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Factors influencing the purchasing of organic food by Slovak consumers: Quality or promotion?

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ABSTRACT

This study explores the purchasing behaviour of Slovak consumers regarding organic food. Using data collected by CAWI from 318 respondents, the research aims to examine the relationship between the socio-economic characteristics of Slovak consumers and their purchasing behaviour, with particular attention to the factors influencing their decision to buy organic food. Based on the chi-square test of independence, results show that the purchase of organic food depends on consumers' income and education levels. Organic food consumption is primarily driven by factors related to high quality, nutritional content, sensory attributes of organic food and healthy lifestyle, rather than by external social trends such as celebrity endorsement, curiosity, fashion, and trendiness, which are considered the least important. Additionally, the purchase of organic food is most frequently initiated for personal use and general household consumption, while purchases for children or individuals with allergies are less common. Using hierarchical cluster analysis, the study identifies three clusters of conumers who make decisions about purchasing organic food based on the same factors: (1) fashion and celebrities, (2) high quality, sensory quality, nutrient content, healthy lifestyle and traditional production methods, (3) fair trade, locally produced, family, curiosity, environmental impact, absence of GMOs and additives and controlled production process). The first cluster was the smallest. These were marginalized, niche factors. The second cluster consisted of respondents for whom the quality of the product, its features, as well as health and traditional production methods were important. The third cluster of respondents included people for whom social, environmental, and safety factors were important. These findings provide valuable insights for segmenting the organic food market and for developing product labelling policies and marketing communication strategies.

Keywords: organic food, factors, consumption, cluster analysis, Slovak consumer

INTRODUCTION

Due to increasing consumer awareness of the nutritional and health quality of processed food and growing interest in their health **[1]**, **[2]**, more consumers are opting to buy organic food. It is also related to climate change, environmental pollution **[3]** and other social and economic problems **[4]**, **[5]**, **[6]**. Consumers' environmental awareness, reflected in their purchases of organic food, is increasing, as confirmed by the results **[7]**, **[8]**. Depending on consumers' financial capabilities, purchases of organic products are limited either to small quantities of basic items such as milk, dairy products, meat, cereal products, fruit, and vegetables **[9]** or, in the case of people with higher incomes, organic food plays an important role in the daily diet, including meals prepared from organic ingredients. Many publications still repeat the same barriers to purchasing organic food

among consumers, including Slovak ones, such as high price **[7]**, **[2]**, **[10]**, **[11]**, **[12]**, limited availability **[1]**, and lack of knowledge or confidence in organic certification and information on labels **[1]**, **[9]**.

Consumers perceive organic food as having better quality, being safer, and tasting better than conventional food **[7]**, with a higher content of vitamins and minerals, being free from hormones and antibiotics (in animal products), having a shorter shelf life, a natural flavor, no preservatives, minimal processing, and an aesthetic appearance **[14]**. Factors that influence the purchase of organic food include, among others, the opinions of family and friends, sustainable shopping habits (e.g. buying food without packaging, with certificates) **[9]**.

Consumers have varying attitudes toward organic food across countries. In Western and Scandinavian countries, interest in organic food is higher than in Central and Eastern European countries **[13]**. Research by Serebrennikov et. al. **[9]** on consumer behavior in the European organic food market found that in Germany and the Netherlands, consumers who purchase organic food have strong social norms and pro-environmental habits. Lower purchase frequency, weaker social norms, and lower trust in organic food characterize Czech and Spanish consumers. In contrast, Italian consumers have a positive attitude toward organic food, but this attitude does not directly translate into purchasing behavior.

Younger generations, mainly Generations Z and Y, consume more organic food more often and in greater quantities **[13]**, **[2]** than older generations. In a study conducted by Kozelová et al. **[15]**, over half (65%) of Slovak consumers reported buying organic food once or twice a week (43%), occasionally (33%), and every fourth respondent reported buying organic food once or twice a month. Organic food is most often purchased by women and individuals with a good financial situation **[1]**, **[13]**, including in Slovakia **[16]**. In the research conducted by Grzywińska **[14]** on consumer behavior in the organic food market in Poland, it was found that women buying organic food appreciate the taste, freshness and naturalness of organic products. At the same time, men focus on functional and ecological aspects (lack of chemicals, animal welfare).

Numerous studies have investigated the motivations and factors that influence the purchase of organic food. However, there is a lack of information on the extent to which celebrities or fashion influence the purchase of organic food, which was included in our study. Furthermore, we examined the influence of 15 factors influencing the purchase of organic food by Slovak consumers, which can be divided into five main groups: group 1 – factors related to current trends (fashion, celebrities); group 2 – factors related to respondents (curiosity, healthy lifestyle, family); group 3 – factors related to ethical and environmental aspects of organic food (environmental impact, fair trade); group 4 – factors associated with the quality of organic food (high product quality, nutritional and sensory quality, non-GMO, food without additives); and group 5 – factors related to organic food production (food produced using traditional methods, food which production process is strictly controlled). Additionally, we examined whether there was a statistical relationship between selected socioeconomic characteristics of respondents and their purchasing of organic food, the factors influencing their purchasing decisions, and for whom (i.e., which family members) respondents buy organic food. Studies often primarily focus on children. In our research, this is also one of the responses. However, we considered more possibilities, including purchasing for oneself, for other family members, and for a family member with a food allergy/intolerance, which provides a new perspective on family members consuming organic food.

