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# ARTIFICIAL INTELLIGENCE IN NEWS PRODUCTION: AUDIENCE PERCEPTION AND ATTITUDES TO TECHNOLOGICAL CHANGES IN JOURNALISM

**Ľuboš GREGUŠ – Lucia FURTÁKOVÁ – Ľubica JANÁČKOVÁ**

**ABSTRACT:**

The study explores media audiences' attitudes and opinions towards technological changes in journalism. Artificial intelligence is one of the most relevant digital communication tools for processing and disseminating journalistic content today. The focus of the study is its use in radio broadcasting. The study aimed to identify the opinions of radio news recipients in the Slovak Republic on the use of AI in journalism and their perception of AI tools. The research presents the results of a questionnaire survey conducted with a sample of the adult population of the Slovak Republic selected by quota sampling (N = 503). The results suggest that voice preferences (AI versus real journalists) are not primarily influenced by the technical quality or comprehensibility of the content itself, but rather by how pleasant the voice is. From a media communication theory perspective, our results confirm the importance of social presence in radio broadcasting while showing that the Slovak audience is not ready for full AI implementation in radio broadcasting.

**KEY WORDS:**

artificial intelligence, digital communication tools, journalism, media audience, perception, radio broadcasting, technological innovations

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# 1 Introduction

Having survived the rise of television, the internet, and streaming services, radio broadcasting is now entering a new era of transformation. Artificial intelligence (AI) is gradually becoming an integral part of the media industry, with radio stations around the world experimenting with this technology. This could fundamentally change the way audio content is created, distributed, and consumed. AI is a key digital tool for processing and disseminating journalistic content, bringing about significant technological changes in journalism.

Currently, AI in the radio industry is primarily used for automating routine tasks, such as preparing playlists, generating news texts, transcribing recordings and creating personalised listener recommendations. More advanced applications include fully automated radio stations with AI presenters broadcasting 24 hours a day or implementing "voice clones" of real presenters (Erdoğan Sepetçi, 2025).

However, such applications represent not only a technical innovation in broadcasting processes, but also raise the question of how artificially generated or cloned voices affect listeners and the meanings they associate with them. As a specific media tool – especially in radio – the voice influences listeners' perceptions, judgements and decisions both through the sensory organs and by indicating the speaker's identity (Ni et al., 2023). Schiller et al. (2023) investigated differences in brain activity when people listened to AI and human voices in news broadcasts. Their research showed that brain activity is significantly higher when people listen to human anchors, suggesting that they are better able to understand and process auditory information delivered by humans than by artificial intelligence.

This phenomenon is also related to the concept of the *uncanny valley*[1] in the auditory domain. The human ear is extremely sensitive to subtle differences in sound, detecting even the slightest irregularities in tone and cadence. Although current AI voice technology is now of such a high quality that these voices are almost indistinguishable from human ones, people generally still trust human voices (55%) more than AI-generated ones (23%) (Cakim, 2024). The aim of this study is therefore to identify recipients' opinions on the use of AI in journalism and their perception of AI tools in Slovak radio news broadcasting.

# 2 Perception and Implementation of AI Voices

Modern AI voices, also known as synthetic voices, use deep neural networks and vast data libraries to replicate natural human speech. They are largely able to capture the tone, tempo, and emotional nuances of human interaction (Warner, 2025). Nevertheless, they still have certain limitations which are particularly noticeable when compared to human voices. While synthetic voices can mimic emotions, they often lack the expressive depth unique to humans. AI often struggles to correctly pronounce complex words, phrases, and numerical data, resulting in unnatural-sounding speech. In contrast, human presenters excel in contextual understanding and flexible adaptation of text (see Table 1).

*Table 1: AI vs. human hosts*

| Feature | Human Hosts | AI Voices |
|---|---|---|
| **Emotional Depth** | Excellent – Can convey a wide range of emotions naturally | Good – Can mimic emotions but lack deep authenticity |
| **Spontaneity & Improvisation** | Excellent – Can respond in real time, improvise, and adapt | Limited – Rely on pre-programmed scripts |
| **Cost Efficiency** | Expensive – Require salaries, training, and contracts | Cost-effective – Lower production costs |

[1] Authors' note: The concept of the uncanny valley was introduced in 1970 by the Japanese robotics engineer Masahiro Mori. In his essay, he described how feelings of sympathy and familiarity initially increase as robots or objects become more human-like, but there is a sharp decline as they approach a near-perfect appearance – resulting in a feeling of strangeness, danger or even fear. This phenomenon is particularly evident in less than realistic robotic faces, synthetic voices, or digital animations (Mori et al., 2012).

| | | |
|---|---|---|
| **24/7 Availability** | Limited – Need breaks, time off, and rest | Unlimited – Can generate content continuously |
| **Consistency** | Variable – Mood, energy, and performance may change | High – Deliver uniform tone and style every time |
| **Multilingual Capabilities** | Limited – Require hiring multilingual hosts | Excellent – Can generate speech in multiple languages instantly |
| **Audience Engagement** | High – Listeners enjoy personality and real interactions | Moderate – AI voices may feel less personal |
| **Speed & Automation** | Slower – Require preparation and recording | Fast – Can generate speech instantly |

*Source: Warner, 2025*

Many studies have confirmed differences in how synthetic and human voices are perceived. In a recent study by Woźniak et al. (2024), human voices were given an average credibility rating of 5.58 out of 7, whereas AI voices received an average rating of 5.18. Similarly, human voices were rated higher in terms of fluency (continuity, smoothness, rate, and effort in speech production), which can be attributed to the fact that humans can better control the pronunciation of certain syllables and intonation than synthetic voices can. As Taake (2009) explains, this difference in perception has deep physiological roots: "Human-generated speech (natural speech) contains simultaneous changes in pitch, intensity, and duration of the words and speech segments, while synthetic speech is generally produced by an algorithm that generally lacks natural variations in pitch, level, and intonation." (p. 3) Conversely, Skjegstad's (2024) research has shown that the distinction between AI and human voices is based on how the brain responds to each type of voice. Human voices elicit stronger responses in areas of the brain associated with memory and empathy, while AI voices activate areas related to error detection and attention regulation. The study found that neutral voices are more often identified as AI-generated (75% vs. 23%), whereas happy voices are perceived as more human (78% vs. 32%).

