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Exploring the motivations behind food self-provisioning in the Czech Republic

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Abstract: Gardening and food self-provisioning motivations are changing with the country's economic development. While food security is often the main driver for self-provisioning in low-income countries, more diverse motivations exist in high-income countries. This study investigates the motivations for self-provisioning in the Czech Republic and the role of the family composition on the rate of self-provisioning to explore its social benefits. A two-step analysis was employed using data collected from 1 214 respondents. First, an exploratory descriptive statistical analysis was conducted to gain insights into the motivation of different households participating in self-provisioning. Second, binary probit models were used to investigate the characteristics influencing the main motives for self-provisioning. The results of the models revealed that the educational level, income per capita, family structure and area of residence influence the motives for self-provisioning.

Keywords: family structure; gardening; household composition; personal food production; post-socialist

Self-provisioning in the form of personal food production has traditionally been an important food source for a large proportion of the population in various parts of the world. By the mid-20th century, however, large-scale food production increasingly had replaced home gardening. Numerous negative consequences of intensive agrifood systems, including deforestation, loss of biodiversity and habitats, a decrease in soil fertility and water quality, an increase in Global Greenhouse Gas (GHG) emissions have become apparent in the last decades (Garnett 2011). Therefore, awareness of the need to act more sustainably is growing, particularly in urban areas of wealthy economies. Particularly in high-income countries, food self-provisioning is considered a reviving trend towards sustainability, nutritional food, and self-sufficiency. It is perceived as an important alternative for large-scale food production (Smith and Jehlička 2013). Gardening is often considered an environmentally favourable way of food production contributing to a decrease in the GHG emissions rate from food production and maintaining plant agrobiodiversity (Cleveland et al. 2017).

Looking at the relationship between food self-sufficiency and the gross domestic product (GDP), common

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literature suggests that the growing GDP of a country will generally lead to a decrease in food self-sufficiency among its population (Tschirley et al. 2015; OECD 2019). This is partially due to the increased per capita income resulting in more spending power which eventually requires diversified food imports. This tendency was found, for example, in South-East European countries (e.g. Bulgaria, Croatia, Romania, Serbia, Albania, Bosnia and Herzegovina, North Macedonia and Montenegro) as well as in many African countries (Luan et al. 2013). Simultaneously, there is clear evidence that countries with a low GDP have a significantly higher share of agricultural activities as a contributor towards the overall GDP (World Bank 2021). Nevertheless, this tendency can largely be distorted by national food policies and specific food types.

From a European perspective, it has become evident that food self-provisioning appears to be far more common in the former socialist countries than in Western European market economies (Alber and Kohler 2008). While the share of self-provisioners in the Czech Republic has significantly decreased since the 1990s, it remains much higher than the overall average for all EU member states (Smith and Jehlička 2013). The motivational factors behind the comparably high rate of food self-provisioning in post-socialist countries have shifted over time. Traditionally, it was perceived as subsistence farming aiming to compensate for market insufficiencies and low wages, thus as a coping strategy for food insecurities. Nevertheless, Jehlička et al. (2013) argue that the low-income groups in the Czech Republic do not practice food self-provisioning to a larger extent than higher-income groups, which is also connected to the lack of land ownership. Therefore, this raises the suspicion that economic reasons, as the sole motivation for self-provisioning, are no longer valid. As food self-provisioning remains popular in the Czech Republic, the need to investigate the motivational factors behind this practice has become apparent. The derived motivational factors could also serve as a basis for a better understanding of food self-provisioning in other countries.

Food self-provisioning has been gradually moving from a necessity to a matter of choice in high-income countries instead of often being a condition for subsistence in developing countries (Wuepper et al. 2020). Better quality, taste, and the belief that homegrown food is healthier than commercially available products were identified as the primary motivators for food self-provisioning in the Czech Republic (Šiftová 2021). Quality aspects of homegrown food, thus, appear to be the main reason for the comparably high rate of food self-provisioning in the Czech Republic. Nevertheless, policymakers in the Czech Republic have thus far largely ignored the potential of home gardening as a sustainable alternative to large-scale food systems. We suspect that, next to socio-demographic characteristics, these attributes significantly influence the degree of food self-provisioning in the Czech Republic.

