

THE IMPACT OF ECONOMIC AND EDUCATIONAL STATUS ON ORGANIC FOOD PURCHASING: A FOCUS ON ONLINE CONSUMERS

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ABSTRACT

The aim of this research is to examine the impact of consumers economic and educational status on the frequency of organic food purchases through all available distribution channels, with focus on online channels. The research was conducted via online questionnaire and based on sample of 358 respondents from the territory of Republic of Srpska. The results showed that 86% of

respondents buy or occasionally buy organic food, while 14% respond they never purchase organic food. Using Kruskal-Wallis test, a positive and statistically significant relation was identified between the level of education and the frequency of organic food purchases, regardless of the distribution channel, while household income did not show a significant relation. When online organic food purchases were analyzed specifically, neither the level of education or household income had a statistically significant impact, although a slight trend was observed for education level, which may be relevant for future research.

Keywords: organic food, consumer behavior, education, income, online shopping

INTRODUCTION

The growing organic food production and consumption has been a prominent topic in scientific research papers over the past decades. In contemporary society, awareness of the importance of healthy nutrition, environmental protection and sustainable production is becoming increasingly pronounced, with organic food production being grounded precisely on these principles. This type of production offers numerous benefits for human health, environmental protection and sustainable agriculture in general, as it seeks to ensure the long-term preservation of soil, water and biodiversity. Organic products are products cultivated without the use of artificial fertilizers, pesticides, additives or genetically modified organisms. Compared to conventional farming, the organic production is more demanding, often resulting in lower yields and higher product prices.

Although interest in organic food in Bosnia and Herzegovina is rising [1] the factors influencing consumers decisions

regarding its consumption remain diverse and without researcher's consensus. Previous studies most frequently emphasize education attainment, household income level and food availability as a key determinant of purchasing behavior. Consumers habits are reshaped by online commerce expansion, with COVID – 19 pandemics serving as a strong incentive for the use of this distribution channel.

When it comes to the organic food market in the Republic of Srpska, the digital context of organic food consumption has been insufficiently investigated. Therefore, the primary aim of this paper is to examine the role of selected socio-demographic indicators – primarily the level of consumer education and household income related to the consumer decision to purchase organic food, with special focus on online consumers.

LITERATURE REVIEW

Numerous socio-demographic and situational studies have examined the various advantages and barriers associated with purchasing organic food, placing particular emphasis on factors such as consumers level of education, price of organic food and market availability.

Education – the organic food consumption is often in significant and positive relation to a level of consumer education [2], [3], [4]. Those consumers with higher level of education have generally more awareness and pay more attention to a healthy lifestyle. Consequently, they highlight the benefits of consuming organic food as health and environment welfare [5], [6].

Price – due to specific production requirements, organic food is more expensive than conventionally grown. Although some consumers are willing to pay premium price for organic food [6], relatively high prices are one of limiting factors in purchase decisions [7], [5], [8], [9]. Consequently, organic food buyers are more likely to belong to households with higher income levels [2], [6].

Availability – another most often barrier to purchasing organic food relates to insufficient supply and limited market availability [7], [2], [8], [10].

Solution to overcoming the mentioned barriers should be in alternative distribution

channels that would enable easier accessibility of organic products and facilitate price comparability. Online shopping offers certain advantages over conventional instore shopping. This form of purchase allows consumers to compare product prices and browse a wide range of available items [11] with convenience, practicality and time efficiency serving as motivating factors [12]. Agricultural products are no exception to online trade; however, research indicates that digital marketing in this sector is still in its early stages of development [13].

The COVID-19 pandemic fundamentally changed consumer behavior [14], [15], forcing many people to adopt online shopping practices [16]. In Serbia, this shift resulted in a growing number of consumers purchasing organic food online [17], although their share within the overall sample remained relatively small and like findings in Romania [18]. In Bosnia and Herzegovina, customers are becoming increasingly accepting the Internet technologies and e-commerce [19] stating that the dominant reason for making a purchase decision are a positive experience with the manufacturer/seller while the lack of trust is still an issue especially when it comes to online payments.