In terms of age, older adults (over 50 years old) find it significantly more difficult to identify AI voices than younger listeners do. However, they perceive AI voices as more natural and human and prefer female voices (both human and synthetic). In contrast, younger adults (18 – 35 years old) demonstrate greater accuracy in recognising AI voices and can more easily identify their synthetic origin. Nevertheless, compared to older adults, they tend to favour human male voices (Zellou et al., 2021; Herrmann, 2023; Herrmann & Cui, 2025).

From a gender perspective, it has been demonstrated that people perceive AI voices differently depending on whether they are similar to their own gender. In particular, men tend to prefer AI male voices, especially for tasks requiring authority and expertise. In contrast, women tend to be more flexible in their preferences and are more likely to accept voices of both genders (Skuk & Schweinberger, 2013; Moradbahti et al., 2022; Zhang et al., 2025).

Regional differences in the acceptance of synthetic voices can also be observed. While Western countries approach AI voice technologies with a certain degree of scepticism, Asian countries demonstrate a significantly higher level of acceptance of these technologies. In countries such as China (83%), Indonesia (80%) and Thailand (77%), AI products and services are perceived as more beneficial than harmful. In contrast, in Canada (40%), the US (39%) and the Netherlands (36%), these ratings are lower (Maslej et al., 2025). These differences reflect varying cultural attitudes towards technology and trust in automated systems.

Asian countries have specific cultural characteristics that influence how they perceive AI voices. In Japan, for example, there is an emphasis on precision and continuous improvement (*kaizen*), resulting in a preference for natural-sounding AI voices with minimal errors. Korean culture emphasises *nunchi* – the ability to read social situations – creating a demand for AI voices that can recognise emotional context and respond appropriately to group dynamics. Chinese culture prioritises *guanxi* (long-term relationship networks that create mutual obligations and trust), meaning that AI voices must facilitate relationship building. Meanwhile, Singapore's technocratic approach necessitates the coordination of AI voices with government initiatives for collective social benefit. Conversely, India's federal system requires AI voices that can adapt to diverse linguistic, cultural, and economic contexts (Johnson, 2025).

In turn, the Middle East faces specific challenges in implementing AI voices due to the linguistic complexity of Arabic. For example, Alexa and Cortana cannot speak Arabic, and Siri only understands standard Arabic, not dialects

(Pratty, 2019). These technical limitations create significant barriers to the adoption of AI voices in Arabic-speaking regions. Additionally, cultural expectations in the MENA[2] region require AI voices to adhere to communication norms, such as the use of honorifics and polite expressions, and to be aware of religious and social events, such as Ramadan and prayer times (George, 2025).

European countries are more inconsistent in how individual languages are represented in AI voice databases. English is the most dominant, alongside German, French, Italian, and Spanish. Other languages, such as Dutch, Polish, Czech, Portuguese and Baltic languages, are also well represented (Maynard et al., 2022). On the other hand, Scandinavian languages, Romani dialects, and regional variations of more dominant languages are almost entirely absent (Pasikowska-Schnass, 2020). Pycha and Zellou (2024), who focused their study on AI voices with British and American accents, found that native Americans perceive information from British AI voices as more credible than that from American voices. Conversely, users of AI with non-American or non-British accents tend to be less satisfied with existing English-language AI voices, with many believing that they were not created with them in mind (Michel et al., 2025). Poret's (2025) research reveals that the Spanish AI voice is perceived as the friendliest and most trustworthy, but the least competent, compared to French and Italian AI voices.

Latin America is developing its own solutions to overcome the marginalisation of culture and language in AI voice technologies. The aim is to include the region's diverse dialects, as well as indigenous languages such as Nahuatl, Quechua and Mapudungun (Hobson, 2025).

African countries face the most considerable challenges in terms of representation in AI voice technologies, with less than 2% (of an estimated 2,000) African languages represented in global AI systems, according to UNESCO (2025). While English-speaking African countries such as Kenya, South Africa, Nigeria and Ghana are embedding AI in national digital strategies, AI services such as voice assistants and automatic translation tools often fail to support African languages (Sinde et al., 2023). Research in Kenya and Nigeria has revealed that these tools inadequately support or represent African languages, identities, and localities, and Africans perceive them as embodying Western biases (Abdulhamid et al., 2024).

These regional differences in the perception and use of AI voice technologies are particularly evident in the media sector, where cultural expectations clash with the demands of mass communication. Although global trends in the perception of AI voices influence basic audience attitudes, specific radio media applications present unique credibility, cognitive information processing and emotional acceptance challenges in a news context. In this media environment, culturally sensitive approaches to the development of AI voice technologies are critical to maintaining the quality and credibility of news broadcasting in different linguistic and cultural communities.

# 3 AI Voices in Radio (News) Broadcasting

Radio news is currently undergoing one of its most significant technological transformations. Artificial intelligence is gradually becoming an integral part of newsrooms around the world, influencing the way news content is created, produced and distributed. AI technologies have a wide range of applications in radio news, including automatic text generation, speech synthesis, advanced audience analysis, and content personalisation. These tools allow radio stations to produce content more quickly and efficiently at a lower cost while increasing access to information for a wider range of audiences.

Automated content creation is one of the most significant applications of AI in radio. Modern algorithms can quickly analyse extensive databases of information, identify current topics and produce news content. Natural language processing technologies enable AI systems to produce not only basic news reports, but also complex analyses and summaries of events. AI systems are particularly adept at processing data from financial markets (Amar, 2025), sports results (Rossner et al., 2024), crime reports (Yeung & Dodds, 2024), or weather reports (Kim et al., 2022).

[2] Authors' note: MENA is an acronym that stands for the Middle East and North Africa region. This geographical area includes countries from Morocco in north-western Africa to Iran in south-western Asia. The region includes 22 countries in total.