Scientific Hypothesis

Hypothesis 1: We assumed that there is a statistically significant relationship between Slovak consumers who purchase organic food and their socio-economic characteristics.

Hypothesis 2: We assume that there is a statistical relationship between the factors influencing the purchase of organic food and the socio-economic characteristics of Slovak respondents.

Hypothesis 3: We assume that there is a statistically significant relationship between the intended recipients of organic food purchased by Slovak respondents and their socio-economic characteristics.

Objectives

This research aims to examine the relationship between the socio-economic characteristics of Slovak consumers and their purchasing behaviour, with particular attention to the factors influencing their decision to buy organic food.

MATERIAL AND METHODS

Samples

Sample description: Three hundred and eighteen Slovak respondents participated in the study, comprising 216 women and 102 men. The result of the chi-square goodness-of-fit test is $p < 0.0001$, indicating that the gender representation is not equal; in this instance, women predominate. In the questions directed at the respondents, we inquired about their gender, education, financial status, residence, household size, and number of children. Detailed information is presented in Table 1.

Table 1 Characteristics of the Slovak respondents.

Sex	**Frequency**	**Percent**	**Chi² for Equal Proportions**
Male	102	32.08	$p < 0.0001$
Female	216	67.92	
Education	**Frequency**	**Percent**	**Chi² for Equal Proportions**
lower secondary education (2nd level of primary school)	1	0.31	$p < 0.0001$
secondary education with matriculation examination	105	33.02	
university	211	66.35	
elementary (1st level of primary school)	1	0.31	
Income	**Frequency**	**Percent**	**Chi² for Equal Proportions**
good	141	44.34	$p < 0.0001$
average	113	35.53	
very good	54	16.98	
very bad	3	0.94	
bad	7	2.20	
Residence	**Frequency**	**Percent**	**Chi² for Equal Proportions**
village	114	35.85	$p < 0.0001$
city with 20,000 - 39,999 inhabitants	38	11.95	
city with less than 20,000 inhabitants	29	9.12	
A city with more than 200,000 inhabitants	89	27.99	
city with 100,000 - 199,999 inhabitants	7	2.20	
city with 40,000 - 99,999 inhabitants	41	12.89	
Number of household members	**Frequency**	**Percent**	**Chi² for Equal Proportions**
1	19	5.97	$p < 0.0001$
2	63	19.81	
3	84	26.42	
4	98	30.82	
5	36	11,32	
6	11	3.46	
7	4	1.26	
8	2	0.63	
9	1	0.31	
Number of children under 18	**Frequency**	**Percent**	**Chi² for Equal Proportions**
0	239	75.16	$p < 0.0001$
1	61	19.18	
2	17	5.35	
4	1	0.31	
Number of members working	**Frequency**	**Percent**	**Chi² for Equal Proportions**
0	4	1.25	$p < 0.0001$
1	50	15.72	
2	130	40.88	
3	88	27.67	
4	41	12.89	
5	3	0.95	
6	1	0.31	

8	1	0.33	
Number of members consuming organic food	**Frequency**	**Percent**	**Chi² for Equal Proportions**
0	6	1.88	$p < 0.0001$
1	55	17.29	
2	122	38.36	
3	57	17.92	
4	51	16.08	
5	22	6.91	
6	4	1.25	
8	1	0.31	

More than half of the respondents (66.35%) held a university degree, while 33.02% had completed secondary education with a high school diploma. Concerning income perception, 44.34% of the respondents rated their income as good. More than a third of the respondents (35.53%) viewed it as average, and 16.98% described it as very good. Only 3.14% respondents rated their income as bad or very bad. The chi-square test reveals that the differences in income assessment are statistically significant ($p < 0.0001$). More than a third of the respondents (35.85%) stated that they live in the countryside. In large cities with more than 200.000 inhabitants, 27.99% of respondents reside. The remaining respondents are distributed among smaller towns, with the least represented being cities with 100.000 to 19999 inhabitants, comprising only 2.20% of respondents. Most respondents' households have four members (30.82%) or three members (26.42%). Households with one member are rare (5.97%). Households with more than six members are very rare. The test results indicate that the distribution of household sizes is statistically significant ($p < 0.0001$). More than half of the respondents (75.16%) had no children. Nearly every fifth respondent (19.18%) reported having one child, and only one respondent reported having four children.

Most households had two working members (40.88%), and 27.67% of households had three working members. Less than 1% of respondents answered (0.94%) that their families have no working members. The statistical significance ($p < 0.0001$) suggests that these differences are not random. The study involved a relatively homogeneous group of respondents aged 19 to 26, which indicates that age was not considered a differentiating variable and is therefore not included in the analysis of the results. The questionnaire used in the research had 33 questions. This article presents the results of three questions regarding purchasing organic food, the factors influencing this purchasing decision, and who bought the organic food.

Samples collection: The data used in this analysis were collected through a questionnaire survey focused on consumer preferences toward organic food. The research was conducted using a CAWI method (Computer-Assisted Web Interview) among an online panel of 600 Slovak respondents. However, in this article, we analyse only the responses from those respondents who were asked to buy organic foods – 53% (318 respondents). The questionnaire was pre-tested in a pilot study in Poland. Only complete responses were analyzed. No missing data imputation was necessary. Each response was considered an independent replicate (n=318). The CAWI method involves creating a research questionnaire that is displayed on a website available online for respondents to complete **[17]**, **[18]**. Questions and answers in the questionnaire are standardised and previously defined **[19]**. The research was carried out during September 2023 and September 2024 and focused on purchasing behaviour, attitudes towards different attributes of organic food, and sociodemographic characteristics of the respondents. Data collection was anonymous and voluntary.