Next to the quality aspect of the products, the sustainable behaviour and personal health, food self-provisioning seems to be increasingly practised as a lifestyle choice and hobby (Larder et al. 2014). The mere enjoyment of gardening activities was identified as a key motivation in the Czech Republic, further devaluing the argument that this activity is purely linked to the economic need to produce additional food (Šiftová 2021). Socialising, family traditions and sharing homegrown food were frequently identified as motivators for food self-provisioning (Ančić et al. 2019). Home gardening is a way to stay connected to nature for most urban residents. While motivations for food self-provisioning seem to vary in different cultural and geographic settings, aspects such as enjoying the fresh air and experiencing the beauty of nature seem to be common responses in this context, regardless of an individual's sociodemographic characteristics (Home and Vieli 2020).

The typology of the rural area plays an important role in food self-provisioning. Despite that the majority of rural households in suburban and peripheral regions use their land for food production, the character of the gardens, the extent of the cultivated land and frequency of keeping domestic animals may vary. In peripheral regions, the more frequent use of gardens for food production, the larger areas of land which are intensively cultivated and the higher rate of keeping traditional domesticated animals (especially hens and rabbits) can be seen compared to suburban areas. At the same time, households located in peripheral region have a greater level of food self-sufficiency (Svobodová et al., 2021).

What was the role of gardening and self-provisioning during the COVID-19 pandemic and the economic crises triggered by the war in Ukraine? In times of crisis, home gardening and self-provisioning have often been sought as a strategy to minimise threats to food security. Recent studies by Lin et al. (2021), Turnšek et al. (2022), and Kingsley et al. (2022) found a clear pattern of increased interest in gardening during the COVID-19 pandemic in different countries around the world. Gardening played an important role in individual stress relief, outdoor physical activity, social

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interaction, and food provisioning (Egerer et al. 2022; Kingsley et al. 2022). The importance of food provisioning and economic security was important for individuals facing greater hardship from the pandemic (Egerer et al. 2022). Based on the reviewed literature, we can thus derive a broad spectrum of benefits linked to food self-provisioning in the Czech Republic. From a socio-economic perspective, the benefits range from improved food-security and a lower dependence on commercially produced food to the community building aspect of food self-provisioning as a social activity (Daněk et al. 2022). While home-gardening, as a coping strategy for increased food-self-sufficiency, seemed to decrease over time, it could be argued that this trend has shifted in the face of increased food prices caused by inflation. In addition, the trend towards rising health consciousness has evoked the need for healthier food choices (Parashar et al. 2023). From an environmental perspective, the benefits of self-provisioning range from reducing GHG emissions caused by transporting commercial food to a decreased demand for food produced with harmful pesticides and/or fertilisers.

Gardening is still embedded in the Czech mentality and is widespread across different social and income groups. However, the role of the family composition in gardening and food self-provisioning remains a neglected topic in academic research, with a few exceptions, including Vávra et al. (2018), Nelson (2007) and Nelson (2014). In Scotland, a study by Vávra et al. (2018) demonstrated that food self-provisioning is a family activity more common among couples' households. In contrast, a similar study in the Czech Republic revealed that families with children are likely to perform food self-provisioning. Furthermore, Nelson (2007) pointed out that the rate of self-provisioning is lower in single-parent households compared to couples in the United States. Therefore, we can derive from previous literature that differences in the family composition influence the likeliness of food self-provisioning.

To broaden the knowledge regarding the extent and drivers of self-provisioning, this research aims to answer the following questions: *i*) What is the level of food self-provisioning in the Czech Republic?; *ii*) What drives the motives for food self-provisioning among the inhabitants?; *iii*) Does the family composition influence the participation in food self-provisioning?

The overall contribution of this paper is a better understanding of the factors that influence the likeliness to be involved in food self-provisioning. In particular, we document the shift of the objective of food self-provisioning from subsistence to a hobby. The results document that the utility derived from food self-provisioning is complex and not only includes economic drivers, such as financial savings, but also aims to share the produced food with family, to have control over the production, hobby, and use of the land, to obtain fresh produce, to continue the family tradition, to educate the children and to wisely use the waste.

MATERIAL AND METHODS

Data collection

The data collection was conducted by STEM/MARK, an agency specialising in market research in the Czech Republic, in September 2019. Individuals were approached using the Computer Assisted Web Interviewing method (CAWI) conducted through a panel of respondents, and questionnaires were filled in on the respondents' own devices. The online system controlled for the correctness and completeness of the answers and did not allow for incomplete questionnaires or the involvement of respondents who did not fulfil the quota criteria. The subsequent control was performed in the SPSS program and was focused on deeper logical links between several variables, their values, and responses to open questions.

