



Individual customers characteristics and types of organic food

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ABSTRACT

There is an increasing emphasis on a healthy lifestyle nowadays, so more and more people starting to buy organic food. The organic food market is getting richer with different types of organic food, so people are buying increasingly more organic products. This paper examines the relationship that exists between different types of organic foods and certain consumer characteristics. More specifically, it is examined how often people buy food of organic origin, as well as the potential differences in organic food purchasing habits among people who have a different level of education, income, and different place of residence. In the current research the sample consists of 600 respondents, of different education, income and place of residence. Data were processed using SPSS program version 26. In addition to descriptive statistics, non-parametric techniques such as the Kruskal-Wallis test and the Mann-Whitney U test were used to determine differences in scores between measured variables, due to the distribution of scores significantly deviating from normality. The results showed that in the Republic of Serbia, fruits and vegetables of organic origin are bought the most, while sweets of organic origin are bought the least. Organic food buyers with the highest income and level of education most often decide to buy fruits and vegetables, milk and milk products, and bread and cereals of organic origin. Milk and milk products of organic origin are the most common choice for buying organic food products among buyers from urban areas.

Keywords: types of organic food, customers, income, education, place of residence, buying.

ИЗВОД

Данас се све већи акценат ставља на здрав начин живота, па све више људи почиње да купује органску храну. Тржиште органске хране је све богатије различитим врстама органске хране, па се људи чешће одлучују за куповину органских производа. У раду се испитује однос који постоји између различитих врста органске хране и одређених карактеристика потрошача. Тачније испитује се колико често потрошачи купују храну органског порекла, као и потенцијалне разлике у навикама куповине органске хране код људи који су различитог нивоа образовања, прихода и места становања. Узорак у актуелном истраживању чини 600 испитаника, различитог пола, старости, образовања, прихода и места становања. Подаци су обрађени помоћу СПСС програма верзије 26. Поред дескриптивне статистике, коришћене су непараметарске технике као што су Крускал-Валисов тест и Ман-Вхитнеи У тест за одређивање разлика у скоровима између мерених варијабли, због дистрибуције скорова на варијаблама које значајно одступају од нормале. Резултати су показали да се у Републици Србији највише купују воће и поврће органског порекла, док се најмање купују слаткиши органског порекла. Купци органске хране са највишим примањима и степеном образовања најчешће се одлучују за куповину воћа и поврћа, млека и млечних производа и хлеба и житарица органског порекла. Млеко и млечни производи органског порекла су најчешћи избор куповине производа органске хране код купаца из урбаних подручја.

Кључне речи: Врсте органске хране, потрошачи, приходи, образовање, место становања, куповина.

1. Introduction

The Covid-19 pandemic has influenced people to pay more attention to healthy nutrition, and therefore to buy an healthy foods. There is an increasing emphasis on a healthy lifestyle nowadays, so more and more people starting to buy organic food. The organic food market is getting richer with different types of organic food, so people are increasingly buy organic products. Also, a very stressful business environment favors the increased purchase of organic food due to people's concerns about their own health (Čolović et al., 2022).

In addition to the classic purchase of organic products due to the Covid-19 Pandemic, an increasing number of consumers decide to purchase these products online (Mitić and Čolović, 2023b). This leads to an increase in the value of this market and thus to a higher profit and liquidity for producers of organic food (Mitić and Čolović, 2023a; Mitić and Čolović, 2023c). With the increase in the profits of producers and sellers of organic food, their motivation to provide consumers with a wider range of available organic products, primarily organic foods, also increases.

This paper examines the relationship that exists between different types of organic foods and certain consumer characteristics. More specifically, it is examined how often people buy food of organic origin,

as well as the potential differences in organic food purchasing habits among people who have a different level of education, income, and different place of residence.

Given that health is the main motive in making a purchase decision among consumers in Serbia (Čolović and Mitić, 2021; Čolović and Mitić, 2022), in Jordan (Lillywhite et al., 2013), in Denmark (Ditlevsen et al., 2019), in Vietnam (Pham et al., 2018), in the USA (Shin et al., 2018) and Tunisia (Nedra et al., 2015), as well as other countries (Bruschi et al., 2015; Dumortier et al., 2017; Hasimu et al., 2017; Petrescu et al., 2016; Vega-Zamora et al., 2014) it is not surprising that the demand for organic food is constantly growing. The increased demand for organic foods is also influenced by factors such as: concern for the environment (Apaolaza et al., 2018; Asif et al., 2018; Cabuk et al., 2014; Janssen, 2018), animal welfare (Akaichi et al., 2019; Pouta et al., 2010; Zander and Hamm, 2010), local economy (Feldmann and Hamm, 2015; Radić and Canavari, 2014; Schrank and Running, 2018; Wägeli and Hamm, 2016), taste and quality of organic food (Nagy-Pércsi and Fogarassy, 2019; Petrescu et al., 2016; Tobler et al., 2011) and different psychological factors and subjective norms (Puska et al., 2018; Singh and Verma, 2017; Thøgersen et al., 2016).

One of the main factors influencing consumers to buy less organic compared to conventional food is its significantly higher price compared to conventional food (Götze et al., 2016; Jansen, 2018; Shafie and Rennie, 2012; Van Doorn and Verhoef, 2015). As potential barriers in the literature are also mentioned factors such as: distrust in certification (Torres-Ruiz et al., 2018; Zvěřinová et al., 2011), distance and low availability of organic food stores (Aertsens et al., 2011; Bryła, 2018; Henryks et al., 2014), poor packaging and inability to differentiate organic food products (Żakowska-Biemans, 2011; Predanociová et al., 2018) as well as the lack of information (Meyer et al., 2015; Roitner-Schobesberger et al., 2008; Vukasovic, 2016).