The credibility and quality of AI-generated content present significant challenges for radio news. Currently, however, there is mixed acceptance of AI voices within this medium. According to research by Ipsos (2024), 67% of listeners are uncomfortable with the idea of radio content produced entirely by AI, and 70% trust traditional radio stations more than those using AI-generated content. Furthermore, 66% of respondents said that they are unlikely to listen to AI-generated radio content because they "feel disconnected, missing the warmth and authenticity of human voices" (Ipsos, 2024, p. 2). Several studies also confirm that listeners perceive human voices as more trustworthy (by 23%), more positive (by 25%), and more fluent than AI-generated content (Gong, 2023; Meliana, 2025). Conversely, in the case of sports news, AI voices are perceived as being as trustworthy and reliable as human ones (Rossner et al., 2024), with up to 85% of respondents seeing added value in integrating AI into this area (Bickerton, 2025). Research by Kim et al. (2022), which focused on individuals' reactions to weather forecasts presented by artificial intelligence compared to a human announcer, showed that although people perceive human announcers as more trustworthy than AI announcers, their reactions to the content of the weather forecasts did not differ.

Voice recognition is a key factor in voice evaluation, as human voices have a stronger emotional impact, which may influence listeners' perception of the credibility and fluency of the human voice in news reporting (Baum & Abdel Rahman, 2020). This effect is particularly evident in news reporting on emotionally charged topics, where the human element can enhance audience understanding and engagement (Cao & Cao, 2025). Reinemann et al. (2011) argue that listeners are more likely to expect a human voice in soft news, which is expected to have greater emotional undertones. Conversely, hard news requires emotion to be avoided in speech to increase objectivity and factual accuracy. In this case, the focus is on facts rather than feelings, so a human voice might be less expected. This suggests that hard news delivered by an AI voice could be perceived as more credible.

However, in the context of modern synthetic voices, a new phenomenon is emerging – radio listeners are beginning to attribute human characteristics to AI news anchors. This creates an anthropomorphic personality for the speaker, based on personality traits and stereotypes. This process of anthropomorphisation could form the basis of parasocial relationships with AI voices (Maeda & Quan-Haase, 2024; Becker et al., 2025). Parasocial relationships are one-sided psychological bonds formed by individuals with media personalities (Quintero Johnson & Patnoe-Woodley, 2016). In the context of radio, such relationships have traditionally existed between listeners and human presenters and are characterised by feelings of trust, intimacy, and familiarity (Nadora, 2019). Nevertheless, it is debatable whether AI voices can establish similar parasocial relationships to those of human broadcasters, given that social presence is a critical factor in how listeners perceive radio news anchors.

# 4 Methodology

Our study aims to identify the views and opinions of recipients on the use of AI in journalism and their perception of AI tools in radio news in the Slovak Republic. The attitudes and opinions of the media audience on the above issue can be the basis for optimising editorial systems to reassess the amount of resources spent on AI tools in the context of the recipient base and their perception of modern technologies. It is also possible to adjust some parameters based on recipients' feedback for better and more pleasant consumer experiences. To obtain representative data, we decided to conduct research using a questionnaire. This is a standard research technique (Neuman, 2006; Sedláková, 2014; Rosenberry & Vicker, 2022; Scharrer & Ramasubramanian, 2021), which, if the research sample is selected correctly (Rabušic et al., 2019), can provide generalisable data for the entire population.

**Research Sample and Research Tool**

To obtain data, we decided to use the services of the research agency STEM/MARK, Inc., which, based on the parameters we set and the questions and audio recordings we created, collected data on a research sample of 503 respondents. The survey participants were part of the adult population of the Slovak Republic (18+), with the sample selected by quota selection and the data collected using the CAWI method. The quotas copied several socio-demographic characteristics – namely sex, age, education, place of residence and region, and were set based on

information on the composition of the population of the Slovak Republic from data of the Statistical Office of the Slovak Republic. Data collection took place over the timeframe June 23, 2025 to June 27, 2025, with a total of 1,903 respondents being addressed. The questionnaire was opened by 868 respondents; 99 respondents did not complete it and 252 people were excluded after the quotas had been met. Thus, a total of 517 complete questionnaires were obtained from which respondents suspected of unreliable completion (based on a combination of short completion time and poorly completed open-ended questions) were excluded – there were a total of 14 such respondents. In addition to questions on sociodemographic characteristics, the questionnaire contained 2 basic parts:[3]

- In the first part, respondents had 4 audio recordings available to listen to (total length 3 minutes 38 seconds), with each recording followed by one scale question (5-point scale, with three statements) – in this part, we investigated the comprehensibility of the messages, the understandability of the recording, and the attitude of the recipients towards the voice presenting the radio news. Each recording contained two real and identical messages (thematically, one message concerning the economy and one message concerning foreign events), which were prepared either by a real female editor or a real male editor (in both cases, they were employees of the Slovak radio station Expres), or purely by artificial intelligence. In the case of AI, it was not only about reading the said messages, but also about their preparation from the underlying texts, i.e., from agency reports via ChatGPT-o1.[4] In the case of AI, there were also two recordings – with an AI female voice and an AI male voice. Respondents were randomly assigned two female voices and two male voices, and after each pair they were asked to indicate which gender they could most likely imagine making a radio broadcast. It is important to note that respondents were not aware that some of the voices were created by AI and were only asked at the end of the questionnaire which voices they considered to be AI, although they were not told how many voices in the recordings were actually generated by AI.
- In the second part, respondents were asked eight closed questions (of which two were filtering questions followed by an open question if needed), which investigated the recipients' experiences with AI tools in everyday life, in the current media space, the respondents' attitude towards the potentially wider involvement of AI in media production, as well as a more specific evaluation of the recordings (with the possibility of repeated play) with the aim of comparing real and AI news from the point of view of the audience.

**Research Questions**

The questions in the questionnaire were created based on pre-determined research questions:

- RQ1: What are the audiences' experiences with AI in everyday life and in media production?
- RQ2: What is the audience's attitude towards the use of AI in media production?
- RQ3: What are the differences in the audience's perception of radio news created by real editors and created via AI?

Given the exploratory nature of the research, we did not establish hypotheses from the research questions that could significantly influence the interpretation of the obtained data.

**Data Analysis Method**

A Chi-Square Goodness-of-Fit Test was used to verify a statistically significant difference in the distribution of responses between defined sociodemographic subgroups and the entire research sample. This test was chosen to compare the observed frequencies of nominal variables in individual subgroups (e.g., respondents with secondary education without a high school diploma) with the expected frequencies that were derived from the distribution of responses for the entire research sample (N = 503). The null hypothesis ($H_0$) in the tests assumed that the distribution of responses in the studied subgroup did not differ statistically from the distribution for the entire sample. The threshold for statistical significance was set at $\alpha$=0.05.