Description and Coding of Variables: Respondents rated the importance of each factor influencing the purchase of organic food on a five-point Likert scale ranging from 1 – not at all important to 5 – very important. Demographic variables were categorised for comparison purposes.

Samples preparation: Presented research, carried out within the framework of the Visegrad Fund project. No. 22320288 was preceded by pilot research conducted in Poland (more broadly) **[11]**. A total of 318 correctly completed survey questionnaires were accepted for analysis. The remaining responses (282 questionnaires) that did not meet the requirements for organic food consumption were rejected and not considered in subsequent stages of the research analysis. The responses were appropriately coded for statistical analysis. This study involved standardized CAWI (Computer-Assisted Web Interviewing) procedures; no laboratory or biochemical methods were applied.

Data Processing: Data were processed in Microsoft Excel and SAS software. The results were presented in the form of contingency tables, graphs, and summary statistics. Results with a $p < 0.05$ were considered statistically significant.

Data Access

Data are available on request from the corresponding author or the Repository of the project leader, the University of Life Sciences in Lublin.

Statistical Analysis

The following methods were used to process the data and test the statistical hypotheses:

- The Chi-square goodness-of-fit test was used to test whether the distribution of responses to each question matched the predicted (uniform or theoretical) distribution.
- The Chi-square test of independence was used to examine the relationships between categorical variables, particularly between organic food purchases and sociodemographic characteristics.

Hierarchical cluster analysis was applied to group respondents based on their ratings of factors influencing the purchase of organic food. We used Ward's minimum variance method with squared Euclidean distance as the similarity measure, as this combination tends to produce compact and interpretable clusters in consumer behaviour research. The decision to retain three clusters was based on the visual inspection of the dendrogram and the marked increase in the semipartial R-squared values at the point of merging from three to two clusters (elbow criterion). This indicates that merging beyond three clusters would substantially reduce the within-cluster homogeneity.

The analyses were processed using professional statistical software such as SAS OnDemand for Academics, SAS Enterprise Guide 7.1, and Microsoft Excel (Microsoft Office LTSC Professional Plus 2021). Graphical processing was done using the software mentioned above.

RESULTS AND DISCUSSION

In our survey, we aimed to determine if a significant relationship exists between Slovak organic food buyers and their socioeconomic characteristics. Based on the results, we found that there is no statistically significant association between these variables, such as sex (p = 0.55) and residence (p = 0.2204) of the respondents and their response to the question "*Do you buy organic food?*" (Table 2). This result indicates that these two variables can be considered independent in the context of this analysis.

Table 2 The statistically significant relationship between those who buy organic food and their socioeconomic characteristics.

Variable	p-values	Chi^2
Sex	0.55	33.29
Education	0.0045*	10.34
Income	0.018*	11.06
Residence	0.2204	31.211

Note: *$p < 0.05$

A statistically significant association was found between this variable, education, and the respondents' answer to the question "*Do you buy organic food?*" (p = 0.0045). This suggests that the variable plays a significant role in explaining the differences in consumer behaviour related to the purchase of organic food. The analysis revealed a statistically significant association between this variable, income, and the response to the question "*Do you buy organic food*?" (p = 0.018). Although the relationship is weaker than in the previous case, the dependence remains significant and should be considered in any further interpretation. Hypothesis 1 was confirmed only for two variables, education and income.

Additionally, we would like to know which factors influence Slovak respondents' purchasing of organic food and what the statistical relationship is between these factors and their socioeconomic characteristics. Figure 1 presents the answers of the Slovak respondents to the question "*What factors influence your buying decisions when buying organic food?* ". Respondents could mark their responses on a 5-step Likert scale, from 1 – not important to 5 – very important. The results reveal that considerations of health and quality are the most influential factors in consumer decision-making. Among the factors most highly rated were also the quality of the product (54%) and sensory quality (42%), the content of nutrients (36%), the healthy lifestyle (33%) and no additives (31%), which received the highest number of "very important" responses. These factors reflect a focus on health-conscious purchasing behaviour.

