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Factors affecting organic food preference and determination of consumer tendencies in Konya Province

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A B S T R A C T

This study aims to determine the purchasing behavior, consumption tendencies and factors affecting the consumption of potential and existing organic food consumers in Konya province center. In order to see the general perception on organic food consumption, a questionnaire consisting of 21 questions in total was prepared. The sample size of the study was calculated as 384 according to the Simple Random Probability Sampling method, and data was collected from 553 people in total. As a result of the analysis, it was determined that 8.5% of the participants did not know the term organic food, 17.4% knew it but never consumed organic food, and 74.1% knew the term and consumed organic food. A total of 31.8% of the consumers purchased organic products once a week and the most frequently purchased product/product group was vegetables and fruits with 27.6%. The most important reason for consumers to buy an organic food is that it is beneficial for health, and the reason for not buying it is the high prices.

Keywords: Consumer trends, Konya, organic food, purchasing behavior

И З В О Д

Ова студија има за циљ да утврди понашање у куповини, тенденције у потрошњи и факторе који утичу на потрошњу потенцијалних и постојећих потрошача органске хране у центру провинције Коња. Да би се видела општа перцепција о потрошњи органске хране, припремљен је упитник који се састоји од укупно 21 питања. Величина узорка студије израчуната је као 384 према методи једноставног насумичног узорковања заснованог на теорији вероватноће, и подаци су прикупљени од укупно 553 особе. Као резултат анализе, утврђено је да 8,5% учесника није познавало појам органске хране, 17,4% је знало али никада није конзумирало, а 74,1% је знало и конзумирало. Утврђено је да 31,8% потрошача купује органске производе једном недељно и да су најчешће купљени производ/производна група поврће и воће са 27,6%. Утврђено је да је најважнији разлог за куповину органске хране то што је корисна за здравље, а разлог за некуповину су високе цене.

Кључне речи: Потрошачки трендови, Конија, органска храна, понашање у куповини

1. Introduction

The need for food has increased in the rapidly growing world population, which has led to the intensive use of chemical fertilizers and pesticides in agricultural production in order to get more products from the unit area. The intensive use of chemicals in agricultural activities has led to adverse effects on human and animal health over time. It has also caused considerable damage to the ecosystem. In order to take measures against this situation, countries around the world have started to turn to organic agriculture (Traşçı et al., 2020).

According to IFOAM statistics for 2020, certified organic production is carried out in 190 countries worldwide. The size of organic agricultural land, which was 11 million hectares in 1999, increased to 69.8 million hectares in 2017 and reached an all-time high of 74.9 million hectares in 2020. The share of organic agricultural land in total agricultural land increased from 1.1% in 2016 to 1.6% in 2020 (Willer and Lernoud, 2022). Despite all these positive developments, the production of organic products is not yet sufficient to meet the demand for organic food.

Organic farming activities in Turkey started not in line with consumer demands, but with the aim of exporting marginal agricultural products and opening up to new markets in 1984–1985 due to the demands of European companies for organic products. The variety of organic agricultural products, which was 8 until the 90s, has increased over time in line with demand and has now exceeded 200 (Ataseven and Güneş, 2008; Subaşı, 2008). The number of organic agriculture producers in Turkey has been in a continuous upward trend and has increased more than five times in a short period of time. The number of producers, which was 12,428 in 2002, reached 52,590 producers in 2020 (TÜIK, 2021).

National and international studies on consumers' purchasing of organic products have reported that the main factors for consumers to prefer organic food products are the characteristics of the organic production system and objective benefits such as nutritional values, healthiness, and environmental benefits (McEachern and McClean, 2002; Schuldt and Hannahan, 2013; Seegebarth et al., 2016; Persaud and Schillo, 2017). The higher price of organic products compared to conventional products has been reported to be the most important factor that negatively affects consumers' preference to purchase organic food (Nasir and Karakaya, 2014; Bryła, 2016; Ham et al., 2016).

Socio-demographic traits, health concerns, quality standards, food safety, ethical identity, and environmental consciousness have been observed to impact consumer attitudes and purchasing behavior in organic food consumption. This study aims to determine the demographic characteristics, purchasing behaviors, consumption tendencies, influencing factors, organic agriculture awareness, reasons for purchasing, purchase frequency, and willingness to pay extra for organic foods, and provide insights for companies, local authorities, and farmers interested in organic agriculture in Konya city center. Additionally, it aims to contribute to the sector by devising strategies to enhance organic food consumption.