The total sample includes 1 214 respondents having a minimum age of 18 years. The selection of the respondents and the calculation of the required sample size were made based on data from the Population and Housing Census provided by the Czech Statistical Office. The socio-demographic structure of the population was calculated according to the monitored quota, considering the gender, age, and educational level of the respondents together with the region and place of residence. The structure of the sample, thus, imitated the structure of the entire population (according to the quota features).

The socio-demographic profile of the respondents is included in Table 1. Women represented more than half of the total sample (55%). About 35% of the respondents reside in municipalities with less than 1 000 inhabitants, and 81% achieved secondary education (with or without graduation). Nearly half of the respondents lived with children (47%).

Empirical methods

The empirical approach included two main parts: Firstly, the χ^2 test of independence (Pearson 1900) or Fisher's exact test (Fisher 1922) was adopted to analyse the differences between several groups of respondents. Secondly, a binary probit model was applied

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Table 1. Socio-demographic and background characteristics of surveyed respondents (involved in self-provisioning; n = 908); variables are binary (yes = 1; no = 0)

Variable	Description	Frequency (%)
Motives	**Respondent is motivated by...**	
To preserve the family tradition of self-provisioning/ knowledge	the education of children, a continuation of a family tradition and the use of a product within the family	0.59
Have better access to high-quality food	obtaining fresh products and control over production	0.68
Enjoy free time	perceives food self-provisioning as a hobby	0.32
Improve income	financial savings	0.17
Woman	respondent is female	0.55
Education		
Primary (reference)	completed primary/secondary educational level without graduation	0.43
Secondary	completed secondary educational level or college	0.38
Tertiary	completed tertiary educational level	0.19
Type of respondent's family		
Young single (reference)	18–34 years old without partner	0.03
Adult single	35–64 years old without a partner	0.05
Elderly single	65 years old or older without a partner	0.09
Young couple without children	18–34 years old living in a household with a partner without children	0.12
Adult couple without children	35–64 years old living in a household with a partner without children	0.12
Elderly couple without children	65 years old or older living in a household with a partner without children	0.07
Young couple with children	18–34 years old living in a household with partner and children	0.09
Adult and elderly couples with children	35 years old or older living in a household with partner and children	0.25
Single parent family	living in a household with children without a partner	0.05
Other types of households	friends living together, grandparents living with grandchild	0.14
Income per capita		
1st quintile (reference)	less than 453.5 USD	0.12
2nd quintile	453.5–907 USD	0.54
3rd quintile	more than 907 USD	0.34
Location of the respondent		
Settlements up to 1 000 citizens	location with less than 1 000 citizens	0.22
Prague (reference)	capital city	0.11
Moravia	Moravian region	0.52
Bohemia	Bohemian region (except Prague)	0.37

Source: Authors' own calculations (2023)

to determine the factors influencing the main motives (hobby, obtaining fresh product and use of a product within the family) for self-provisioning. At the same time, the regression model was tested for multicollinearity using a variance inflation factor (*VIF*). The statistical analysis was performed in Stata 16.

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Binary probit model. The binary probit model was used in the following form of Equation (1):

$$Pr\ (y = 1,x) = \Phi\ (x\beta) \quad (1)$$

where: Pr – probability; y – dependent binary variable, taking a value of 1 if the consumer: 1) perceived self-provisioning as a way how to preserve the family tradition of self-provisioning/knowledge of the hobby; 2) was motivated by better access to high-quality food; 3) perceived self-provisioning as a hobby; 4) perceived self-provisioning as a way how to improve the income by financial savings connected with self-provisioning; and 0 if not; x – set of all the explanatory variables presented in Table 1; $\Phi\ (x\beta)$ – cumulative distribution function.

Food self-provisioning can be defined as growing one's food on a small scale without expertise in farming and commercial intentions (Vávra et al. 2018). Four separate models were conducted. The description of the dependent variables (as well as the independent variables) is included in part Variables included in the model. The marginal effects are presented in the results section.

Variables included in the model. Based on the previous findings, the rate of self-provisioning is influenced by a range of social and economic factors (Jehlička et al. 2013; Šiftová 2021). All the variables used in the model are displayed in Table 1.

RESULTS AND DISCUSSION

What is the level of food self-provisioning in the Czech Republic?