[3] Authors' note: The questionnaire can be viewed on request.

[4] Authors' note: To generate news pieces, we used a "universal" prompt that we designed in our previous research (see Furtáková & Janáčková, 2024).

**Research Limits**

The lower number of respondents in the research sample, which was caused by the financial capabilities of the research team, can be considered a limit of the results presented below. Obtaining opinions from a larger number of respondents (N = 1000+) would provide clearer results. In this regard, we also consider the sample we gained to be representative, as it was selected by quota sampling from the entire population of the Slovak Republic. The fact that data was obtained only from the adult population, where the upcoming Generation Alpha may have a different opinion on the issue, can also be considered a limit.

# 5 Results

Our research goal was to identify the attitudes of Slovaks towards the use of AI in the media in the greatest possible complexity. Therefore, as part of the questionnaire, we also surveyed their experiences with AI tools (see Figure 1) and with AI-generated media contents (see Figure 2). The results showed that every second Slovak (54.9%) has already encountered AI tools, while more than a quarter of respondents (27.2%) have not had such experience. Less than a fifth of people (17.9%) did not know whether they had ever encountered similar technology. The determinants influencing experience with AI tools can be mainly the age of the respondents, their education and their income. Younger people (age group 18 to 27 years) are statistically significantly more likely to encounter AI tools ($\chi^2(2) = 8.04$, $p = 0.02$), as well as university educated people ($\chi^2(2) = 8.76$, $p = 0.01$) and households with income over 2,000 euro ($\chi^2(2) = 7.89$, $p = 0.02$). In these groups there were also statistically significantly fewer respondents who: a) had not encountered AI tool before (university educated people; $\chi^2(2) = 10.99$, $p < 0.01$; households with income over 2,000 euro; $\chi^2(2) = 8.31$, $p = 0.02$), b) were not sure whether they had encountered any AI tools (age group 18 to 27 years; $\chi^2(2) = 6.29$, $p = 0.04$). It is not therefore surprising, that compared to the general population, students encounter AI tools significantly more often ($\chi^2(2) = 7.42$, $p = 0.02$). On the other hand, according to the results, significantly more people with secondary education without a high school diploma ($\chi^2(2) = 14.49$, $p < 0.01$) and people with income from 1,001 euro to 1,160 euro ($\chi^2(2) = 6.76$, $p = 0.03$) have not encountered any similar tools yet. All respondents who have encountered modern AI technologies so far (N = 276) stated that it was primarily the socially well-known language model ChatGPT (157 respondents), with Gemini being the second most frequently mentioned model by a large margin (27 respondents). Among the responses, one can also find customer lines and chatbots (23 respondents) used by many companies, such as banks, mobile operators, customer service centres, etc., unspecified video and image generators (16 respondents), basic AI software in mobile devices – e.g., Siri (12 respondents), and tools for reading written texts on websites (11 respondents). We recorded five or fewer occurrences, for example, in software for transcribing spoken words into written text, in the use of AI in local radio in the respondents' hometowns, in online translators, in the context of use in television production (e.g., *Farma 14* from the broadcaster TV Markíza), etc. In total, 20 AI tools were directly named – in addition to the above-mentioned ones, also Copilot, Claude, Grok, Perplexity, Canva, DeepSeek, Adobe Firefly, Gamma, Mistral AI, Midjourney, Leonardo, Dalle, Whisky Project, CapCut, Dinotoo, DeepAI, and Jasper AI.

We were also interested in the respondents' experiences with AI-generated media content in the Slovak media environment. Here, we can see a lower level of experience with this type of content than with AI tools in general. Although almost every second Slovak (48.9%) has encountered AI-generated content in media, almost a third of respondents (32.9%) could not determine whether they had ever received a similar type of communication. Only 18.3% of respondents think that they have never encountered AI-generated content in media. In terms of differences in the population based on sociodemographic factors, no deviations can be seen.

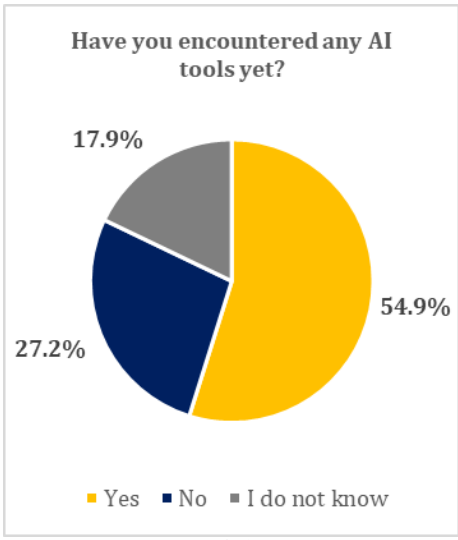


*Figure 1: Experience with AI tools*
*Source: Own processing, 2025*

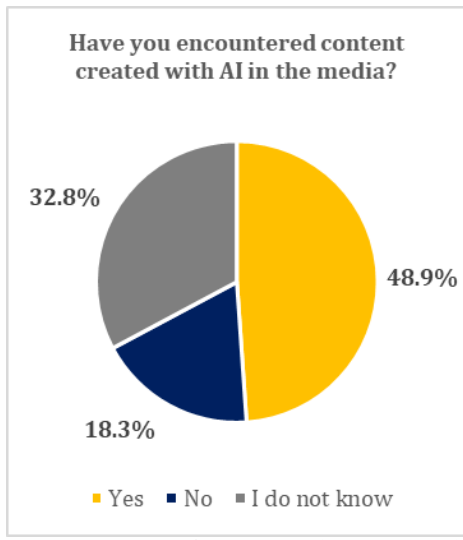


*Figure 2: Experience with AI-generated content in media*
*Source: Own processing, 2025*