Income are positively related to purchases, so with an increase in income people more often decide to buy an organic food and produced (Dumortier et al., 2017; Ćirić et al., 2020; Hamzaoui-Essoussi and Zahaf, 2012; Janssen, 2018; Mitić and Čolović, 2022a; Nandi et al., 2017; Rizzo et al., 2020). Also, a higher educational level contributes to greater and more frequent purchases of organic foods (Annunziata et al., 2019; Demirtas, 2019; Hashem et al., 2018; Husic-Mehmedovic et al., 2017; Mitić and Čolović, 2022a; Mitić and Čolović, 2022b; Nandi et al., 2017; Shamsollahi et al., 2013; Singh and Verma, 2017; Stamer, 2018). Besides, customers who live in urban areas buy organic foods more often than those from rural areas (Hamzaoui-Essoussi and Zahaf, 2012; Kranjac et al., 2017; McCarthy et al., 2016; McEachern and Willock, 2004; Mitić and Čolović, 2022b).

Most consumers believe that organic food is healthier, safer, high nutritious, tastier and more natural than conventional food (Dahm et al., 2009). Bryła conducted a research in Poland on a sample of 1000 respondents, and its results showed that Polish consumers consider organic food to be more expensive, healthier, more environmentally friendly, tastier and more authentic than conventional food. According to the same research, over 85% of consumers in Poland buy organic food in general, but in terms of frequency, 7% of respondents often buy organic food, 23.8% fairly

often, 37.8% occasionally, while 16.7% rarely buy organic food (Bryła, 2016). It is quite interesting that 17% of the Polish population buys about 76% of the value of organic products sold on the organic market according to research results (Rödiger and Hamm, 2015). The results of another research conducted among consumers in Poland showed that the most consumed organic food are vegetables and fruits, followed by meat and dairy products (Soroka and Wojciechowska-Solis, 2019).

The results of a research conducted in India (Chandrashekar, 2014) showed that consumers of organic food mostly buy organic fruits and vegetables 42%, processed products of organic origin 23%, then milk and dairy products 16% and finally cereals and legumes about 5%. As mentioned, the situation is similar in Poland, where almost half of organic food buyers buy organic fruits and vegetables (47.5%), followed by dairy products, meat products, followed by bakery and confectionery products, while in last place are organic alcoholic beverages and ready meals (Bryła, 2016). When it comes to respondents in Poland, who are physically very active, eggs are in first place among organic products, followed by fruits and vegetables, meat and meat products, while cow's milk and their products are in last place (Soroka and Wojciechowska-Solis, 2019). According to research conducted in Sweden (Magnusson et al., 2015) on a sample of 2,000 respondents the frequency of purchases is very low, although the majority of respondents have a positive attitude towards organic food. The results of this research showed that about 49% of respondents never buy organic milk, 26% of respondents never buy organic meat, 24% of respondents never buy organic bread and 23% of respondents never buy organic potatoes.

In Serbia in 2013, there was a low frequency of buying organic food, considering that 71.7% of consumers stated that they rarely or never buy organic food (less than once a week), while only 28.3% of consumers buy organic food more often (at least once a week according to research results (Đokić et al., 2014). Opposite results were obtained by group of researchers, according to which even 78.1% of respondents use organic food in their nutrition (Kranjac et al., 2017). According to the same research, fruits and vegetables are the most purchased organic food, followed by cereals and meat, while seeds, flour and oils of organic origin are the least purchased. An interesting fact is that 14.4% of respondents have never bought organic food, while 85.6% have bought an organic branch at least once, according to the results of a research conducted in Serbia in 2015 (Vehapi and Dolićanin, 2016). According to the same research, the largest number of respondents rarely buy organic food, 45.3%, while only 13.8% of respondents regularly buy organic food, which is in line with the research according to which the largest number of respondents rarely buy organic food (Vlahović et al., 2011). This is also confirmed by another research (Mitić and Čolović, 2022a), according to which about 28% of respondents never buy organic food, about 53% of consumers do so rarely (once a month or a week), while only 20% of consumers buy organic food regularly (daily or several times a week). Despite this, the organic industry is constantly growing, becoming an increasingly important part of the food industry and promoting its development and growth (Mitić et al., 2018).

2. Materials and methods

The main goal of this research is to determine which type of organic food is bought the most by consumers in Serbia. It is also examined whether there is a differences in purchaissing when it comes to the different types of organic food between groups of people that have certain demographic characteristics. Given that there are a large number of different types of organic food, the authors have included those types of organic food that are most often purchased by consumers. Organic food is divided into six main categories: fruits and vegetables, meat and meat products, bread and cereals, milk and milk products, eggs and sweets of organic origin.

Data for research purpose were collected via questionnaire that was filled out online and in present by consumers in Serbia. This questionnaire was used by the authors of this paper in previous research and its metric characteristics proved to be suitable for

examining the characteristics of consumers of organic food (Čolović and Mitić, 2021; Mitić and Čolović, 2022a,b, Mitić and Čolović, 2023a,b). In the current research, Cronbach's α was 0.85. The questionnaire consists of 20 items in the form of a five-point Likert scale related to the purchase of organic food. The sample in the current research consists of 600 respondents, of different educational level, age, income and place of residence (table 1). The research was conducted from January to December 2022. It included respondents from main regions of Serbia: Belgrade, Vojvodina, eastern and southern Serbia, western Serbia and Šumadija. Data were processed using SPSS program version 26. In addition to descriptive statistics, non-parametric techniques such as the Kruskal-Wallis test and the Mann-Whitney U test were used to determine differences in scores between measured variables, due to the distribution of scores significantly deviating from normal.