To gain a better understanding of the online organic food market, it is necessary to deepen knowledge about its users [20], especially their socio-demographic profiles and the reason that have influence on their decision to purchase or not to purchase organic food online. Based on the assumption that consumers with higher level of education tend to have higher income, greater purchasing power, stronger awareness of health benefits and a higher tendency to use modern technologies and engage in online shopping, the following hypothesis are proposed:

H1: There is a significant and positive relationship between level of education and organic food purchase.

H2: There is a significant and positive relationship between household income level and organic food purchase.

H3: There is a significant and positive relationship between level of education and online organic food purchase.

H4: There is a significant and positive relationship between household income level and online organic food purchase.

METHODOLOGY SECTION

The research is based on a questionnaire composed of several sections. In the first section, respondents were asked questions designed to obtain their socio-demographic profiles. The second section explored respondents purchasing habits, the frequency of purchasing organic food, as well as their reasons for and against such purchases. In addition, respondents were asked to evaluate the diversity and quality of organic food available to them. The third section referred exclusively to online purchasing channels, with clarification that these included purchases made via web shops, social networks and messaging applications such as Viber and WhatsApp.

The questionnaire was developed based on previous research conducted on the same or similar topics [21], [22]. The survey was carried out from July 2024 to February 2025. It was distributed online and completed by 421 respondents. All questions were close-ended, allowing one or multiple responses. To successfully complete the questionnaire, respondents were required to answer all questions, therefore no missing responses were recorded in the dataset.

The data were analyzed using inferential statistical methods and conclusions were drawn through synthesis. From the total number of the respondents, those who answered that they do not reside in the Republic of Srpska were excluded. Consequently, the final sample consisted of 358 respondents residing in the Republic of Srpska.

The sample was obtained using non-probability and voluntary response sampling because the questionnaire was distributed online through social networks and emails. Therefore, the respondents were self-selected and no preselection or quota system was applied prior the survey, except for filtering respondents based on their place of residence. The structure of the sample, in terms of socio-demographic characteristics, may not fully correspond to the population structure of the Republic of Srpska.

The reliability of the sample was tested using Cronbach's alpha coefficient $\alpha = 0,203$. Descriptive statistics were applied to analyses the socio-demographic characteristics of the sample (Table 1). The results indicated that the gender distribution was not uniform (most respondents were female), exhibiting significant negative skewness and a flattened distribution, with women representing 72,3% of the sample and men 27,7%.

Level of education showed moderate negative skewness and slightly increased kurtosis, indicating that larger number of respondents held middle and higher education degrees, with a concentration of responses around the central values. The level of education was measured according to the degree of formal education (no formal education - NFE, primary school - PRI, secondary school- SEC, higher or university degree - UNI).

Household size demonstrated moderate negative skewness and high kurtosis, suggesting that respondents generally lived in larger households with three or four members, but none of the household categories was dominant.

The income variable was formulated to capture the total household income, from all household members: salaries, scholarships, pensions, rents, agricultural income and all other sources. The respondents selected the income group to which their household belonged. The results revealed moderate negative skewness and flattened distribution, indicating that most respondents belonged to higher income categories, although the respondents were widely distributed.

The age variable showed an almost symmetric distribution with significant kurtosis, suggesting an even distribution of ages among respondents. The average age was approximately 30 years, with standard deviation of $\sigma = 1.061$, indicating moderate dispersion around the mean.

The employments/work status variable showed an almost symmetric and normal distribution, implying no significant deviations and no dominant response category. Work status was categorized into five categories: students – STU, unemployed – UNE, employes

in private sector – PRI, employed in public sector – PUB, retired – RET.

Based on the frequency of organic food consumption, the respondents were segmented into three groups:

- respondents who reported consuming organic food,
- respondents who purchase organic food occasionally and

- respondents who reported they do not purchase organic food.

