walden School was a private day school in Manhattan, New York City that operated until 1988, when it merged with the New Lincoln School (the merged school closed in 1991).

The New York City Board of Education called this an experimental educational activity. Walden School was seen as part of the "freedom of the arts" movement. Throughout its history, Walden School has emphasized the visual and performing arts, and competition among students has been minimized, and no standardized exams have been required for admission (Staring, Bouchard, Aldridge, 2014). Here are the principles of the Walden School:

- Developing children's abilities, not "accumulating" knowledge.
- Development of individuality and initiative through music and art (Altman, 1999).
- Development of mathematical and research skills (New, Cochran, 2007).
- Children should be free to choose their own activities for self-development.
- Sensory development of skills is the initial path to self-education.
- School must be an environment for the maximum development of the child.
- The teacher is in the role of an observer who guides the child but does not control his learning.
- Emphasis on a healthy lifestyle of the child.

Although Naumburg's vision had its opponents, the Walden School eventually gained the respect and attention of the academic community. Naumburg presents his impulses to education in the book "The Child and the World" from 1928, and in the thirties of the twentieth century he begins to work with children with mental disorders at the Psychiatric

Institute in New York, where she is more intensively engaged in diagnostics and therapy. Naumburg (1947) states that once spontaneous artistic expression is encouraged, rather than precisely defined creation dependent on specific techniques and models, the individual begins to draw on his own inner resources, resulting in an authentic artistic expression that can depict certain personality conflict and insecurities, reveal aspects of mental illness or traumatic experiences. Naumburg connects children's artistic expression with the contexts of art, as well as with the aforementioned psychoanalysis and children's free play.

2 INDIVIDUAL APPROACH, FREE CHILDREN'S PLAY AND FREEDOM

Naumburg promoted an individual approach to the child and initiation for children's free (not only) artistic expression. She believed that children's emotions should be liberated through art, imagination, and creative self-expression. Here are five approaches that Naumburg pioneered in children's free play (Naumburg, 1921, 1947. In Geneser, 2022):

- Free play and the child's inner world: Free play is meant to be a means for the child to deal with inner conflict. The inner world of the child is reflected in a game in which the child reveals connections and the game has an open end.
- Free play and freedom of the child: The child should choose for himself what form of his play he chooses, since the choice is most often based on the unconscious needs of the child.
- Free play and problem solving: The child is able to solve his own problems in the form of free play. A child who is constantly controlled will not learn to experiment, create, or invent new ways to work with different materials.
- Free play and learning support: Free play involves active learning (both mental and physical). Free play can take any form, including free expression through art, dance, music, and other forms of mental or physical activity.
- Free play and individual play: Unconscious conflicts and tensions can only be expressed and elaborated by the child through the child's individual guidance, expressed through his own free play. Individual free play interferes with the inner world of the child.

At the Walden School Naumburg (Detre et al, 1983), she put into practice in particular the idea that *"children's emotional development, supported by the promotion of spontaneous creative expression and self-motivated learning, should take precedence over the traditional intellectual approach to teaching standardized curricula."*

2.2 Children's spontaneous artistic expression

In the thirties of the twentieth century, Naumburg began to work with children with mental disorders at the Psychiatric Institute in New York, where he deals more intensively with diagnostics, therapy and deeper into art, because artistic expression shows what is happening in the depths of the human psyche, eg. Naumburg asked the author to close his eyes and scribble on a piece of paper. Then she asked him to look for associations and symbolism in the "doodles". She used this technique in the belief that it helped a person uncover unconscious images (Naumburg, 1947).

Naumburg (Levine, 2014) states that once spontaneous artistic expression is encouraged, rather than precisely defined creation dependent on specific techniques and models, the individual begins to draw on their own inner resources, resulting in an authentic artistic expression that can depict certain personality conflict and insecurities, reveal aspects of mental illness or traumatic experiences. Free artistic expression means an authentic and original response to life, whether internal or external, created in some chosen art form; it does

not mean the reproduction of models or stereotypes that are often used in formal art education (Naumburg, 1945).