Table 1.
Socio-demographic characteristics of the respondents

| Socio-demographic characteristics | N | Percentage |
|-----------------------------------|-----|------------|
| Gender | | |
| Male | 150 | 25 |
| Female | 450 | 75 |
| <i>Total</i> | 600 | 100 |
| Age | | |
| From 18 to 24 years | 114 | 19 |
| From 25 to 39 years | 276 | 46 |
| From 40 to 64 years | 185 | 30.8 |
| Over 65 years | 25 | 4.2 |
| <i>Total</i> | 600 | 100 |
| Education | | |
| Primary school | 15 | 2.5 |
| High school | 215 | 35.8 |
| Higher school/vocational studies | 63 | 10.5 |
| Faculty/master studies | 280 | 46.7 |
| PhD | 27 | 4.5 |
| <i>Total</i> | 600 | 100 |
| Income | | |
| Below average | 63 | 10.5 |
| Average | 480 | 80 |
| Above average | 57 | 9.5 |
| <i>Total</i> | 600 | 100 |
| Employment | | |
| Unemployed | 189 | 31.5 |
| Contract employees | 104 | 17.5 |
| Permanent employees | 248 | 41 |
| Retired | 17 | 3 |
| Own business | 42 | 7 |
| <i>Total</i> | 600 | 100 |
| Area | | |
| Urban area | 510 | 85 |
| Rural area | 90 | 15 |
| <i>Total</i> | 600 | 100 |

3. Results and discussion

The research results showed that fruits and vegetables clearly the most (63%), followed by meat and meat products (13%) and bread and cereals (10%)

of organic origin are the most purchased by consumers in Serbia. The least purchased foods of organic origin in Serbia are milk and milk products (6%), followed by eggs (5%) and finally sweets (3%) (Table 2).

Table 2.
Prevalence of buying different types of organic food

| Types of organic food | Frequency | Percentage |
|------------------------|-----------|------------|
| Fruits and vegetables | 376 | 63 |
| Meat and meat products | 77 | 13 |
| Bread and cereals | 61 | 10 |
| Milk and milk products | 37 | 6 |
| Eggs | 33 | 5 |
| Sweets | 16 | 3 |
| Total | 600 | 100 |

The potential reason that organic fruits and vegetables from organic products are bought the most can be the fact that food of organic origin is bought most often by consumers who take care of a proper nutrition and have a healthy lifestyle (Goetzke and Spiller, 2014), and vegetables and fruit are the most often recommended for this purpose by doctors and nutritionists as well as by a large part of the public.

The results of this research are in accordance with the research conducted in our and the nearest markets (Cerjak et al., 2010; Kranjac et al., 2017; Radman, 2005; Vlahović et al., 2011; Vehapi and Dolicanin, 2016), as well as in India (Chandrashekar, 2014), and in Poland (Bryła, 2016; Soroka and Wojciechowska-Solis, 2019) according to which fruits and vegetables are the most consumed among organic food consumers.

Table 3.
The result of the Kruskal-Wallis test – the significance of the obtained differences

| | Fruits and vegetables | Meat and meat products | Milk and milk products | Eggs | Bread and cereals | Sweets |
|----------|-----------------------|------------------------|------------------------|-------|-------------------|--------|
| χ^2 | 12.390 | 7.634 | 63.253 | 3.859 | 11.323 | 6.213 |
| df | 4 | 4 | 4 | 4 | 4 | 4 |
| Sig. | .004 | .106 | .000 | .425 | .028 | .184 |

Group variable: Income

The size of the obtained differences in scores shows that there is a statistical significance between the level of income and the purchase of organic fruits and vegetables ($\chi^2 = 12.390$; $P < 0.01$), bread and cereals of organic origin ($\chi^2 = 11.323$; $P < 0.05$), as well

as milk and milk products ($\chi^2 = 63.253$; $P < 0.01$) (Table 3).

No statistically significant differences were obtained between the level of income and the purchase of meat, eggs and sweets of organic origin.

Table 4.
Differences in purchasing types of organic food in relation to respondents' income

| Types of organic food | Income | N | MR |
|------------------------|---------------|-----|--------|
| Fruits and vegetables | Below average | 63 | 235.44 |
| | Average | 480 | 301.48 |
| | Above average | 57 | 348.20 |
| | Total | 600 | |
| Meat and meat products | Below average | 63 | 306.16 |
| | Average | 480 | 270.36 |
| | Above average | 57 | 289.50 |
| | Total | 600 | |
| Milk and milk products | Below average | 63 | 261.17 |
| | Average | 480 | 323.92 |
| | Above average | 57 | 379.33 |
| | Total | 600 | |
| Bread and cereals | Below average | 63 | 272.50 |
| | Average | 480 | 293.79 |
| | Above average | 57 | 331.41 |
| | Total | 600 | |
| Eggs | Below average | 63 | 301.51 |
| | Average | 480 | 284.15 |
| | Above average | 57 | 337.75 |
| | Total | 600 | |
| Sweets | Below average | 63 | 312.94 |
| | Average | 480 | 291.41 |
| | Above average | 57 | 293.15 |
| | Total | 600 | |

The results indicates that with higher income the purchase of organic fruits and vegetables increases, so consumers with the lowest income buy organic fruits and vegetables the least (MR=235.44), followed by those with average income (MR=301.48), while consumers with the highest income do this most often (MR=348.20). The same tendency was registred in the purchase of milk and milk products (MR=379.33), the most prevalent is in the group of consumers with the highest income, (MR=323.92), followed by those with medium income, while the lowest level is measured among consumers with the lowest income (MR=261.17). Also, income proved to be at statistically significant level when it comes to buying bread and cereals of organic origin, where consumers with the

highest income do so most often (MR=331.41), followed by consumers with average income (MR=293.79), while this purchase is the lowest among people with below average income (MR=272.50) (Table 4).