In addition to experiences with AI technologies in the media environment, we also surveyed respondents' attitudes towards the use of AI in the media. As we know, its use is on the rise and not only makes production easier for newsrooms in many areas. However, the same perception is not reflected in Slovak society (see Figure 3). Most respondents (52.5%) do not agree with the greater use of AI in the media. Only every fifth respondent (21.7%) expressed a positive attitude towards the increased use of AI in the media, while up to a quarter of Slovaks (25.8%) did not know or did not have a strong opinion on the topic. AI is more widely supported by the youngest age group of adults aged 18 to 27 ($\chi^2(2) = 8.65$, $p = 0.01$) and by students ($\chi^2(2) = 9.38$, $p = 0.01$). Surprisingly, however, the idea of using AI in news content is already supported by a higher number of people (see Figure 4). When asked whether they would mind listening to news generated by AI, 29.8% of people were open to the idea, while significantly fewer people were against it than in the previous question (41.0%). In terms of undecided or undecided people (29.2%), the results are comparable to the attitude towards increasing the use of AI in the media. In terms of sociodemographic factors, we did not notice any significant differences across the individual groups. To compare pairs of answers of individual respondents (to understand a possible shift in answering the mentioned questions), Bowker's test for symmetry was performed. The test revealed a highly significant finding ($\chi 2 = 32.03$, $p < .001$), indicating that the matrix of paired responses is not symmetrical. Further analysis of the individual responses highlighted a major shift in opinion. Specifically, the largest discrepancy was observed between the "No" and "I do not know" categories. Our finding suggests that a substantial number of respondents who were undecided about AI-generated news moved to a more definitive "No" when they were subsequently asked about the broader topic of "increased use of AI in the media". This result indicates that while respondents might be open to, or undecided about, a specific application of AI, they become more cautious and opposed when confronted with a general and potentially more invasive usage.

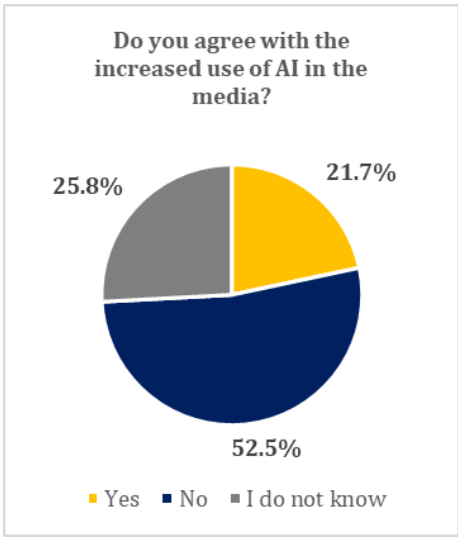


*Figure 3: Attitude towards increasing use of AI in the media*
*Source: Own processing, 2025*

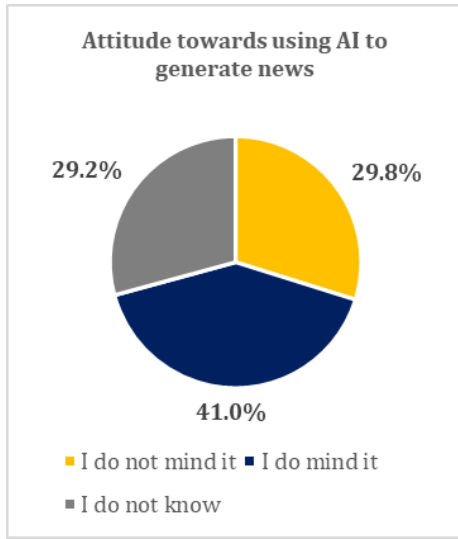


*Figure 4: Attitude towards using AI to generate news*
*Source: Own processing, 2025*

As the main reason why respondents would be bothered by listening to AI generated news, the interviewees predominantly stated the absence of the human factor. This was mainly related to the general humanity of the voice, processing, possible slurs or errors in human reading. The second most common reason is also very closely related to this, namely the unnaturalness and machine-like nature of AI generated news, which, according to respondents, is mainly manifested in incorrect intonation or unnatural pauses in speech. Some respondents also blame AI news for being emotionless and for the general coldness or lower pleasantness of an AI voice compared to a human voice. Several respondents also expressed resistance to AI in general or fear of AI replacing people and losing their jobs. In terms of minimum occurrence (apart from the reasons listed in Figure 5), reasons such as distrust in AI generated news, unaccustomedness to listening to such content, AI errors and its low level so far also appeared in the responses with less than 10 occurrences.

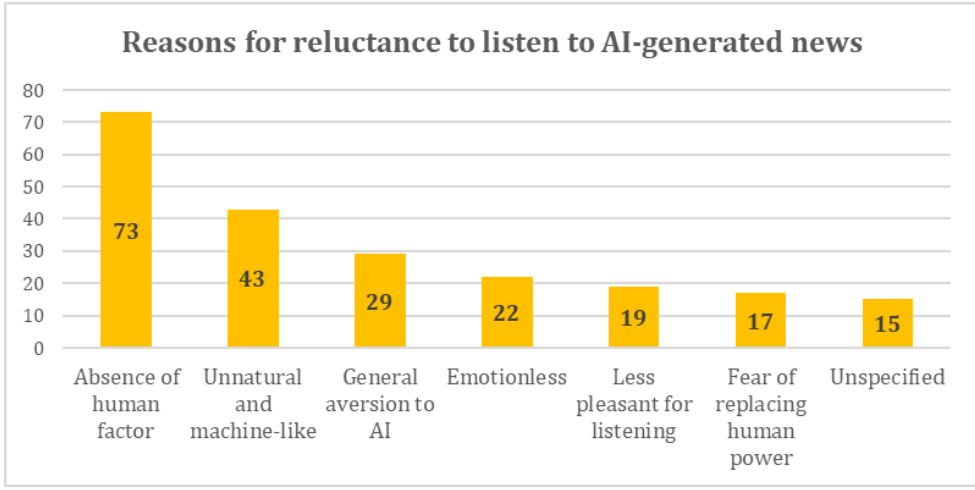


*Figure 5: Reasons for reluctance to listen to AI-generated news*
*Source: Own processing, 2025*

In the next part of the research, we offered respondents four messages, two of which were created by real editors (one male and one female) and two which were created by AI (one narrated by a male AI voice and one by a female AI voice). As part of a scale question with a 5-point Likert scale, we asked respondents to assess differences in the understandability of the messages and their ability to receive the messages created in this way.