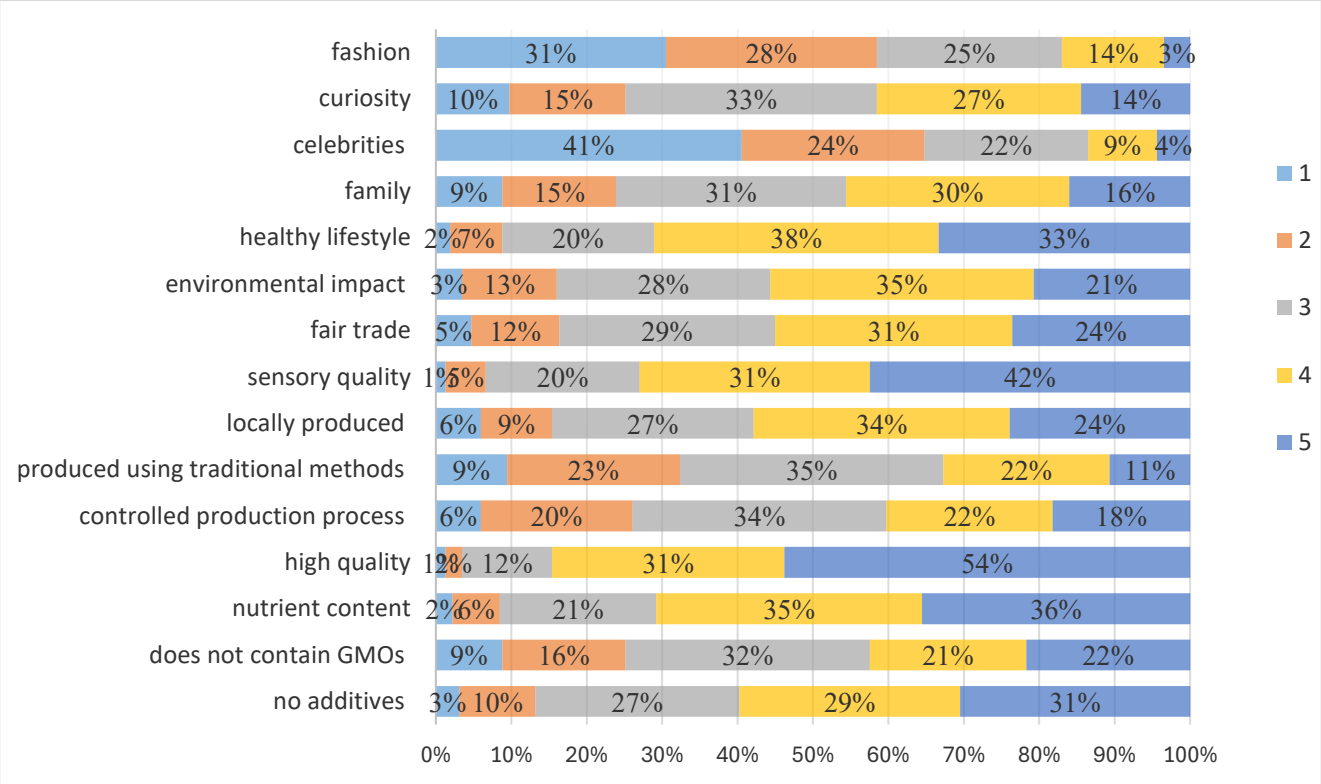

Figure 1 Factors influencing Slovak consumers regarding the purchase of organic food.
Note: legend: 1 – not important, 2 – Slightly important, 3 – moderately important, 4 – important, 5 – very important

Respondents indicated environmental impact (35%), fair trade (31%) and locally produced (34%) as important factors influencing food purchases. Answers (factors) that were previously indicated as very important were omitted. Sustainability also played a significant role, and many respondents emphasized the importance of locally produced products. These preferences suggest that consumers of organic foods are motivated not only by personal health but also by environmental and cultural considerations. Most respondents identified celebrities (41%) and fashion (31%) as the least important factors, suggesting that people who buy organic food do so out of conviction rather than under the influence of fashion or influencers. In general, the findings can suggest that the demand for organic food is primarily rooted in concerns about product quality, safety, and sustainability, rather than in the social image or novelty. Table 3 presents the relationship between the factors influencing the purchase of organic food and the characteristics of the respondents, as confirmed by the chi-square test of independence.

The results indicate a statistically significant difference in the factors influencing the purchase of organic food based on the respondents' sex. These factors are: the *product does not contain GMOs* ($p = 0.0182$), *nutrient content* ($p = 0.0012$), *fair trade* ($p = 0.0051$), and *celebrities* ($p = 0.047$). In our study, more women (67.92%) than men (32.08%) participated, so we can conclude that women buy organic food more often and for them, the health and safety aspects of the products are crucial and that in their purchases of organic food, they are not guided by the recommendations of celebrities In terms of education, a statistically significant relationship was found for local production ($p = 0.006$), which is particularly important for respondents with secondary and post-primary education. In terms of income, a statistical relationship exists with factors such as sensory quality ($p = 0.0055$) and fair trade ($p = 0.0365$). This means that respondents with higher incomes pay particular attention to the sensory quality of organic food, such as the taste of products and their social aspects. No statistically significant relationship was found between the respondents' place of residence and factors that influence the purchase of organic food. Hypothesis 2 was partially confirmed.

In the case of gender (Table 3), the significant factors influencing purchasing decisions regarding organic food were the absence of GMOs in the product, the content of nutrients, fair trade practices, and celebrity endorsements. Regarding the level of education of the respondents, the local nature of the production was a significant factor. In the case of income, the respondents' purchasing decisions were shaped by the sensory quality of food and the ethical and social aspects related to organic food products. The dendrogram (Fig. 2) displays the results of a hierarchical cluster analysis of factors influencing consumer behavior, presumably in the context of food choice or purchase. The horizontal axis shows the semipartial R-squared value, which expresses the increase in unexplained variability at each merge of the cluster.

Table 3 The relationship between factors influencing the purchase of organic food and the socioeconomic characteristics of the Slovak respondents.