The obtained results are in accordance with group of research according to which consumers with higher income buy organic foods more often (Dumortier et al., 2017; Ćirić et al., 2020; Janssen, 2018; Mitić and Čolović, 2022a; Mitić and Čolović, 2022b; Nandi et al., 2017; Rizzo et al., 2020). A potential explanation for this could be that consumers with higher income can more easily spend more money on buying food in general, and therefore on organic food, which price is significantly higher than conventional food.

Table 5.
Mann-Whitney U test results – differences by place of residence

| | Fruits and vegetables | Meat and meat products | Milk and milk products | Eggs | Bread and cereals | Sweets |
|-----------------------|-----------------------|------------------------|------------------------|----------|-------------------|-----------|
| Mann-Whitney U | 19270.500 | 21156.00 | 14174.00 | 20739.00 | 19907.500 | 20856.000 |
| Sig. | .119 | .952 | .000 | .621 | .325 | .641 |

There are statistically significant differences in the results between consumers living in rural and urban

areas when it comes to buying milk and milk products of organic origin ($U = 24470.500$; $P < 0.01$) (Table 5).

Table 6.
Differences by the area when it comes to buy of certain type of organic food

| Types of organic food | Area | N | MR | ΣR |
|------------------------|--------------|-----|--------|------------|
| Fruits and vegetables | Rural area | 90 | 324.49 | 26608.50 |
| | Urban area | 510 | 296.70 | 153691.50 |
| | <i>Total</i> | 600 | | |
| Meat and meat products | Rural area | 90 | 299.50 | 24559.00 |
| | Urban area | 510 | 300.66 | 155741.00 |
| | <i>Total</i> | 600 | | |
| Milk and milk products | Rural area | 90 | 284.38 | 27812.00 |
| | Urban area | 510 | 339.17 | 152488.00 |
| | <i>Total</i> | 600 | | |
| Eggs | Rural area | 90 | 306.58 | 25139.50 |
| | Urban area | 510 | 299.54 | 155160.50 |
| | <i>Total</i> | 600 | | |
| Bread and cereals | Rural area | 90 | 316.73 | 25971.50 |
| | Urban area | 510 | 297.93 | 154328.50 |
| | <i>Total</i> | 600 | | |
| Sweets | Rural area | 90 | 295.85 | 24259.50 |
| | Urban area | 510 | 301.24 | 156040.50 |
| | <i>Total</i> | 600 | | |

Based on the obtained results, it can be concluded that consumers from urban areas buy more milk and milk products of organic origin (MR=339.17), compared to consumers from rural areas (MR = 284.38) (Table 6).

The obtained results are in accordance with the results of certain research according to which buyers of organic food mostly live in urban areas (Hamzaoui-Essoussi and Zahaf, 2012; Kranjac et al., 2017;

McCarthy et al., 2016; McEachern and Willock, 2004; Mitić and Čolović, 2022b).

The reason for the more frequent purchase of milk and milk products of organic origin by consumers from urban areas may be the easier availability of these products as well as better information among these consumers about the importance and significance of organic food for their health.

Table 7. The result of the Kruskal-Wallis test – the significance of the obtained differences

| | Fruits and vegetables | Meat and meat products | Milk and milk products | Eggs | Bread and cereals | Sweets |
|----------|------------------------------|-------------------------------|-------------------------------|-------------|--------------------------|---------------|
| χ^2 | 15.935 | 4.291 | 11.869 | 4.584 | 14.199 | 6.213 |
| df | 4 | 4 | 4 | 4 | 4 | 4 |
| Sig. | .003 | .368 | .018 | .333 | .007 | .184 |

Group variable: Education

The size of the obtained differences in the scores shows that there is a statistical significance in scores between the level of education and the purchase of fruits and vegetables ($\chi^2 = 15.935$; $P < 0.01$), milk and

milk products ($\chi^2 = 11.869$; $P < 0.05$), as well as bread and cereals ($\chi^2 = 14.199$; $P < 0.01$) of organic origin (Table 7).

Table 8. Differences in buying different types of organic food in relation to Education

| Types of organic food | Education | N | MR |
|-------------------------------|----------------------------------|----------|-----------|
| Fruits and vegetables | Primary school | 7 | 280.39 |
| | High school | 221 | 285.75 |
| | Higher school/vocational studies | 61 | 286.50 |
| | Faculty/master studies | 293 | 303.78 |
| | PhD | 18 | 348.87 |
| | <i>Total</i> | 600 | |
| Meat and meat products | Primary school | 7 | 343.93 |
| | High school | 221 | 311.90 |
| | Higher school/vocational studies | 61 | 315.95 |
| | Faculty/master studies | 293 | 286.46 |
| | PhD | 18 | 319.78 |
| | <i>Total</i> | 600 | |
| Milk and milk products | Primary school | 7 | 287.74 |
| | High school | 221 | 297.93 |
| | Higher school/vocational studies | 61 | 303.36 |
| | Faculty/master studies | 293 | 311.39 |
| | PhD | 18 | 374.75 |
| | <i>Total</i> | 600 | |
| Bread and cereals | Primary school | 7 | 277.28 |
| | High school | 221 | 408.14 |
| | Higher school/vocational studies | 61 | 316.23 |
| | Faculty/master studies | 293 | 306.53 |
| | PhD | 18 | 392.28 |
| | <i>Total</i> | 600 | |

| | | | |
|---------------|----------------------------------|-----|--------|
| Eggs | Primary school | 7 | 245.14 |
| | High school | 221 | 290.80 |
| | Higher school/vocational studies | 61 | 316.17 |
| | Faculty/master studies | 293 | 301.92 |
| | PhD | 18 | 363.06 |
| | <i>Total</i> | 600 | |
| Sweets | Primary school | 7 | 283.29 |
| | High school | 221 | 289.81 |
| | Higher school/vocational studies | 61 | 333.89 |
| | Faculty/master studies | 293 | 298.14 |
| | PhD | 18 | 363.78 |
| | <i>Total</i> | 600 | |