Food self-provisioning is a widespread activity in all regions of the Czech Republic. The majority of the respondents produce or receive at least some food products; for one-quarter of the respondents, it represents more than 5% of the consumed products. Additionally, more than 20% of the surveyed individuals were interested in self-provisioning; however, they did not have a chance to produce or receive any food. Previous studies revealed that about 40% of Czech households declared they grow some of the food they consumed in their households, either in gardens or similar plots (Jehlička et al. 2021; Sovová et al. 2021). The most common products obtained by self-provisioning were vegetables (89%), followed by fruits (81%), eggs (53%), honey (27%) and meat (21%). Other plant products, such as herbs (14%) and animal products, such as milk (3%), were rarely mentioned. Similarly, Sovová et al. (2021) revealed that the volume of production of Czech households is not negligible, as about 36% of the household consumption of vegetables, 28% of the potatoes and 34% of the fruit is covered by home production or by gifts from other food self-provisioning households.

What drives the motives for food self-provisioning among the inhabitants?

Self-provisioning is primarily driven by a desire to obtain and share fresh and healthy food, as shown in Figure 1. At the same time, our respondents considered food self-provisioning a recreational and pleasurable activity rather than a strategy driven by economic needs which is consistent with previous findings of studies from the Czech Republic (Jehlička et al. 2013, 2021; Šiftová 2021; Sovová et al. 2021) as well as from studies from Poland, Spain, and Croatia (Smith and Jehlička 2013; Ančićet al. 2019).

As shown by the study of Sovová et al. (2021), homegrown food products are appreciated for their better quality in terms of taste, freshness, nutrition, and transparency of origin than store-bought products. The same study revealed that this activity is related to the senses of both self-fulfilment and responsibility, and it is 'an unmatched and unbeatable experience' for the respondents (Sovová et al. 2021). Overall, these findings are in line with the benefits of food self-provision derived from previous literature.

The role of the area of residence in food self-provisioning. Food self-provisioning cannot be considered a practice concentrated solely in the rural periphery since both rural and semi-urban/urban inhabitants are involved in this activity to a considerable degree, as shown in Table 2. This was also confirmed by a study by Jehlička et al. (2019). Even though the urban-rural difference could be easily explained by the different levels of access to owned or leased land, the role of community gardens in self-provisioning in urban areas should not be marginalised, as was mentioned by a recent study conducted in Prague by Spilková et al. (2017), who found that young individuals between 25 and 40 years, mainly mothers with children, are involved in the life of a community gardens.

Moreover, the results of the Pearson χ^2 test of independence presented in Table 2 show that there is a relationship between the area of residence and the motivation for self-provisioning (sharing of a product within the family, $\chi^2 = 9.856$, $P < 0.05$; the use of the land area, $\chi^2 = 33.692$, $P < 0.05$ and obtaining fresh products, $\chi^2 = 10.049$, $P < 0.05$). Individuals living in rural settlements perceive self-provisioning as an activity when

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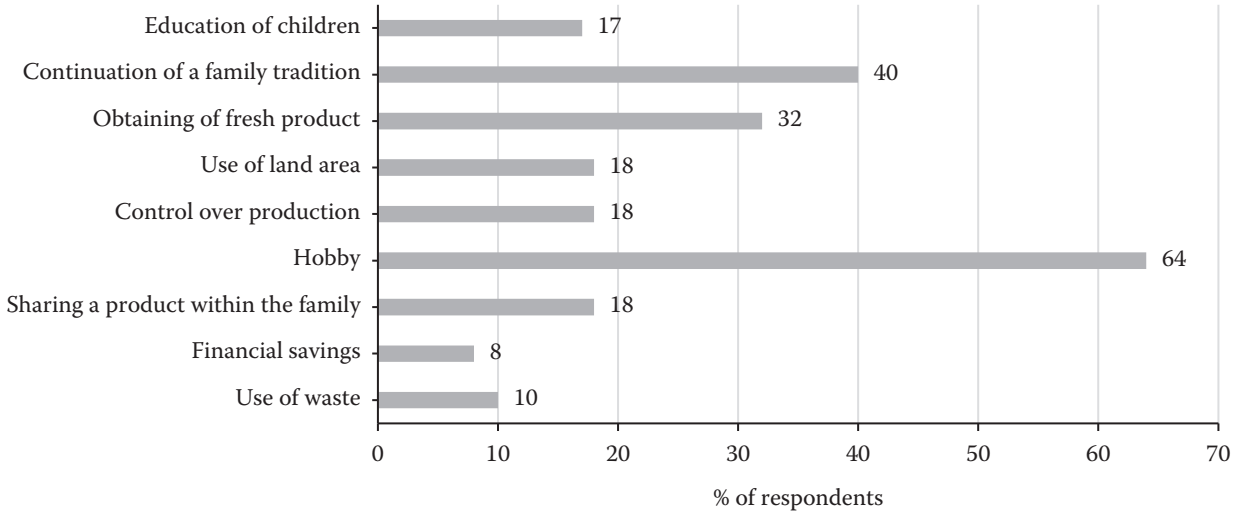