2. Materials and methods

The survey analysis technique was chosen as the research method. The primary data for the research were obtained through online surveys conducted with consumers residing in different economic and sociocultural regions of Konya city. Both due to the Covid-19 pandemic and to reach consumers with diverse sociocultural values, the "Survey" online survey platform was employed. The survey was made available to participants from October 21, 2021, to April 12, 2022. To prevent multiple submissions by the same individual, IP restrictions were imposed.

To gauge the general perception regarding organic food consumption, a survey comprising a total of 21 questions was prepared. The survey link was initially distributed to participants via social media platforms (WhatsApp, Instagram, and Facebook). Subsequently, brochures containing QR codes linked to the online survey were printed and distributed in person. Lastly, collaboration with the Konya Gündem News and Media website ensured the necessary number of surveys was achieved.

The survey questions used in the research were formulated based on information obtained during a literature review and were adapted from previous studies on the topic (Melovic et al., 2020). The first section of the survey, comprising the initial eight questions, aimed to gather data about participants' personal characteristics. The initial seven questions focused on demographic attributes, while the eighth question addressed whether the participant was familiar with the term "organic food." Individuals who were not familiar with the term "organic food" were instructed not to proceed with the survey.

Out of the total questions in the survey, 18 were multiple-choice questions, and three questions were prepared using a 5-point Likert scale (1= Strongly Agree, 2= Agree, 3= Neutral, 4= Disagree, 5= Strongly Disagree).

The sample size of this study was calculated based on the Simple Random Probability Sampling method. The sample size formula is $n= N\ t^2pq\ /\ d^2(N-1) + t^2pq$ (N: Population size, n: Sample size, p: Probability of the event, q: Probability of the event not happening, t: Theoretical value obtained according to the significance level in the t-table, d: Sampling error accepted according to the frequency of the event) (Easwaran & Singh, 2006). According to the 2020 data from the Turkish Statistical Institute (TUİK), the population of the Konya city center is 1,359,231. Using the aforementioned formula, the calculated sample size was 384. However, considering the possibility of erroneous or incomplete surveys, a minimum of 450 respondents were aimed for the survey, and a total of 553 individuals participated in the survey.

During the analysis of the survey results, frequency and percentage frequency tables were prepared for all answers to each question, and the results were evaluated. Subsequently, for determining relationships between categorical variables, Chi-square tests were utilized. Relationships between ordinal variables and between ordinal variables and continuous variables were evaluated using the Spearman correlation test.

2.1. Statistical analyses

The research data were analyzed using SPSS 26.0 software. Descriptive findings in the study were presented in terms of frequency and percentage values. Chi-square tests were used to determine relationships between categorical variables. Relationships between ordinal variables and between ordinal variables and continuous variables were evaluated using Spearman correlation tests. Data regarding the question "How often do you approximately buy organic products?" were recoded as follows: 1. Few times a year, 2. Once a month, 3. Few times a month, 4. Once a week, 5. Daily, to facilitate evaluation of their relationships with other variables. A significance level of $p<0.05$ was considered statistically significant in the analyses. In the first 8 questions, data from all participants were analyzed, and in the 8th question, potential and current consumers were identified. Subsequent analyses were conducted considering these values. In the 8th question, 17.4% of participants indicated that they knew the term "organic food" but had never consumed organic food. This rate represents potential consumers. A total of 74.1% of participants stated that they knew the term and consumed organic food, forming the percentage of current consumers in the study.

In the first 8 questions, data from all participants (553 individuals) were analyzed. In questions 13, 18, and 19, the data of participants who responded "Yes, I know the term but have never consumed organic food" (96 individuals) and those who responded "Yes, I know and I consume/have consumed it" (410 individuals) to the question "Do you know the term 'organic food'?" (506 individuals) were analyzed. For other questions, only the data of participants who responded "Yes, I know and I consume/have consumed it" (410 individuals) were analyzed.

2.2. Hypotheses of the study

The hypotheses formed in line with the variables within the scope of the study and the relationships between them are as follows.

Table 1.
Hypotheses of the research

Hypothesis	Description
H1	There is a significant relationship between the frequency of purchasing organic food and demographic characteristics.
H2	There is a significant relationship between the reasons for purchasing organic products and demographic characteristics.
H3	There is a significant relationship between the willingness to pay an extra price for consuming organic products compared to traditional products and the average monthly household income of participants.