In order to determine the differences in scores between a larger number of groups of respondents, the Kruskal-Wallis test was applied. The results show that, when it comes to organic fruits and vegetables and milk and milk products, people with higher level of education tend to buy this products the most (Table 8). Most precisely, people with a doctorate are the category that buys the most organic fruits and vegetables (MR=348.87), then there are those with a master degree (MR=303.78), followed by group with higher education and professional studies (MR=286.50). People with the lower level of education are in the last place: those who finished secondary school (MR =285.75) and those with only primary school (MR =280.39). An identical situation is present when milk and milk products are taken into account. People with doctorate purchase these items the most (MR=374.75), then those who has Faculty or Master study degree (MR=311.39), followed by those with professional studies (MR=303.36), high school (MR=297.93) and primary school education (MR=287.74). As for the organic bread and cereals, the situation is slightly different. People who finished high school buy the most (MR=408.14). They are followed by those with the highest level of education (MR=392.28), and those who have vocational studies (MR=316.23). Next are then those who finished basic or master's studies (MR=306.53), while the least tendency to buy organic bread and cereals is shown by people who have completed only primary school (MR=277.28). These results are consistent with a group of studies that have shown that people with a higher level of education purchase organic foods more often (Annunziata et al., 2019; Demirtas 2019; Hashem et al., 2018; Husić-Mehmedović et al., 2017; Mitić and Čolović, 2022a; Shamsollahi et al., 2013; Singh and Verma, 2017; Stamer, 2018). As some of the possible explanations why people with a higher level of education buy an organic products more often is that they generally have higher income, which enables them the purchase the organic products, which are generally more expensive than conventional ones, but they also have more information about the importance and significance of organic food for health and improving their quality of life. The obtained results are in line with a group of research, according to which consumers with a higher level of education buy organic foods more often

(Annunziata et al., 2019; Demirtas, 2019; Hashem et al., 2018; Husić-Mehmedovic et al., 2017; Mitić and Čolović, 2022a; Shamsollahi et al., 2013; Singh and Verma, 2017; Stamer, 2018).

4. Conclusions

In order to optimally harmonize the production and consumption of organic food, it is necessary to compliance to the greatest extent possible the needs and characteristics of customers with the offer provided by producers. For these reasons, it is necessary to research as many, important characteristics of typical customers as possible in order to create the best possible offer of organic products on the market. More precisely, it is necessary to know the target market – who are the buyers of organic food, where do they live – in the city or in the rural area, what is their educational level and what are their income. The conducted research and the results presented in this paper offer answers to those questions. Adequate statistical procedures and a detailed analysis of the obtained results showed that there are differences in the purchase of organic food, that is, that not all types of organic foods are equally represented by consumers. Namely, more than half of the total purchased products of organic origin are fruits and vegetables, followed by meat and meat products and bread and cereals. Customers with the highest income and level of education most often buy fruits and vegetables, milk and milk products, and bread and cereals of organic origin. The possible reasons for that could be the fact that they can easily afford it, considering the higher price of organic food compared to conventional, and the they have a developed awareness of the importance of consuming organic products for own health and well-being. When it comes to area, the results showed that there are differences in the purchase of milk and milk products of organic origin by consumers from urban areas compared to those from rural areas most likely because it is available to them, so they do not have to buy it. Considering that organic fruits and vegetables are dominantly purchased from all types of organic foods, the recommendation is to increase marketing and better inform and introduce customers with other

types of organic food. Potential limits are reflected in the fact that, although the sample is large, it is not fully representative of the Republic of Serbia, so there is caution in generalizing the obtained results. This research can represent a good fundamental base for examination the prevalence of buying individual organic food items among consumers in Serbia. In subsequent research, some other variables such as gender, age, marital and work status, number of household members, level of information and religion can be included and their relationship with certain types of organic food can be observed and analyzed. Research can also be conducted in the region and neighboring countries in order to determine whether there are the same tendencies as in the Republic of Serbia or whether their typical buyers of organic food differ in many ways.

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Declaration of competing interests

There is no conflict of interest.