Figure 1. Main motives for self-provisioning

Source: Authors' own calculations

they use their land to grow fresh food products. In contrast, individuals living in settlements with more than 1 000 citizens are more appreciative of sharing products within the family.

The role of income in food self-provisioning. The higher rates of self-provisioning (more than 5%) were found in less financially secured households ($\chi^2 = 9.915$, $P < 0.05$). Even though data about the self-proclaimed financial motives for food self-provisioning generally support the idea that the food self-provisioning is a coping strategy for poorer families, the activity is performed by all income groups, which is consistent with previous studies (Jehlička et al. 2021; Sovová et al. 2021).

The results of the Pearson χ2 test of independence presented in Table 3 show that there is a relationship between the level of income and the motivation for self-provisioning (financial savings, $\chi^2 = 12.265$, $P < 0.05$ and a hobby, $\chi^2 = 6.765$, $P < 0.05$). Individuals with lower income per capita seem more often motivated by financial savings connected with self-provisioning and consider this activity less likely as a hobby.

Does the family composition influence the participation in food self-provisioning?

We found a greater incidence of household food self-provisioning among the younger generation than

Table 2. Main motives for self-provisioning and area of residence (Pearson χ^2 test of independence)

Variable	% of respondents		χ^2	*P*-value
	Rural settlements (up to 1 000 citizens)	Settlements with more than 1 000 citizens		
Rate of self-provisioning up to 5%	53	71	22.091	0.000
Rate of self-provisioning more than 5%	41	26	18.093	0.000
Financial savings	19	16	0.932	0.334
Use of a product within the family	31	43	9.856	0.002
Hobby	34	32	0.404	0.525
Control over production	23	17	3.627	0.057
Use of land area	32	14	33.692	0.000
Obtaining of fresh product	73	61	10.049	0.002
Continuation of a family tradition	14	19	2.845	0.092
Education of children	10	8	0.915	0.339
Use of waste	11	9	0.661	0.416

Source: Authors' own calculations

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Table 3. Main motives for self-provisioning and household income (Pearson χ^2 test of independence)

Variable	Income less than 453.5 USD per capita	Income 453.5–907 USD per capita	Income more than 907 USD per capita	χ^2	*P*-value
Rate of self- provisioning up to 5%	40	49	55	5.178	0.075
Rate of self- provisioning more than 5%	28	25	23	9.915	0.007
Self-provisioning	68	74	78	1.844	0.398
Main motives for self-provisioning					
Financial savings	29	17	14	12.265	0.002
Use of a product within the family	33	39	45	5.740	0.057
It is hobby	22	35	31	6.765	0.034
Control over production	17	19	18	0.462	0.794
Use of land area	22	19	14	5.760	0.056
Obtaining of fresh product	56	63	68	5.218	0.074
Continuation of a family tradition	19	17	19	0.376	0.829
Education of children	11	7	9	2.790	0.248
Use of waste	15	9	8	3.923	0.141

Source: Authors' own calculations

among the older generation (see Tables 4 and 5). In contrast, several previous studies revealed that retired people are more active in domestic food self-provisioning (as well as food sharing) than younger individuals (Jehlička et al. 2019) while a recent study of Jehlička et al. (2021) from the Czech Republic revealed that all age categories are involved in self-provisioning. The results of the Pearson χ^2 test of independence presented in Table 4 show that there is a relationship between the age of the respondent and the motivation for self-provisioning (continuation of a family tradition, $\chi^2 = 7.726$, $P < 0.05$; education of children, $\chi^2 = 11.649$, $P < 0.05$ and a hobby, $\chi^2 = 19.191$, $P < 0.05$). Our findings could be explained as follows: firstly, despite that gardening and food self-provisioning can be seen by young adults as an outdated, boring activity, their perception might be changed when they have children. In this regard, based on our findings, having a child increases not only the rate of self-provisioning, but is also connected with education-related motivation when parents encourage their children to get involved in gardening to show them and