Each group is consisted of distinct respondents and the hypothesis were tested using the nonparametric Kruskal-Wallis test.

Table 1. Descriptive statistics

		Gender	Education level	Household members		Household income level (in BAM)		Age		Work status	
Number	Male 99	NFE	2	1	19	up 1.000	29	up 20	8	STU	9
		PRI	6	2	56	1.001-2.000	80	21-30	46	UNE	37
		SEC	171	3	81	2.001-3.000	118	31-40	108	PRI	164
	Female 259	UNI	4	136	3.001+	131	41-50	107	PUB	117	
		179	5	66		51 +	89	RET	31		
	Total	358	358	358	358	358	358	358	358		358
Percentage	Male 27,7%	NFE	0,6%	1	5,3%	up 1.000	8,1%	up 20	2,2%	STU	2,5%
		PRI	1,7%	2	15,6%	1.001-2.000	22,3%	21-30	12,8%	UNE	10,3%
		SEC	47,8%	3	22,6%	2.001-3.000	33,0%	31-40	30,2%	PRI	45,8%
	Female 72,3%	UNI	4	38,0%	3.001+	36,6%	41-50	29,9%	PUB	32,7%	
		50,0%	5	18,0%		51 +	24,9%	RET	8,7%		
	Modus	1.72	3.47	3.49	6.98		3.62				3.35
Median		2.00	3.50	4.00	7.00		4.00				3.00
SD		.448	.563	1.120	.957		1.061				.871
Var		.201	.317	1.253	.916		1.126				.759
Skewness		-1.003	-.647	-.477	-.520		-.304				-.173
Kurtosis		-.999	.522	-.560	-.777		-.699				.186

The segmented sample was subject to correlation analysis for the socio-demographic parameters household income level and education level and with aim to test hypothesis H1 and H2.

In the next stage, a subsample of 308 respondents was extracted from the initial

sample of 358, consisting only of those who reported purchasing organic food regularly or occasionally. Respondents who stated that they did not purchase organic food were excluded from further analysis. The subsample was used to examine the frequency of purchasing organic food exclusively through online

channels. Correlation analyses were again performed between respondents who reported purchasing organic food online and the socio-demographic variables household income level and education level. Hypothesis H3 and H4 were also tested using the nonparametric Kruskal-Wallis test.

RESULTS AND DISCUSSION

The main research question of this study is to identify the impact of economic and educational status on consumers decision to purchase organic food, especially the impact of household income and educational level on the decision to purchase organic food trough all distribution channels and particularly trough online channels.

The respondents were asked "Do you purchase organic food?" (Table 2) and 73 respondents (20,4%) answered positively, 235 respondents (65,6%) stated that they occasionally purchase organic food and 50 respondents (14%) reported that they never purchase organic food.

Table 2. Frequency of purchasing organic food in Republic of Srpska

Frequency	Number	Percentage
Yes	73	20,40%
Occasionally	235	65,60%
Never	50	14,00%
Total:	358	100,00%

First and second group together show that 308 respondents (86%) of all the sample purchase or occasionally purchase organic food, what is in the line with previous research conducted in Republic of Srpska (Galić, 2022), although there is a noticeable decrease in the share of regular consumers and an increase in

those who reported not purchasing organic food.

By applying the Kruskal-Wallis test, the relationship between the frequency of organic food purchase (as the dependent variable) and the socio-demographic parameters education level and household income was examined. The analysis revealed (Table 3) a positive and statistically significant relationship for the education level variable and a positive but statistically insignificant relationship for household income level. Therefore, the level of education has a positive and significant effect on the frequency of organic food purchases what is in the line with previous studies [23], [24], [2], Individuals with a higher education levels tend to have greater knowledge and awareness regarding the importance of healthy eating as well as a stronger interest in maintaining a healthy lifestyle [25].