References

- Aertsens, J., Mondelaers, K., Verbeke, W., Buysse, J., Van Huylenbroeck, G. (2011). "The influence of subjective and objective knowledge on attitude, motivations and consumption of organic food", *British Food Journal*, 113(11), 1353-1378. <https://doi.org/10.1108/00070701111179988>
- Akaichi, F., Glenk, K., Revoredo-Giha, C. (2019). Could animal welfare claims and nutritional information boost the demand for organic meat? Evidence from non-hypothetical experimental auctions. *Journal of Cleaner Production*, 207, 961-970. <https://doi.org/10.1016/j.jclepro.2018.10.064>
- Annunziata, A., Agovino, M., Mariani, A. (2019). Sustainability of Italian families' food practices: Mediterranean diet adherence combined with organic and local food consumption. *Journal of Cleaner Production*, 206, 86-96. <https://doi.org/10.1016/j.jclepro.2018.09.155>
- Apaolaza, V., Hartmann, P., D'Souza, C., López, C.M. (2018). Eat organic - Feel good? The relationship between organic food consumption, health concern and subjective wellbeing. *Food Quality and Preference*, 63, 51-62. <https://doi.org/10.1016/j.foodqual.2017.07.011>
- Asif, M., Xuhui, W., Nasiri, A., Ayyub, S. (2018). Determinant factors influencing organic food purchase intention and the moderating role of awareness: A comparative analysis. *Food Quality and Preference*, 63, 144-150. <https://doi.org/10.1016/j.foodqual.2017.08.006>
- Bruschi, V., Shershneva, K., Dolgopolova, I., Canavari, M., Teuber, R. (2015). Consumer perception of organic food in emerging markets: Evidence from Saint Petersburg, Russia. *Agribusiness*, 31(3), 414-432. <https://doi.org/10.1002/agr.21414>
- Brył, P. (2018). Organic food online shopping in Poland. *British Food Journal*, 120(5), 1015-1027. <https://doi.org/10.1108/BFJ-09-2017-0517>
- Bryła, P. (2016). Organic food consumption in Poland: Motives and barriers. *Appetite*, 105, 737-746. <https://doi.org/10.1016/j.appet.2016.07.012>
- Cabuk, S., Tanrikulu, C., Gelibolu, L. (2014). Understanding organic food consumption: attitude as a mediator. *International journal of consumer studies*, 38(4), 337-345. <https://doi.org/10.1111/ijcs.12094>
- Cerjak, M., Mesić, Ž., Kopic, M., Kovačić, D., Markovina, J. (2010). What Motivates Consumers to Buy Organic Food: Comparison of Croatia, Bosnia Herzegovina, and Slovenia. *Journal of Food Products Marketing*, 16(3), 278-292. <https://doi.org/10.1080/10454446.2010.484745>
- Chandrashekar, H. M. (2014). Consumers Perception towards Organic Products - A Study in Mysore City. *International Journal of Research in Business Studies and Management*, 1(1), 52-67.
- Čolović, M., Mitić, V. (2021). Determinant factors influencing organic foods purchase. *Acta agriculturae Serbica*, 26(51), 89-95. <https://doi.org/10.5937/AASer2151089C>
- Čolović, M., Mitić, V. (2022). "The main motives for buying organic food in people of the former Yugoslavia", *British Food Journal*, 125(6), 2257-2274. <https://doi.org/10.1108/BFJ-06-2021-0651>
- Čolović, M., Mitić, V., Nikolić, M., Milojković, D. (2022). Occupational Safety as One of the Important Factors of Professional Satisfaction and Stress in Regular Conditions and During the COVID-19 Pandemic. *Handbook of Research on Key Dimensions of Occupational Safety and Health Protection Management*, 122-143. <https://doi.org/10.4018/978-1-7998-8189-6.ch006>
- Čirić, M. R., Ilić, D. S., Ignjatijević, S. D., Brkanlić, S. D. (2020). Consumer behaviour in online shopping organic food during the Covid-19 pandemic in Serbia. *Food and Feed Research*, 149-158. doi:10.5937/ffr47-28815
- Dahm, M. J., Samonte, A., Shows, A. R. (2009). Organic Foods: Do Eco-Friendly Attitudes Predict Eco-Friendly Behaviors? *Journal of American College Health*, 58(3), 195-202. <https://doi.org/10.1080/07448480903295292>
- Demirtas, B. (2019). Assessment of the impacts of the consumers' awareness of organic food on consumption behavior. *Food Science and Technology*, 39(4), 881-888. <https://doi.org/10.1590/fst.10518>
- Ditlevsen, K., Sandøe, P., Lassen, J. (2019). Healthy food is nutritious, but organic food is healthy because it is pure: The negotiation of healthy food choices by Danish consumers of organic food. *Food Quality and Preference*, 71, 46-53. <https://doi.org/10.1016/j.foodqual.2018.06.001>
- Dumortier, J., Evans, K. S., Grebitus, C., Martin, P. A. (2017). The influence of trust and attitudes on the purchase frequency of organic produce. *Journal of International Food and Agribusiness Marketing*, 29(1), 46-69. <https://doi.org/10.1080/08974438.2016.1266565>
- Đokić, I., Đokić, N., Pavlović, N., Znidarić-Kovač, R. (2014). Implications of organic food in Serbia: Implications from organic food consumers' profile research. *Ekonomika Poljoprivrede*, 61(4), 837-849. <https://doi.org/10.5937/ekoPolj1404837D>
- Feldmann, C., and Hamm, U. (2015). Consumers' perceptions and preferences for local food: A review. *Food Quality and Preference*, 40, 152-164. <https://doi.org/10.1016/j.foodqual.2014.09.014>
- Goetzke, I., Spiller, A. (2014). Health-improving lifestyles of organic and functional food consumers. *British Food Journal*, 116(3), 510-526. <https://doi.org/10.1108/BFJ-03-2012-0073>
- Götze, F., Mann, S., Ferjani, A., Kohler, A., Heckelei, T. (2016). Explaining market shares of organic food: evidence from Swiss household data. *British Food Journal*, 118(4), 931-945. <https://doi.org/10.1108/BFJ-09-2015-0318>
- Hamzaoui-Essoussi, L., Zahaf, M. (2012). Canadian Organic Food Consumers' Profile and Their Willingness to Pay Premium Prices. *Journal of International Food and Agribusiness Marketing*, 24(1), 1-21. <https://doi.org/10.1080/08974438.2011.621834>
- Hashem, S., Migliore, G., Schifani, G., Schimmenti, E., Padel, S. (2018). Motives for buying local, organic food through English box schemes. *British Food Journal*, 120(7), 1600-1614. <https://doi.org/10.1108/BFJ-08-2017-0426>
- Hasimu, H., Marchesini, S., Canavari, M. (2017). A concept mapping study on organic food consumers in Shanghai, China. *Appetite*, 108, 191-202. <https://doi.org/10.1016/j.appet.2016.09.019>