Variable	Sex		Education		Income		Residence	
	Chi²	p-value	Chi²	p-value	Chi²	p-value	Chi²	p-value
no additives	4.44	0.3493	6.45	0.5975	19.93	0.2236	15.14	0.7686
The product does not contain GMOs	11.89	0.0182*	9.08	0.3353	10.43	0.8431	18.2	0.574
nutrient content	18.15	0.0012*	5.28	0.7276	23.83	0.0934	19.09	0.516
high quality	7.85	0.0971	2.42	0.9652	10.53	0.8375	9.67	0.9737
controlled production process	5.16	0.2709	9.26	0.3207	17.17	0.375	15.63	0.7392
produced using traditional methods	3.49	0.4799	8.53	0.3835	12.36	0.7188	23.99	0.2426
locally produced	4.55	0.3371	21.49	0.006*	19.02	0.2675	17.4	0.6268
sensory quality	5.62	0.2296	1.79	0.9867	33.94	0.0055*	16.9	0.6593
fair trade	14.8	0.0051*	8.77	0.362	27.47	0.0365*	15.55	0.7443
environmental impact	6.71	0.1518	14.49	0.0699	12.89	0.6807	14.5	0.8045
healthy lifestyle	8.54	0.0737	8.47	0.3886	6.09	0.9871	21.29	0.38
family	2.78	0.5944	5.7	0.6806	19.34	0.2513	23.44	0.2678
celebrities	9.64	0.047*	7.84	0.4493	14.89	0.5326	14.27	0.8166
curiosity	5.47	0.2421	7.37	0.4973	11.79	0.7585	20.74	0.4123
fashion	3.79	0.4349	14.86	0.0619	10.01	0.8659	24.02	0.2413

Note: *$p<0.05$

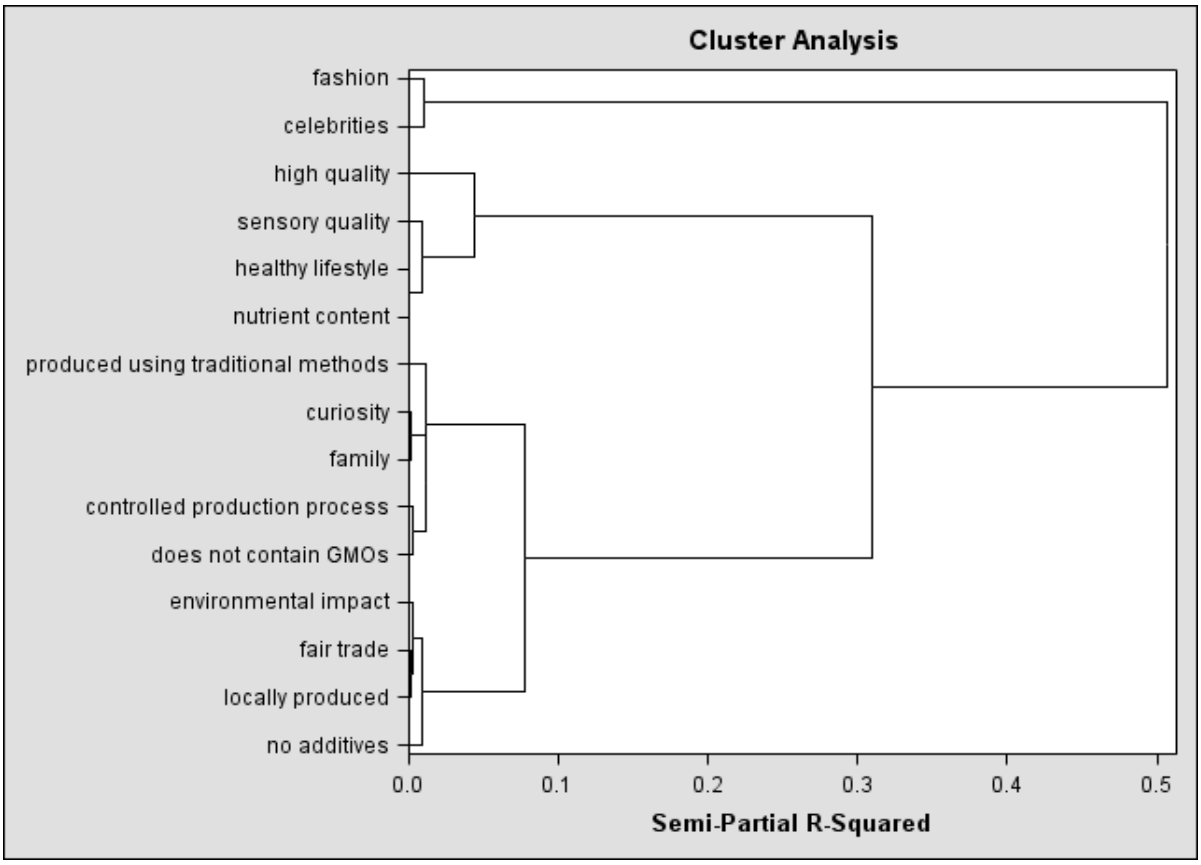

Figure 2 Hierarchical cluster analysis of consumer motivation according to purchasing organic food.