In terms of the clarity of the presented messages and their comprehensibility within the content of the information, we did not notice any significant differences between the individual recordings (see Figures 6 & 7). Most respondents had no problems with either the AI voices or the real editors. The best results in both monitored parameters were achieved by the news created by a female editor, which was clearly presented for 87.7% of respondents and understandable in terms of content for 87.5% of respondents. The male editor was rated slightly worse (clarity 86.7%; comprehensibility 85.9%) and the messages presented by a male AI voice (clarity 85.0%; comprehensibility 83.5%). The worst rated was the news created by AI and narrated by a female voice (clarity 80.6%; comprehensibility 81.1%), but this is still not a significant deviation from the others.

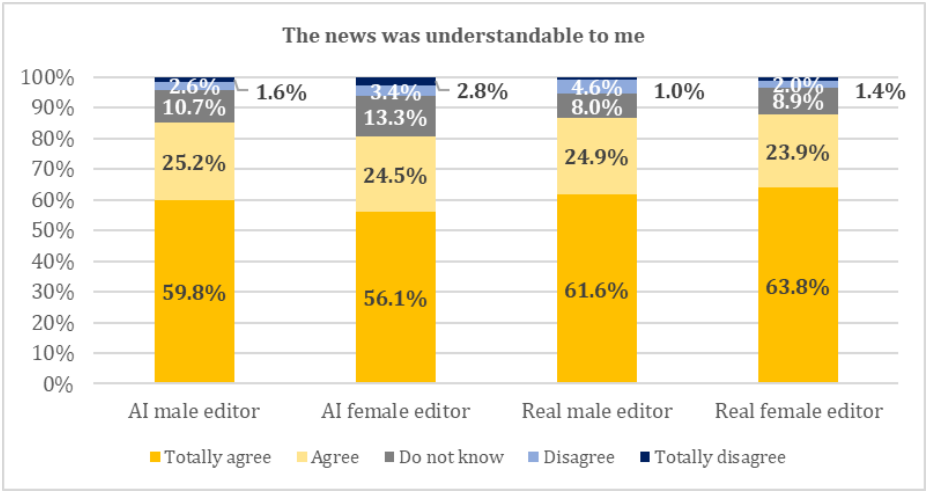


*Figure 6: Clarity of news contents by respondents*
*Source: Own processing, 2025*

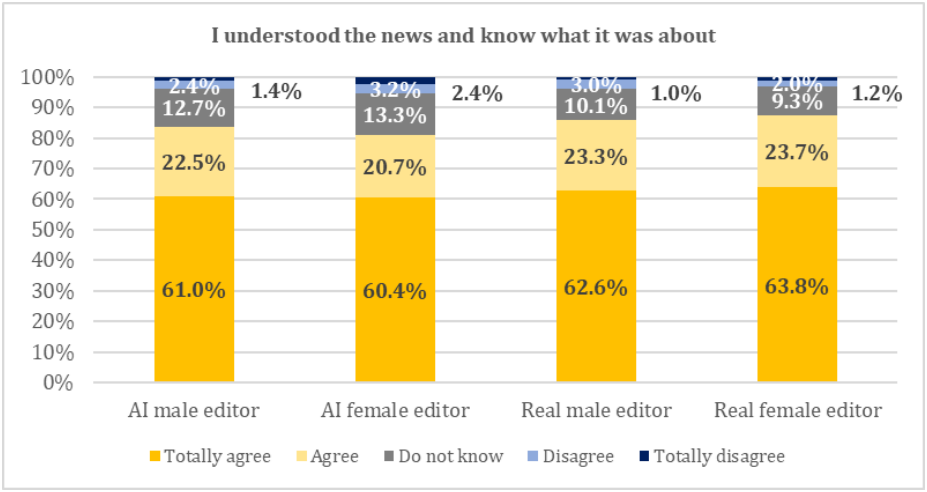


*Figure 7: Comprehensibility of the meaning of news contents by respondents*
*Source: Own processing, 2025*

However, the situation was different with the attitude towards editors' voices. In terms of positive or negative attitudes towards the voices themselves in the news, we see that respondents had no problem with most voices. However, we record a significantly higher increase in negative attitudes towards the female AI voice, which was negatively evaluated by every fourth respondent (=25.6% of respondents). In this case, we also record the highest rate of undecided people (=23.7%), which is a comparable result to the negative attitude towards the voice mentioned.

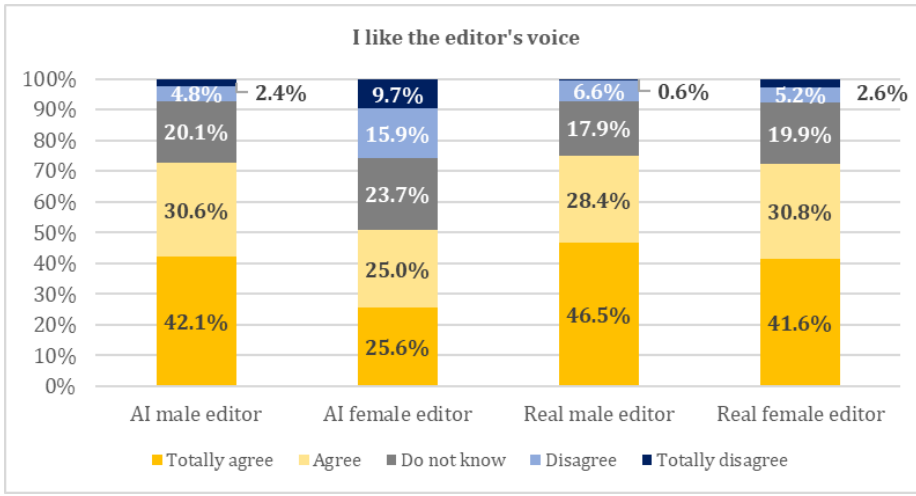


*Figure 8: Attitude towards editors' voices*
*Source: Own processing, 2025*

The unpopularity of the female AI voice was also confirmed by the answers to questions in which people were asked to mark one of the news items according to which specific voice they liked the most and which the least. Every second respondent (55.7%) marked the female AI voice as the least nice. At the same time, only 11.1% of respondents rated it as the best. The remaining voices show similar popularity, respectively unpopularity, while the male voice of the real editor was rated slightly better than the rest (37.2% of respondents). In terms of differences in the population based on sociodemographic factors, no deviations are seen based on Chi-Square Goodness-of-Fit Test.