- Henryks, J., Cooksey, R., Wright, V. (2014). Organic food at the point of purchase: Understanding inconsistency in consumer choice patterns. *Journal of Food Products Marketing*, 20(5), 452–475. <https://doi.org/10.1080/10454446.2013.838529>
- Husic-Mehmedovic, M., Arslanagic-Kalajdzic, M., Kadic-Maglajlic, S., Vajnberger, Z. (2017). Live, eat, love: Life equilibrium as a driver of organic food purchase. *British Food Journal*, 119(7), 1410-1422. <https://doi.org/10.1108/BFJ-07-2016-0343>.
- Janssen, M. (2018). Determinants of organic food purchases: Evidence from household panel data. *Food Quality and Preference*, 68, 19–28. <https://doi.org/10.1016/j.foodqual.2018.02.002>
- Kranjac, M., Vapa-Tankosić, J., Knežević, M. (2017). Profile of organic food consumers. *Ekonomika Poljoprivrede*, 64(2), 497-514. <https://doi.org/10.5937/ekoPolj1702497K>
- Lillywhite, J. M., Al-Oun, M., Simonsen, J. E. (2013). Examining organic food purchases and preferences within Jordan. *Journal of International Food and Agribusiness Marketing*, 25(2), 103–121. <https://doi.org/10.1080/08974438.2013.724000>.
- Magnusson, M. K., Arvola, A., Hursti, U. K. K., Åberg, A., Spiller, A. (2015). Attitudes towards organic foods among Swedish consumers. *British Food Journal*, 103(3), 209-227. <https://doi.org/10.1108/00070700110386755>
- Meyer, C., Kreft, H., Guralnick, R., Jetz, W. (2015). Global priorities for an effective information basis of biodiversity distributions. *Nature Communications*, 6, 8221. <https://doi.org/10.1038/ncomms9221>.
- McEachern, M. G., Willock, J. (2004). Producers and consumers of organic meat: A focus on attitudes and motivations. *British Food Journal*, 106(7), 534-552. <https://doi.org/10.1108/00070700410545737>
- McCarthy, B., Liu, H. B., Chen, T. (2016). Innovations in the agro-food system: Adoption of certified organic food and green food by Chinese consumers. *British Food Journal*, 118(6), 1334–1349. <https://doi.org/10.1108/BFJ-10-2015-0375>.
- Mitić, V., Čolović, M. (2023a). Economic indicators of profitability in the production of organic and conventional food and psychological ways of overcoming the crisis in managers due to the possible decline of business during the COVID-19 pandemic. *BizInfo (Blace) Journal of Economics, Management and Informatics*, 13(2), 99-107. <https://doi.org/10.5937/bizinfo2202099M>
- Mitić, V., Čolović, M. (2023b). The impact of the Covid-19 pandemic on the frequency of shopping and online sale of organic food among consumers of the former Yugoslavia. *Food and Feed Research*, 50(1), 25-34. <https://doi.org/10.5937/ffr0-43204>
- Mitić, V., Čolović, M., Milojević. (2023c). Liquidity and decisions and characteristics of Managers of organic companies during Covid-19. *Book of Proceedings "Sustainable Development as a Measure of Modern Business Success"*, 42-49. <https://doi.org/10.15308/finiz-2023-42-49>
- Mitić, V., Čolović, M. (2022a). The main demographic characteristics of customers and the frequency of purchases organic food. *Economics of Agriculture*, 69(2), 349-364. <https://doi.org/10.5937/ekoPolj2202349M>
- Mitić, V., Čolović, M. (2022b). The basic features of typical consumers of organic food. *Journal of Agricultural Sciences*, 67(4), 433-452. <https://doi.org/10.2298/JAS2204433M>
- Mitić, V., Kilibarda, N., Brdar, I., Kostić, M., Šarčević, D., Karabasil, N., Mizdraković, V. (2018). Measuring Competitiveness on Meat Industry Market: Are There Any Oligopolies in Serbia? *Meat Technology*, 59, 127-136. <https://doi.org/10.18485/meattech.2018.59.2.8>
- Nagy-Pércsi, K., Fogarassy, C. (2019). Important Influencing and Decision Factors in Organic Food Purchasing in Hungary. *Sustainability*, 11(21), 6075. <https://doi.org/10.3390/su11216075>
- Nandi, R., Bokelmann, W., Gowdru, N. V., Dias, G. (2017). Factors influencing consumers' willingness to pay for organic fruits and vegetables: Empirical evidence from a consumer research in India. *Journal of Food Products Marketing*, 23(4), 430–451. <https://doi.org/10.1080/10454446.2015.1048018>.
- Nedra, B. A., Sharma, S., Dakhli, A. (2015). Perception and motivation to purchase organic products in Mediterranean countries: An empirical study in Tunisian context. *Journal of Research in Marketing and Entrepreneurship*, 17(1), 67–90. <https://doi.org/10.1108/JRME-07-2014-0015>.
- Petrescu, D. C., Petrescu-Mag, R. M., Azadi, H., Burny, P. (2016). A new wave in Romania: organic food. Consumers' motivations, perceptions, and habits. *Agroecology and Sustainable Food Systems*, 41(1), 46-75. <https://doi.org/10.1080/21683565.2016.1243602>
- Pham, T. H., Nguyen, T. N., Phan, T. T. H., Nguyen, N. T. (2018). Evaluating the purchase behaviour of organic food by young consumers in an emerging market economy. *Journal of Strategic Marketing*, 4488, 1–17. <https://doi.org/10.1080/0965254X.2018.1447984>.
- Predanocytová, K., Šedík, P., Kubicová, L., Horská, E. (2018). Consumption and offer of organic food on the Slovak market. *Acta universitatis agriculturae et silviculturae mendelinae brunensis*, 66 (5), 1315-1323. <https://doi.org/10.11118/actaun201866051315>
- Radić, I., Canavari, M. (2014). Viennese consumers' preferences and willingness to pay for raspberries from Arilje, Serbia. *Economia agro-alimentare, FrancoAngeli Editore*, 16(3), 27-42. <https://doi.org/10.3280/ECAG2014-003004>
- Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British Food Journal*, 107(4), 263-273. <https://doi.org/10.1108/00070700510589530>
- Rizzo, G., Borrello, M., Guccione, G. D., Schifani, G., Cembalo, L. (2020). Organic Food Consumption: The Relevance of the Health Attribute. *Sustainability*, 595-607. <https://doi.org/10.3390/su12020595>
- Rödiger, M., Hamm, U. (2015). How are organic food prices affecting consumer behaviour? A review. *Food Quality and Preference*, 43, 10-20. <https://doi.org/10.1016/j.foodqual.2015.02.002>
- Roitner-Schobesberger, B., Darnhofer, I., Somsook, S., Vogl, C.R. (2008). Consumer perceptions of organic foods in Bangkok, Thailand. *Food Policy*, 33(2), 112-121. <https://doi.org/10.1016/j.foodpol.2007.09.004>
- Pouta, E., Heikkilä, J., Hugg, S. F., Isoniemi, M., Mäkelä, J. (2010). Consumer choice of broiler meat: The effects of country of origin and production methods. *Food Quality and Preference*, 21(5), 539-546. <https://doi.org/10.1016/j.foodqual.2010.02.004>
- Puska, P., Kurki, S., Lähdesmäki, M., Siltaoja, M., Luomala, H. (2018). Sweet taste of prosocial status signaling: When eating organic foods makes you happy and hopeful. *Appetite*, 121, 348–359. <https://doi.org/10.1016/j.appet.2017.11.102>.
- Schrank, Z., Running, K. (2018). Individualist and collectivist consumer motivations in local organic food markets. *Journal of Consumer Culture*, 18(1), 184–201. <https://doi.org/10.1177/1469540516659127>.
- Shafie, F.A., Rennie, D. (2012). Consumer perceptions towards organic food, *Procedia - Social and Behavioral Sciences*, 49, 360-367. <https://doi.org/10.1016/j.sbspro.2012.07.034>
- Shamsollahi, A., Chong, C.W., Nahid, N. (2013). Factors influencing on purchasing behaviour of organic foods. *Humanities and Social Science Research*, 1 (2), 93-104.
- Shin, Y.H., Im, J., Jung, S. E., Severt, K. (2018). Motivations behind consumers' organic menu choices: The role of environmental concern, social value, and health consciousness. *Journal of Quality Assurance in Hospitality and Tourism*, 20(1), 107–122. <https://doi.org/10.1080/1528008X.2018.1483288>.
- Singh, A., Verma, P. (2017). Factors influencing Indian consumers' actual buying behaviour towards organic food products. *Journal of Cleaner Production*, 167, 473-483. <https://doi.org/10.1016/j.jclepro.2017.08.106>
- Soroka, A., Wojciechowska-Solis, J. (2019). Consumer Motivation to Buy Organic Food Depends on Lifestyle. *Foods*, 8(11), 581-589. <https://doi.org/10.3390/foods8110581>