The use of hierarchical cluster analysis helped to distinguish three groups of respondents who make decisions about purchasing organic food based on the same factors. **The first cluster** is the smallest and includes those respondents who, in their purchasing decisions regarding organic food, are guided by fashion, trends, and recommendations of famous people. These are marginalized, niche factors. **The second cluster** consists of respondents for whom the quality of the product, its features, as well as health and traditional production methods, are important. It encompasses factors such as high product quality, nutritional content, sensory quality, healthy lifestyle and production using traditional methods. For this group of respondents, healthy eating and the high quality of products are particularly important. **The third cluster** of respondents includes people for whom social, environmental, and product safety issues are important. The factors that mainly encourage them to buy organic food are: fair trade, locally produced, family, curiosity, environmental impact, absence of GMOs and additives, and controlled production process. The three-cluster solution was selected because it provided a balance between internal cohesion and interpretability. Although no formal validation index (e.g., silhouette coefficient) was computed in this exploratory study, the observed grouping patterns correspond well with theoretically plausible consumer segments identified in previous literature. The selected groups of respondents reveal a diversity of factors influencing their purchases of organic food, and consequently, the motivations for these purchases, which is particularly important when creating marketing strategies aimed at different groups of recipients. In addition, we would like to know the statistical relationship between those for whom the organic food is bought and the characteristics of the Slovak respondents who buy the organic food.

Figure 3 illustrates the purchasing behavior of the respondents, categorized by who in the household makes the purchase of organic food (the respondent themselves or another household member) and for whom the product is intended.

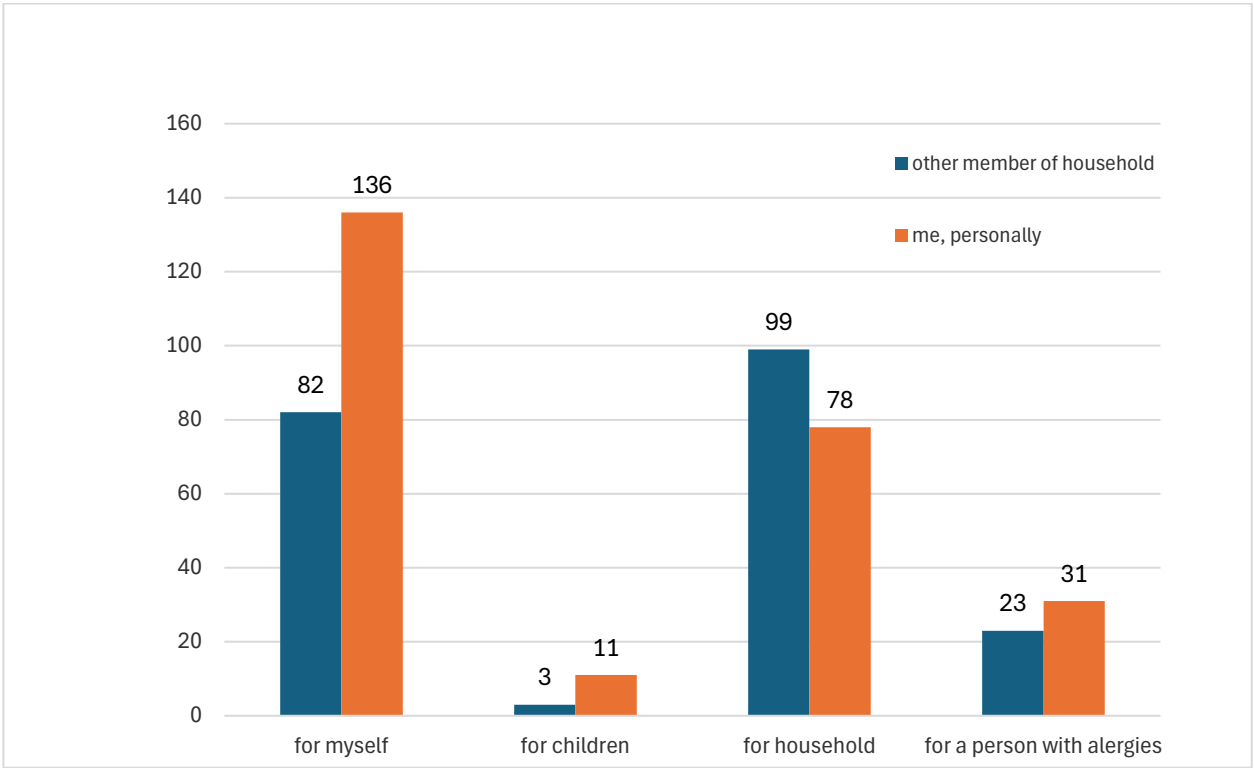

Figure 3 The purchaser and the intended consumer of organic food
Note: The answers do not add up to 100% because respondents could choose more than one answer.

Due to the large scatter of data, it was decided to present the results in numerical (absolute) form rather than as percentages. The categories of recipients observed are: for myself, for the children, for the household, and for a person with allergies. The results show that the most frequent reason for purchasing organic food is the respondent's personal need. More than 130 respondents indicated that they buy the product for themselves, and approximately 80 other cases represent a purchase made by another household member for the respondent. This suggests that the product has strong individual use but is also a valued object within the family. A high number of purchases are also recorded in the "for household" category, where the product is bought both by the respondents (about 80 cases) and by other household members (about 100 cases). This fact demonstrates its universal application in the context of household joint functioning. In the case of purchases for people with allergies, the numbers are lower. However, interestingly, purchases in this category are more likely to be made

by the respondent than by another household member. This may indicate that consumers with allergies tend to be responsible for their own food choices and product preferences. The answer "for children" shows the lowest purchase rate. Only a small number of respondents buy products for children, mostly themselves and only rarely by another member of the household. This may indicate either a lower prevalence of children in respondents' households or that the product is not primarily intended for the children's segment. The statistical relationship between the characteristics of organic food purchasers and their intended consumers in Slovakia is presented in Table 4.