Table 4. Age and main motives for self-provisioning (Pearson χ^2 test of independence) (n = 908)

Variable	% of respondents			χ^2	*P*-value
	youth	adult	elderly person		
Rate of self- provisioning up to 5%	51	50	48	0.478	0.787
Rate of self- provisioning more than 5%	30	24	17	12.739	0.002
Main motives for self-provisioning					
Financial savings	21	16	14	5.121	0.077
Use of a product within the family	41	41	35	1.375	0.503
Hobby	23	36	41	19.191	0.000
Control over production	22	16	20	5.268	0.072
Use of land area	14	18	23	4.879	0.087
Obtaining of fresh product	63	65	60	1.267	0.531
Continuation of a family tradition	22	17	11	7.726	0.021
Education of children	9	9	0	11.649	0.003
Use of waste	10	10	8	0.576	0.750

Source: Authors' own calculations

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Table 5. Main motives for self-provisioning and household composition (n = 908)

Main motives for self-provisioning (%)	1	2	3	4	5	6	7	8	9	10	Coefficient	*P*-value
Financial savings	22	30	22	24	12	13	18	13	30	11	23.808	0.005
Use within the family	44	30	31	44	37	37	41	41	49	41	6.461	0.693
Hobby	26	33	31	21	43	47	23	33	19	39	34.662	0.000
Control over production	26	17	22	22	13	20	24	17	13	14	9.052	0.433
Use of land area	11	17	22	06	19	22	18	17	13	36	27.739	0.001
Fresh produce	59	58	47	59	68	64	70	66	56	69	11.426	0.248
Family tradition	37	10	9	24	21	12	21	19	10	16	19.501	0.021
Education of children	4	3	0	1	1	2	19	14	13	0	72.051[a]	0.000
Use of waste	15	27	3	8	10	9	8	9	13	8	11.880	0.220

[a]Fisher exact test; otherwise, Pearson χ^2 test of independence was used; 1 – young single; 2 – adult single; 3 – elderly single; 4 – young couple without children; 5 – adult couple without children; 6 – elderly couple without children; 7 – young couple with children; 8 – adult and elderly couple with children; 9 – single parent family; 10 – other types of households

Source: Authors' own calculations

teach them the processes of growing food. Moreover, they want to spend time with their children in nature, enjoying the fresh air and pretty scenery. Secondly, the younger generation may feel obliged to continue with a family tradition of gardening and self-provisioning and are involved in this activity despite not enjoying it. Moreover, gardening often competes with other hobbies (Kortright and Wakefield 2011). Lastly, the elderly may face physical limitations affecting their ability to maintain the land (Vávra et al. 2021).

The results revealed that single adults and single-parent families are less often involved in self-provisioning compared to other types of households (Figure 2). As gardening for self-provision is considered time-