When analyzing the second variable, the results show that the household income level is not a significant factor influencing the frequency of organic food purchases. This finding is not in the line with previous studies [23], [24], [26], [27], which identified a positive relationship between income level and organic food consumption, explaining that consumers with the higher income level have greater purchasing power and are more willing to pay higher prices for organic products, which are generally more expensive than conventionally produced alternatives.

The results confirm Hypothesis H1 and reject Hypothesis H2:

H1: There is a significant and positive relationship between level of education and organic food purchase – is confirmed.

H2: There is a significant and positive relationship between household income level and organic food purchase – is rejected.

Table 3. Differences in the frequency of organic food purchase

Results of Kruskal - Wallis test	
Variable	Do you purchase organic food?
Education level	$c^2 (df=3, n=358) = 8,116; p=0,044$
Household income level	$c^2 (df=3, n=358) = 5,574; p=0,134$

When the same technique was applied to the subsample of respondents who regularly or occasionally purchase organic food (n=308), with the dependent variable being question "Have you purchased organic food online?" and the same socio-demographic parameters

(education level and household income), the results showed that none of the parameters was statistically significant (Table 4). However, the variable education level had a p-value of 0.090, suggesting a mild trend that could potentially reach statistical significance in a larger sample.

Table 4. Differences in the frequency of online organic food purchase

Results of Kruskal - Wallis test	
Variable	Do you purchase organic food online?
Education level	c^2 (df=3, n=308) =6.491; p=0,090
Household income level	c^2 (df=3, n=308) =0.310; p=0,958

These results indicate that, within the observed sample, both education level and household income do not significantly affect the frequency of purchasing organic food through online channels, leading to rejection of Hypothesis H3 and Hypothesis H4:

H3: There is a significant and positive relationship between level of education and online organic food purchase – is rejected.

H4: There is a significant and positive relationship between household income level and online organic food purchase – is rejected.

Comparable but opposite results were obtained in a 2020 study conducted in Republic of Serbia [17], where both parameters showed positive and significant effects on online organic food purchasing. Similarly, studies from Italy [28] and Czech Republic [29] found that education level influences consumers decisions to buy organic food online, as higher-educated consumers exhibit greater awareness and interest in healthy lifestyles [25]. Furthermore, online organic food buyers in Poland [30], Italy [28] and Czech Republic [29] were predominantly from higher income groups.

Given the discrepancy between these findings and previous studies, the reasons for the observed results may lie in the specific characteristics of the local market, the overall availability of online organic food stores or the limited size of the examined sample.

CONCLUSION

The findings of this study indicate that consumers education level has a statistically

significant impact on the frequency of purchasing organic food, while economic status measured by total household income, does not show a significant relationship. The hypothesis that higher education increases the likelihood of purchasing organic products was confirmed, aligning with prior regional studies. In contrast, the results are opposite from earlier research that identified income as a key determinant of such consumer behavior.

When focusing especially on online distribution channels of organic food, the results show that neither education level nor household income level has statistically significant effect. Considering the relatively small sample of online buyers what is a key limitation of this study, attention should be given to the mild trend observed for the education level variable that has could reach significance in a larger sample.

Further and more extensive research is therefore necessary to validate or challenge these findings. Future studies could also incorporate a wider set of variables to construct a more detailed profile of online organic food consumers.

This research contributes to a better understanding of the behavior of organic food consumers, particularly online shoppers. In an era where more individuals are choosing healthy and sustainable products, identifying the factors that encourage or limit such purchases have very high importance.

The findings of this research may be valuable to organic food producers, retailers or other stakeholders involved in the organic food

market of the Republic of Srpska. The scientific contribution of this research lies in the fact that it represents the first analysis of this kind conducted in the observed territory, forming a basis for the future studies both regionally and internationally.

DECLARATIONS OF INTEREST STATEMENT

The authors affirm that there are no conflicts of interest to declare in relation to the research presented in this paper.

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