In Figure 3, the results are presented as frequencies, which illustrate the absolute number of responses in each category. However, this approach does not account for differences in subgroup sizes (e.g., respondents with vs. without children), which may affect interpretation. For example, the low frequency of purchases for children is partly attributable to the fact that 75.16% of respondents reported having no children. Normalizing the data—for instance, expressing the proportion of respondents with children who buy organic food for them—would provide a more accurate comparison between groups. This adjustment was not applied in the present analysis but is recommended for future studies. Furthermore, no chi-square tests were calculated for several comparisons shown in the figure, which limits the ability to determine whether observed differences are statistically significant.

Table 4 Statistical relationship between organic food purchasers' characteristics and intended consumers in Slovakia.

Socioeconomic characteristics of the respondents	Responses	Chi^2	p-value
Sex	for myself	0.007	0.9335
	for children	5.31	0.0212*
	for the whole household	0.663	0.4155
	for a person suffering from allergies	0	1
Education	for myself	3.425	0.1804
	for children	2.558	0.2784
	for the whole household	1.914	0.3841
	for a person suffering from allergies	0.289	0.8653
Income	for myself	2.012	0.7335
	for children	0.603	0.9628
	for the whole household	1.168	0.8833
	for a person suffering from allergies	6.331	0.1757
Residence	for myself	3.527	0.6193
	for children	1.072	0.9566
	for the whole household	8.177	0.1467
	for a person suffering from allergies	6.627	0.2499

Note: *p<0.05

The third research hypothesis was confirmed only in the case of sex of the respondents, specifically about whom organic food is purchased, namely children, indicating that a small percentage of Slovak respondents buy organic food for their children.

The objectives of the present study were fully achieved. Namely, it made it possible to investigate the factors influencing the consumption of organic food by Slovak consumers. The study also identified a statistically significant relationship between factors influencing the purchase of organic food and the socioeconomic characteristics of the respondents in Slovakia. Hypothesis 1 of the study, which assumed a relationship between Slovak consumers' buying of organic food and their socioeconomic characteristics, was partially confirmed, indicating that education and income level are the most significant socioeconomic characteristics. A study by Dziekan et al. **[20]** also highlighted the relationship between consumers' willingness to purchase organic products and their educational level. According to Grzybowska-Bezwzińska and Grzywińska-Rapca **[21]**, there is also a relationship between an increase in income attainment and an increase in demand for high-quality food products, which undoubtedly include organic products **[22]**. Environmental awareness requires knowledge and access to accurate and reliable information. The research by Kułyk and Dubicki **[23]** also explores the relationship between education and interest in green consumption. The level of education influences environmental awareness and affects consumer market behaviour, playing a key role in the choice of organic food **[24]**. In studies conducted in

Europe **[25]**, China **[26]**, and the United States **[27]**, it was noted that income level and education level are more important in developed countries where environmental awareness is higher. Consumers have greater access to information about the environmental benefits of choosing organic food. Chinese consumers are more likely to choose organic products due to having a broad knowledge of health **[28]**. At the same time, in Europe and the US there is a greater emphasis on environmental aspects and support for local producers **[29]**, which, due to the higher prices of organic products, is a reflection of higher earnings **[30]**.

Referring to Hypothesis 2, which was established in the study, the assumption was that a statistical relationship existed between the factors influencing the purchase of organic food and the socioeconomic characteristics of the Slovak respondents. The research carried out allowed for partial confirmation. Studies by other researchers also point to the correlations reported in this study, namely Andersen et al. **[31]** in their research on determinants influencing organic food consumption, referred to the relationship between the gender of consumers and the health properties of organic food (no GMOs, no use of artificial fertilisers during production), as well as lifestyle, which is mainly influenced by current trends (e.g., advertising by well-known celebrities). Nagaraj **[32]** also highlighted food security, which is related to factors such as the absence of GMOs affecting the healthiness of consumers surveyed in developed countries. Gunalan et al. **[33]**, in a study conducted in Turkey also highlighted the relationship between the gender of the respondents and the importance of selected influencing factors. In the case of young Turkish consumers, the relationship between gender and income factors was particularly notable. Imami et al. **[34]** partially confirmed the present study among southern European consumers, highlighting the importance of the locality of organic food for young consumers with higher education. Kim and Kim **[35]** presented in their study that the higher a consumer's income, the more important the quality aspects of the food they purchase are to them. Roh et al. **[36]** emphasize the importance of understanding the values associated with green consumption, particularly regarding organic food and trust in such products among Asian consumers in countries where the market for organic products is well-established. In their analysis of secondary data, Gundala and Singh **[37]** refer to such relationships between consumer income and ethical or social motives among US consumers in their study.