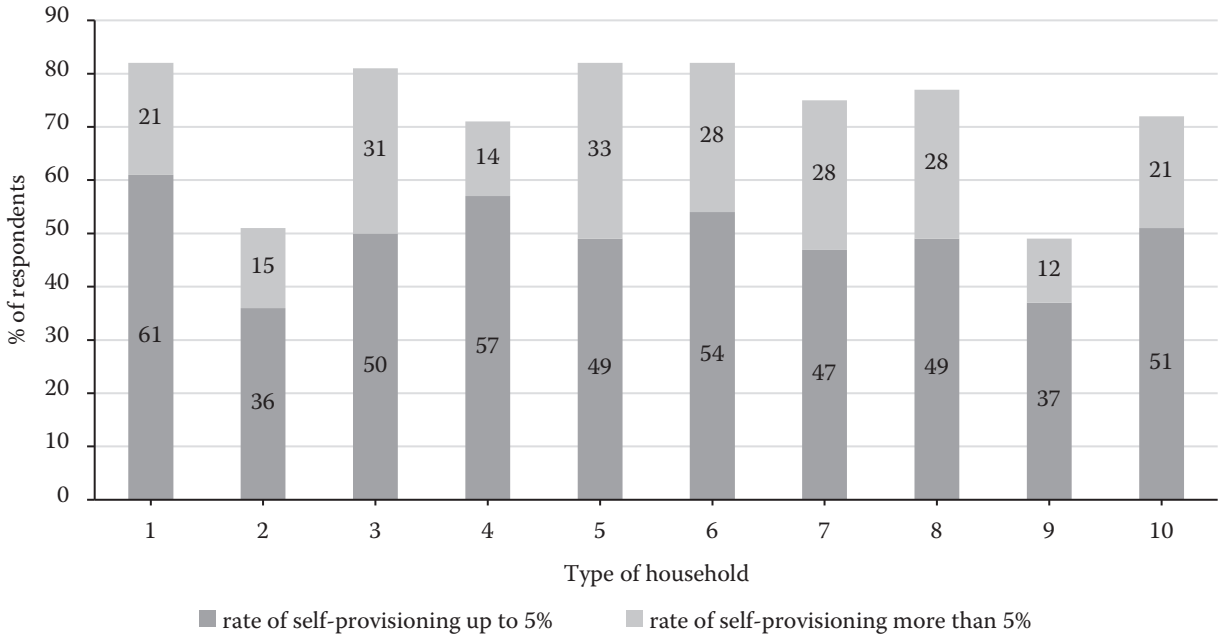

Figure 2. Rate of self-provisioning and household composition (n = 908)

1 – young single; 2 – adult single; 3 – elderly single; 4 – young couple without children; 5 – adult couple without children; 6 – elderly couple without children; 7 – young couple with children; 8 – adult and elderly couple with children; 9 – single parent family; 10 – other types of households

Source: Authors' own calculations

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Table 6. Results of the binary probit model (n = 908)

Variable	Hobby			Economic savings			Access to high-quality food			Preservation of family tradition		
	marginal effect	SD	*P*-value	marginal effect	SD	*P*-value	marginal effect	SD	*P*-value	marginal effect	SD	*P*-value
Gender												
Women	–0.011	0.032	0.729	0.017	0.026	0.513	0.012	0.032	0.699	0.010	0.033	0.776
Education												
Secondary	0.047	0.036	0.191	0.013	0.028	0.647	0.016	0.035	0.643	0.001	0.037	0.971
Tertiary	0.111	0.044	0.011	–0.096	0.039	0.014	0.030	0.045	0.504	0.070	0.047	0.140
Income per capita												
1st quintile	–0.075	0.058	0.194	0.113	0.041	0.006	–0.097	0.054	0.075	–0.023	0.058	0.694
2nd quintile	0.029	0.038	0.451	0.076	0.032	0.017	–0.057	0.039	0.140	–0.059	0.040	0.146
Household composition												
Adult single	0.056	0.118	0.637	0.031	0.086	0.718	–0.143	0.114	0.212	–0.225	0.125	0.071
Elderly single	0.111	0.126	0.381	–0.028	0.095	0.771	–0.199	0.123	0.106	–0.372	0.135	0.006
Young couple without children	–0.107	0.107	0.318	0.008	0.078	0.917	–0.048	0.102	0.639	-0.117	0.112	0.296
Adult couple without children	0.170	0.100	0.089	–0.121	0.077	0.116	–0.031	0.099	0.754	–0.172	0.108	0.111
Elderly couple without children	0.114	0.107	0.286	–0.145	0.084	0.085	0.002	0.106	0.985	–0.203	0.115	0.077
Young couple with children	–0.060	0.104	0.560	–0.080	0.077	0.300	0.032	0.101	0.754	–0.010	0.110	0.925
Adult and elderly couple with children	0.052	0.097	0.594	–0.108	0.074	0.141	-0.043	0.095	0.654	–0.036	0.105	0.731
Single parent family	–0.077	0.108	0.471	0.038	0.076	0.619	-0.139	0.102	0.171	–0.047	0.112	0.678
Other type of household	0.118	0.108	0.276	–0.175	0.086	0.041	-0.016	0.108	0.880	–0.125	0.117	0.285
Location												
Bohemia	0.022	0.057	0.703	0.029	0.050	0.560	0.165	0.054	0.002	–0.065	0.061	0.288
Moravia	0.026	0.058	0.652	0.015	0.051	0.766	0.192	0.055	0.000	–0.054	0.062	0.381
Settlements up to 1 000 citizens	0.028	0.038	0.466	0.026	0.029	0.368	0.134	0.039	0.001	–0.120	0.039	0.002
Constant	–	0.312	0.010	–	0.354	0.005	–	0.303	0.684	–	0.310	0.014
Likelihood ration χ^2 test	46.61	–	0.0001	50.14	–	0.0001	38.92	–	0.002	48.27	–	0.0001
pseudoR^2	0.041	–	–	0.041	–	–	0.034	–	–	0.039	–	–

Source: Authors' own calculations

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consuming and physically burdening, single-parent families and adults may struggle to find time or energy to be involved in food self-provisioning (Nelson 2014).