- Stamer, N.B. (2018). Moral conventions in food consumption and their relationship to consumers' social background. *Journal of Consumer Culture*, 18(1), 202-222. <https://doi.org/10.1177/1469540516668224>
- Thøgersen, J., Zhou, Y., Huang, G. (2016). How Stable is the Value Basis for Organic Food Consumption in China? *Journal of Cleaner Production*, 134, Part A, 214-224. <https://doi.org/10.1016/j.jclepro.2015.06.036>
- Tobler, C., Visschers, V.H.M., Siegrist, M. (2011). Eating green. Consumers' willingness to adopt ecological food consumption behaviors. *Appetite*, 57(3), 674-682. <https://doi.org/10.1016/j.appet.2011.08.010>
- Torres-Ruiz, F. J., Vega-Zamora, M., Parras-Rosa, M. (2018). Sustainable consumption: Proposal of a multistage model to analyze consumer behaviour for organic foods. *Business Strategy and the Environment*, 27(4), 588-602. <https://doi.org/10.1002/bse.2022>
- Van Doorn, J., Verhoef, P.C. (2015). Drivers of and Barriers to Organic Purchase Behavior. *Journal of Retailing*, 91(3), 436-450. <https://doi.org/10.1016/j.jretai.2015.02.003>
- Vega-Zamora, M., Torres-Ruiz, F. J., Murgado-Armenteros, E. M., and Parras-Rosa, M. (2014). Organic as a heuristic cue: What Spanish consumers mean by organic foods. *Psychology and Marketing*, 31, 349-359. <https://doi.org/10.1002/mar.20699>
- Vehapi, S., Dolićanin, E. (2016). Consumers behavior on organic food: Evidence from the Republic of Serbia. *Ekonomika Poljoprivrede*, 871-889. <https://doi.org/10.5937/ekoPolj1603871V>
- Vlahović, B., Puškarić, A., Jeločnik, M. (2011). Consumer Attitude to Organic Food Consumption in Serbia. *Petroleum - Gas University of Ploiesti Bulletin, Economic Sciences Series*, 45-52.
- Vukasovic, T. (2016) A Conceptual Framework for Understanding Consumer - Based Brand Equity. *Managing Innovation and Diversity in Knowledge Society Through Turbulent Time: Proceedings of the MakeLearn and TIIM Joint International Conference*, 991-997.
- Wägeli, S., Hamm, U. (2016). Consumers' perception and expectations of local organic food supply chains. *Organic Agriculture*, 6, 215-224.
- Zander, K., Hamm, U. (2010). Consumer preferences for additional ethical attributes of organic food. *Food Quality and Preference*, 21(5), 495-503. <https://doi.org/10.1016/j.foodqual.2010.01.006>
- Zvěřinová, I., Urban, J., Ščasný, M. (2011). Why do Czech consumers purchase organic food? *Business*, 3, 20-28.
- Żakowska-Biemans, S. (2011). Polish consumer food choices and beliefs about organic food. *British Food Journal*, 113(1), 122-137. <https://doi.org/10.1108/00070701111097385>