2.3 The birth of art therapy

Psychiatrists and psychologists have been using clients' artifacts to understand their mental states for many years, but in the early 20th century there were cases where psychiatrists used drawing as a tool to understand their clients, but art therapy itself began to formulate from the mid-20th century. Naumburg understood art as a form of symbolic language that needed to be evoked through free association (Reynolds, Fletcher-Janzen, 2007), and she conceives art as a "royal road" to unconscious symbolic contents, which is a means of therapy and interpretation. Naumburg was convinced that understanding oneself was essential to the liberation of creativity, so she urged all teachers at the Walden School to be instructed in psychoanalysis (Rubin, 1999). Naumburg said *"The young child and the primitive wait for no rules of art before expressing themselves in forms so vivid that we all respond. A sense of rhythm, a feeling for color, and an image-making capacity belong to the human race and were never imposed from without. As man draws upon the limitless recources of the uncounscious he evokes again ancient images which preceded words as a direct form of communication. Ability to create is inherent in humanity and may at any moment win further release in such fulfillment and integration."* (Naumburg, 1950. In Karier, 1986) In the twenties of the twentieth century, she met the psychiatrist Dr. Nolan D.C. Lewis, who himself published professional articles on the use of art in psychoanalytic treatment and, as director of the New York Psychiatric Institute, made it possible for Naumburg to conduct artistic activities with clients (Rubin, 1999). Naumburg, known as the "mother of art therapy", worked with problem child clients and applied so-called "dynamically oriented art therapy" in the psychiatric institute, which deviated from traditional analytical techniques in that the client took an active role and interpreted his own thoughts and ideas. Naumburg (Naumburg, 1973. In Brooke, 2006) argued that the art therapy approach offers a specialized non-verbal technique for releasing unconsciously repressed emotions and through symbolic images emotions become visible.

2.4 Artistic expression and symbolic language

According to Naumburg, spontaneously created images are a form of communication between the creator and the therapist and represent symbolic language. The introduction of painting and modelling (not only) into art therapy enables the expression of dreams, fantasy and the expression of inner experiences that cannot be described in words (Ulman, 2001). The focus is not only on deciphering the meaning of children's artifacts, but also on understanding the complexity of the creative process. Naumburg deviates from projective drawing techniques and notes the values that arise in spontaneous artistic expression (Malchiodi, 1998).

Naumburg was of the opinion that the free creative expression of children is a symbolic form of speech that is the basis of all education. She later added that *"the form of spontaneous artistic expression is also the basis of psychotherapeutic treatment."* (Packard, 1980) She also takes the view that no emphasis should be placed on the aesthetic product and that the resulting product should not be valued as an "artistic" value.

In artistic expression, the author should be encouraged to create his own symbols and signs that will be the subject of communication. The artifact becomes a tool for verbal communication, i.e.:

- The author uses his art as a mirror for self-understanding, and this is where the help to the person lies.
- Words play a very important role, i.e. it is not enough to create an expressive image.

- The author creates and together with him the artifact is analyzed and verbally interpreted.
- An artifact represents a specific image to which the author can return again and again. This process must be greatly expanded through the use of words.
- The initiator of the artistic action or therapist should be in the role of a "witness" or observer of the creative process, offering support, encouragement, guidance (sometimes education) and confrontation (Borowsky-Junge, 2010).

Naumburg developed her own theories, which consisted in a personal approach to take the visual experience of the author's mind in combination with his verbal communication (Cabrera, Nava, 2023), i.e.:

- Author (child or participant in art therapy) develop better when they can express themselves creatively and pursue things that align with their own specific interests.
- Visual language and the creative process are tools to get clearer communication about unconscious thoughts and emotions. Her personal approach consisted in an attempt to take over the visual experience of the author's mind in combination with his verbal communication.

3 DISCOURSE

Naumburg placed more emphasis on the whole personality of the child in the process of education and placed more emphasis on his self-expression, which was also a characteristic of the progressive educational system in Walden School from 1914. Naumburg also perceived the important essence of psychoanalytic theory and Jungian psychotherapy, which she tried to apply to the education and development of the child through artistic education. The knowledge and experience of Naumburg gave impetus to the emergence of art therapy in the American states.

Naumburg was influenced by psychoanalysis and was convinced that artistic expression is a form of symbolic communication that, like dreams, stems from the unconscious and can be well perceived and better understood through the author's own and spontaneous self-expression. It further believed that in interpreting this unconscious symbolic content, the author should be respected. Naumburg rejected the use of stencils and clearly defined patterns in art education, as well as creation for the purpose of a perfectly beautiful artifact. The ideas of Naumburg at the beginning of the 20th century can be perceived as progressive and timeless. Now in the 21st century, it may be time to rethink Naumburg's visions and philosophical ideas and see them as inspirational incentives for contemporary educators to explore and use in their pedagogical practice.

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