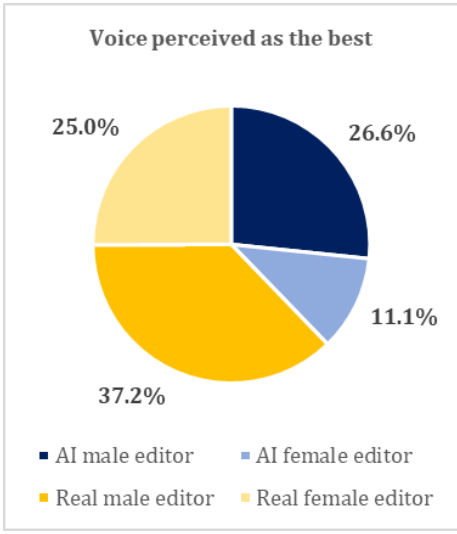


*Figure 9: Voice perceived as the best*
*Source: Own processing, 2025*

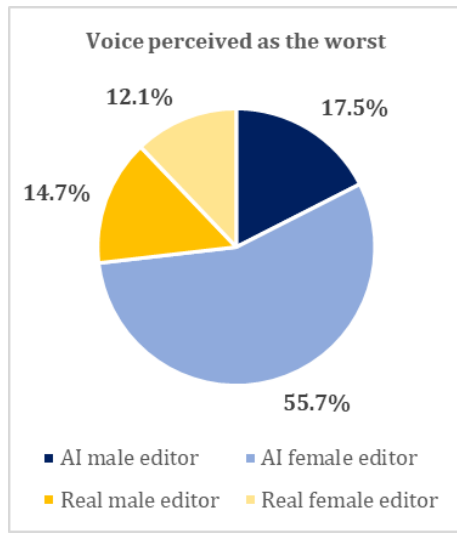


*Figure 10: Voice perceived as the worst*
*Source: Own processing, 2025*

The most important subjective reason why respondents considered the chosen voices to be generally the best was the voice itself. As many as 58.6% of respondents considered the pleasantness and timbre of the voice to be the decisive factor, while the second most frequent factor was the clarity and comprehensibility of the reading of the presented news (17.7%). Respondents also mentioned to a minimal extent the dynamism and non-monotony of speech (8.0%), appropriate reading speed (7.8%), level of professionalism and credibility of speech (7.8%), correct intonation and articulation (6.4%), naturalness of reading (6.0%), engaging speech (5.0%), gender preference (3.4%), and the habit of listening to voices similar to those in the recordings (1.6%). It can therefore be concluded that a more important factor than the fluency of reading or adherence to paralinguistic aspects of speech is the very timbre and friendliness of the voice presenting news content.

On the contrary, the reasons for negative attitude towards the voice included an overall dislike for or unpleasantness of the voice (22.5%). In addition, respondents specifically did not like the pitch or colour of the marked voice (15.7%). Many did not like the boring, or rather inexpressive and monotonous delivery of messages (10.7%), with several even stating that the marked voice sounded artificial, robotic and considered it to be the creation of AI (10.5%). They also did not like the unnaturalness of the reading pace (6.4%), incorrect pronunciation and intonation (6.4%), or the affective presentation in the speech (4.0%). Several respondents also reported a discrepancy between the style of narration used and the news content itself (6.6%) – they were critical mainly because the presented news provided information about serious or negative events, but the voice indicated had an elevated tone, artistic or overly joyful expression, which created a discrepancy between the information presented and the feeling from it. In some cases, respondents found it difficult to understand the news correctly which therefore required a higher level of concentration from them (2.8%).

The preference for real voices over AI voices was also evident in the question in which respondents had to choose separately from a pair of male voices and a pair of female voices which they could imagine hearing on the news regularly. The preference for real editors is very clearly visible, with the difference between the real editor and the AI editor being more significant for female voices (74.8% vs. 25.2%) than for male recordings (61.0% vs. 39.0%).

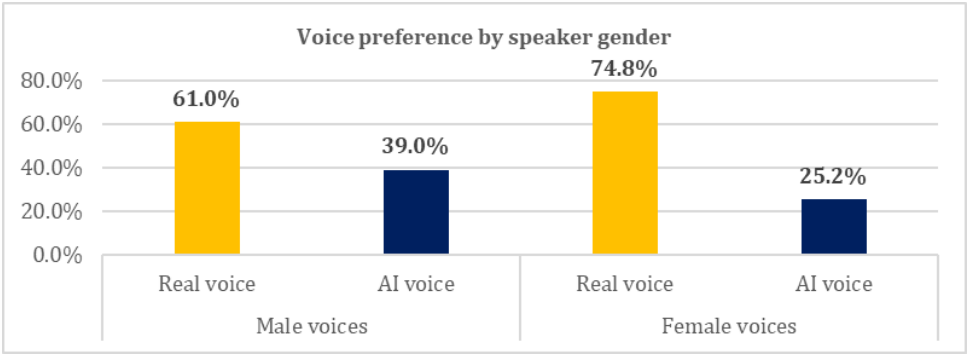


*Figure 11: Voice preference by speaker's gender*
*Source: Own processing, 2025*

One of the reasons for the significant unpopularity of the female AI voice may be that respondents may know it from various other areas of life, where it has been used since its inception (for example Siri, Alexa, Google Nest, Google Translator, public transport in bigger cities, bank AI tools, etc.). The male voice is less preferred by manufacturers. The familiarity of the female AI voice can also be seen in the results, where we asked respondents to mark all the voices that they believed were created by AI. The respondents themselves did not know how many voices were real and how many were AI. However, every second respondent (=55.3%) recognised the female AI voice and every third person was able to identify the male AI voice (=34.8%). There is therefore a significant difference in the ability to identify it. The results of the male AI voice are closer to the results of the voices of real editors, where roughly every fifth person incorrectly determined its AI origin (male =21.5% and female =22.5%).