Regarding Hypothesis 3, it is worth noting that statistical significance was established in the section on the significance of gender. However, other respondent characteristics, such as education or place of residence, did not show a significant relationship with the purchase of organic products. It can be assumed that the Slovak family model is traditional, with a predominantly divided set of roles within the family, including who is responsible for shopping. Similar results can be found in the study by Wojciechowska-Solis and Smiglak-Krajewska **[38]**, where the authors indicate the relevance of the consumer's gender in home food purchases. Bennet et al. **[39]** indicate, on the other hand, that their study highlights the significance of the gender of the organic food shopper during the COVID-19 pandemic. One could conclude that this phenomenon is still a lingering effect of the pandemic and persists. Janssen et al. **[40]** in their study of European countries (Denmark, Germany, and Slovenia) also highlight the impact of the pandemic on changes in organic food consumption, specifically on the distribution of responsibility for household purchases. Philippe et al. **[41]** in their study also mentioned that the pandemic changed diet patterns among French consumers, leading to an increase in the consumption of organic food among children. Van Bussel et al. **[42]** pointed out, in their analysis of bibliographic data, that most studies on the final consumer of organic food have indicated that the children of the surveyed consumers are the primary focus. Lim & An **[43]** highlighted a crucial factor in their study, namely the trust in organic products among those responsible for household purchases. Castronuovo et al. **[44]** highlighted the relevance of the value of organic food for children and adolescents in the consumer choice of products by the household food buyers of British and Hispanic families. In the market communication process between producers and consumers, it is essential to focus on health aspects, highlighting their impact on family and child health **[45]**.

Returning to the importance of "fashion/celebrity influence" in making purchasing decisions about organic food, due to the marginal significance of this dimension according to the obtained results, it is overlooked by researchers as a factor influencing consumers. In contrast, Phua et al. **[46]** in their work raised issues regarding the influence of vegan influencers on the dissemination of knowledge about this dietary trend in American society among young consumers. It is a good start that celebrities with good eating habits promote the trend among their followers. In turn, Zhou and Ali **[47]** in their research demonstrate the influence of celebrities on society's consumption preferences for street food. Based on the above, one can conclude that influencers have an influence on food markets, but few influencers are promoting organic food. This allows us to conclude that the organic food market is a niche that could be effectively filled by celebrities, who would undoubtedly find their target audience. It is important to realise that the influence of "celebrities" on shopping habits will continue to affect young consumers, mainly from Generations Y and Z, as these two generations are the most frequent users of social media such as Instagram, TikTok, and Facebook, where influencers operate.

CONCLUSION

This research aimed to examine the relationship between the socio-economic characteristics of Slovak consumers and their purchasing behaviour, with particular attention to the factors influencing their decision to buy organic food. The presented study gives partial affirmative answers to the hypotheses. The statistical tests applied reveal the correlations, or lack thereof, between the sociodemographic characteristics studied in the respondents who declared consuming organic products and the selected factors. Based on the chi-square test of independence, results show that the purchase of organic food depends on consumers' income and education levels.

In the case of gender, the significant factors influencing purchasing decisions regarding organic food were nutrient content ($p = 0.0012$), fair trade practices ($p = 0.0051$) and the absence of GMOs in the product ($p = 0.0182$). Regarding the level of education of the respondents, the local nature of the production was a significant factor ($p = 0.006$). In the case of income, the purchasing decisions of the respondents were shaped by the sensory quality of food ($p = 0.0055$) and the ethical and social aspects related to organic food products (fair trade, $p = 0.0365$).

The authors' use of hierarchical cluster analysis to identify three clusters of consumers who make decisions about purchasing organic food based on the same factors. The first cluster was the smallest and included those respondents who, in their purchasing decisions regarding organic food, are guided by fashion, and recommendations of famous people. These are marginalized, niche factors. The second cluster consists of respondents for whom the quality of the product, its features, as well as health and traditional production methods were important. It encompasses factors such as high product quality, nutritional content, sensory quality, healthy lifestyle and production using traditional methods. The third cluster of respondents included people for whom social, environmental, and safety factors were important (fair trade, locally produced, family, curiosity, environmental impact, absence of GMOs and additives, controlled production process).

The results presented in this article provide further answers on consumer behaviour in the organic food market, allowing us to reduce the existing research gap in the literature. These findings provide valuable insights for segmenting the organic food market and for developing product labelling policies and marketing communication strategies. Among the recommendations to increase the consumption of organic food among consumers, the authors propose introducing widespread education on the value of this food. Continuing to emphasise the ethical and environmental benefits of choosing organic food is another demand to improve public awareness of organic food. After years of the COVID-19 pandemic, a period in which much knowledge has been shared about improving the quality of life and health, consumers are aware of the health benefits of organic food. However, they are less aware of its role in protecting the soil, reducing the use of fertilisers and reducing pollution. These aspects should be highlighted in campaigns promoting organic products, e.g., through better product labelling and certification.

Limitation:

The presented study has limitations, including the use of only bivariate analyses in the analysis of the results. The authors propose the development of multivariate models for future research on the topic of organic food research among the Slovak population. The second limitation concerns the multiple chi-square tests applied in this study without adjustment for multiple comparisons. This increases the risk of Type I error, meaning that some statistically significant findings may have occurred by chance. As the study is exploratory in nature, we prioritised detecting potential associations for further investigation. Nonetheless, this limitation should be taken into account when interpreting the results. Furthermore, while we reported p-values, the main text does not display detailed expected versus observed frequencies or standardized residuals; these are available upon request to enable deeper interpretation of the sources of statistical significance. The third limitation was that during the cleaning process, the vast majority of correctly completed questionnaires were completed by women aged 19-26. The obtained results should be generalized with caution, as they cannot represent the opinions of the entire Slovak population.

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