Moreover, the results of the Pearson χ^2 test of independence presented in Table 5 show that there is relationship between the type of household and the motivation of self-provisioning (financial savings, $\chi^2 = 23.808$, $P < 0.05$; continuation of a family tradition, $\chi^2 = 19.501$, $P < 0.05$; education of children, $\chi^2 = 72.051$, $P < 0.05$; land use, $\chi^2 = 27.739$, $P < 0.05$ and a hobby, $\chi^2 = 34.662$, $P < 0.05$). Single-parent families seem to find less enjoyment in the process of planting and caring for the food produced and are rather motivated by the financial savings connected to self-provision. Since single-parent families (especially single-mother families) are more prone to social risks, including poverty, material deprivation, and a challenging work-life balance (Lersch et al. 2021), this is why food self-provisioning represents a coping strategy for single-parent families on how to deal with lower income and wealth. As it is expected that the prices for good quality food products are always increasing, food self-provisioning allows households to cut down on expenditures (Vávra et al. 2018).

Younger couples without children seem to feel more obliged to continue with a family tradition of gardening and self-provisioning. In contrast, adult and elderly couples perceive food self-provisioning as a recreational activity.

Results of the probit models

The likelihood ratio statistics of all the probit models used is highly significant, suggesting that the models have a strong explanatory power (Table 6). The regression model was tested for multicollinearity using a variance inflation factor (*VIF*). The mean *VIF* was 3.09, below the threshold value of 10 suggested by Kleinbaum et al. (2013). The results reveal that there is no significant multicollinearity among the explanatory and dependent variables in the model.

Individuals with higher education levels (tertiary educated respondents) are more likely to perceive self-provisioning as a hobby. At the same time, tertiary-educated individuals are less likely motivated by financial savings connected with self-provisioning compared to individuals with lover levels of education.

Individuals with lower income per capita are more likely motivated by financial savings connected with self-provisioning. Likewise, they are less likely to be motivated by access to high-quality food.

Single adults, single elderly and elderly couples without children are less likely to perceive self-provisioning as a way to preserve the family tradition of self-provisioning and knowledge than single youths. Adult couples without children are more likely to perceive self-provisioning as a hobby and, at the same time, elderly couples without children and other types of households are less likely motivated by financial savings.

Individuals living in settlements up to 1 000 citizens are more likely motivated by access to the perceived high-quality food. Moreover, they less often proclaim food self-provisioning as a way to preserve family traditions compared to individuals living in larger settlements.

Individuals living in Moravia and Bohemia region (execpt Prague) are significantly more likely than those living in Prague to consider self-provisioning as a way to obtain high-quality food.

CONCLUSION

Self-provisioning is still considered an important alternative for a large-scale agri-food system. Especially nowadays, in the context of the economic crises triggered by COVID-19 and the war in Ukraine, when food availability and food access have directly been affected by country lockdowns, limitations in the transport sector and changes in market prices (e.g. Devereux et al. 2020), self-provisioning can become a strategy on how to minimise the constraints on the food supply. By analysing data from 2019 (before the COVID-19 outbreak), we found that food self-provisioning was a widespread activity in all the regions of the Czech Republic which should not be considered a practice concentrated solely in the rural periphery since both rural and semi-urban/urban inhabitants are involved in this activity to a considerable degree.

In this paper, we have provided new evidence about the importance of the family composition in food self-provisioning by Czech consumers. Moreover, this paper also contributes to understanding the motivation of different households participating in home gardening and self-provisioning. Drawing from a household survey conducted among 1 214 respondents, we have shown that single-parent families and adults may struggle to find time or energy to be involved in food self-provisioning and seem to enjoy the process of planting and caring for the food products less. They are instead motivated by financial savings connected to self-provision. Younger couples without children feel obliged to continue with a family tradition of gardening and self-provisioning while, for adult and elderly couples, it is a rather recreational activity. The results highlight that the household composition plays an important role in self- provisioning.

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When interpreting these results, we need to consider several limitations of this study. Firstly, individuals were approached using the CAWI method conducted through a panel of respondents; questionnaires were filled in on the respondent's personal devices, and therefore reliance on this method for data collection is inevitably limiting. Secondly, the questionnaire used in our study does not include information about the % of products consumed by the producers themselves and the % of food products received by barter or gifts and about the typology and qualitative characteristics of the rural area.

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