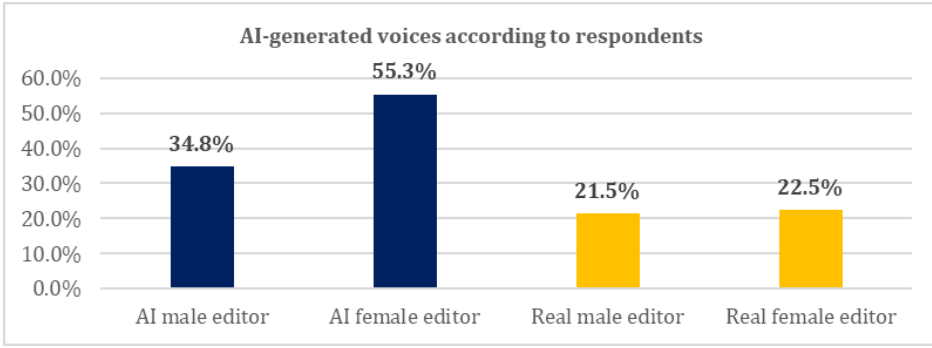


*Figure 12: AI-generated voices according to respondents*
*Source: Own processing, 2025*

Based on our results, it can be said that almost every second person could not justify why they selected the recordings they marked as AI voices. As many as 48.7% of respondents stated that it was an intuition or feeling, or that they could not give a reason. These were not answers like – "I don't want to answer", "because" or other unspecified answers. The remaining 51.3% of respondents stated as reasons why they marked specific voices as AI-generated, primarily unnatural and artificial speech (24.7%), especially in terms of speaking style and pauses between words, then monotony of speech (4.8%), incorrect intonation (4.6%), overall difference in voice (4.6%), especially pitch and colour of voice, lack of expressiveness or, conversely, excessive perfection of speech through strong articulation (3.6%). Respondents also criticised the lack of emotion (3.0%), unrealistic pace of speech without breaths (3.0%), and speech errors (2.0%). Some respondents also recognised the presented voices from previous experiences with AI tools (3.4%).

# 6 Discussion and Conclusion

Our research provides unique insights into how the Slovak public perceives AI voices in radio news. The most striking finding is that the female AI voice was rated as the least pleasant by 55.7% of respondents, while only 11.1% rated it as the best. This marked aversion to female AI voices contrasts with the more balanced perception of other voices (both AI and human). This finding is made even more significant by the fact that 55.3% of respondents were able to identify the female AI voice, compared to 34.8% for the male AI voice. This suggests that familiarity with AI voices, probably from everyday contact with technologies such as Siri, Alexa or GPS navigation, does not guarantee acceptance in a news context – in fact, it can be counterproductive. We also observed significant differences in preferences between female and male voices. While there is a clear preference for real editors over AI among female voices (74.8% vs. 25.2%), the difference is smaller among male voices (61% vs. 39%). This suggests that male AI voices may be closer to being accepted in radio news than their female counterparts.

It is of decisive importance that voice preferences are not primarily influenced by the technical quality or comprehensibility of the content. In terms of clarity and comprehensibility, there were no significant differences between the voices. The female AI voice, which was rated the worst, achieved 80.6% clarity and 81.1% comprehensibility – only slightly lower than the best-rated female editor, who achieved 87.7% clarity and 87.5% comprehensibility. The most important preference criterion cited by 58.6% of respondents was the pleasantness of the voice itself, while technical aspects such as clarity and comprehensibility were important to only 17.7% of those surveyed.

The finding regarding the intuitive recognition of AI voices is also significant. As many as 48.7% of respondents said they identified AI voices based on intuition or feeling without providing a specific reason. The ethical implications of this finding extend beyond technological considerations alone. Preferring human voices in news reporting is not only a question of aesthetics, but also of trust and authenticity. In an era of disinformation and deepfake content,

preserving the human element in news reporting is becoming both a social and a media necessity. The results confirmed that people can intuitively identify AI voices, suggesting the existence of natural defence mechanisms against synthetic content – this corresponds to the concept of the uncanny valley in the auditory domain.

From a media communication theory perspective, our results confirm the importance of social presence in radio. Respondents' mention of the absence of the "human factor" and "humanity in the voice" as the main reasons for their aversion to AI editors is consistent with research on parasocial relationships in the media environment. Our findings suggest that the Slovak audience is not ready for AI to replace human presenters completely but may be open to using AI for certain tasks. Another dimension is represented by the concept of parasocial relationships, with the idea of whether AI voices can evoke similar emotional bonds remaining unclear. Our findings suggest that current AI voices do not fulfil this function adequately, which could restrict their long-term adoption by radio news.

From a cultural-theoretical perspective, our results reflect the "tension" between technological determinism and a humanistic approach to media. Although technological advances allow for the development of increasingly sophisticated AI voices, human audiences still prefer authentic human expression. This tension is not unique to Slovakia but rather reflects global discussions about the role of technology in society.

From a practical perspective, the clear unpopularity of female AI voices suggests that radio stations should proceed with caution when implementing them. Conversely, the relatively better perception of male AI voices may indicate their greater acceptance by media audiences. The fact that technical quality is not the deciding factor, but rather voice pleasantness, indicates the need to invest in developing more emotionally appealing AI voices, rather than just more technically advanced ones. Our findings also highlight the need for transparency. As a significant proportion of respondents can intuitively identify AI voices, media organisations should consider openly labelling AI-generated content. Paradoxically, this transparency could lead to greater acceptance, as it would eliminate any sense of deception or manipulation.

In terms of future development, our results suggest that the most appropriate approach would be to create a hybrid model in which AI voices would complement human broadcasters in carrying out specific tasks. While the younger generation is more open to AI technologies, human voices remain popular across all age groups, indicating that the human element will continue to be important in radio news reporting.

It could be argued that the Slovak audience has a complicated relationship with AI voices in radio news broadcasting. Our findings confirm that technological progress alone does not guarantee audience acceptance; psychological, cultural and emotional factors that shape the perception of media content are decisive. This means that Slovak media organisations need to take a sensitive and gradual approach to implementing AI technologies, emphasising both the preservation of the human element and transparency with the audience. The future of AI in Slovak radio news will likely be characterised not by replacing human presenters, but by intelligently supplementing them with AI technologies in specific contexts.

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