3. Results

3.1. Demographic Characteristics of Consumers

The distribution of demographics among the 553 participants is depicted in Table 2. Among these participants, 60% are female, while 40% are male. In terms of marital status, 33.1% are single, and 66.9% are married. Examining the age distribution, the most substantial proportion, 45.8%, falls within the 26–40 age range. Conversely, the lowest participation rate, 3.3%, is attributed to individuals aged 61 and above. When assessing educational levels, the highest percentage, 37.1%, is represented by those holding a bachelor's degree, while the lowest percentage, 3.6%, pertains to individuals with a PhD. In the context of parenthood, 37.6% of participants do not have children, whereas the group with four or more children constitutes the smallest segment, accounting for 7.6%. Shifting focus to employment status, the largest category encompasses non-working participants (29.7%), followed by public employees (25.9%), private sector employees (24.8%), students (16.3%), and retirees (3.4%). Expressed in euro, the distribution of monthly income shows the lowest percentage, 7.2%, for those with incomes ≤185.53 euro and the highest, 34.7%, for those with incomes ≥526.09 euro.

Table 2.
Demographic characteristics of the respondents

Sample Characteristics	*N*	%	Sample Characteristics	*N*	%
Gender			**Number of Children**		
Female	332	60.0	0	208	37.6
Male	221	40.0	1	71	12.8
Marital Status			2	130	23.5
Single	183	33.1	3	102	18.4
Married	370	66.9	4+	42	7.6
Age structure			**Employment Status**		
15–25	126	22.8	Private Sector	137	24.8
26–40	253	45.8	Public Employee	143	25.9
41–60	156	28.2	Retired	19	3.4
61+	18	3.3	Student	90	16.3
Monthly Income Range			Not Employed	164	29.7
≤185.53 euros	40	7.2	**Education Level**		
185.54–263.84 euros	80	14.5	Primary	81	14.6
263.85–329.16 euros	87	15.7	High School	119	21.5
329.17–394.48 euros	65	11.8	Associate	71	12.8
394.49–461.76 euros	46	8.3	Bachelor's	205	37.1
461.77–526.08 euros	43	7.8	Master's	57	10.3
≥526.09 euros	192	34.7	PhD	20	3.6

3.2. Factors affecting organic food preference and consumer trends

Among the consumers living in Konya city center who participated in the research, 8.5% stated that they did not know the term organic food, 17.4% stated that they knew it but never consumed organic food and 74.1% stated that they knew it and consumed the food. Some 10.8% of consumers said they bought organic products every day, 12.5% once a month, 18.3% several times a year, 26.7% several times a month and 31.8% once a week. When analyzing the organic food products/product groups most frequently purchased by consumers, the most frequently purchased product group is vegetables and fruit (27.6%). This is followed by milk and dairy products (23.2%), eggs (20.2%), red meat (9.1%), chicken meat (7.8%), bakery products (6.6%) and fruit juice (4.5%). The least purchased product group is baby food (0.9%).

An analysis of consumers' perceptions of organic food shows that the vast majority have positive views. Some 71.7% of consumers believe that organic food is healthier than its conventional counterpart, with an even higher percentage (82.1%) agreeing that it

reduces the risk of disease. Furthermore, 73.3% are confident that organic food does not contain GMOs, pesticides, antibiotics or other additives, underlining their confidence in the purity of organic products. In addition, 69.2% believe that organic food is more nutritious than conventional options. Taste also plays an important role, with 73.2% of respondents saying they definitely find organic food more appealing. In terms of sustainability, 76% of consumers support the idea that organic food production is environmentally friendly, reflecting growing environmental awareness. Ethical considerations are also recognized, with 65.4% of respondents agreeing that animal welfare is taken into account in the production of organic food. Remarkably, 84.3% of consumers see buying organic food as a commendable way of supporting local producers, underlining the contribution organic food makes to strengthening local economies and communities.

The reasons given by the consumers who participated in the research for buying organic food are shown in Figure 1. A total of 47.0% of consumers say that the most important reason for buying organic food is that it is healthy, 18.9% of consumers say they buy organic food because it is nutritious, 17.5% because it tastes good and 16.6% because it is produced without harming the environment.

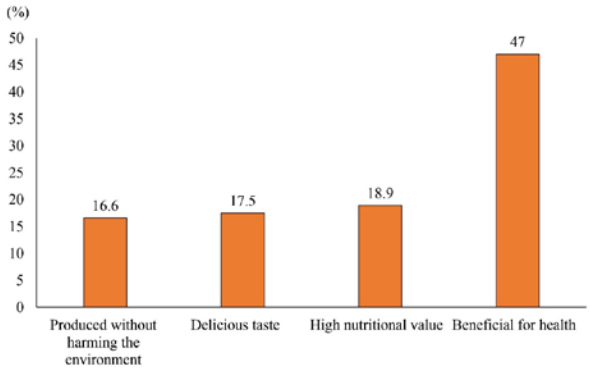

Figure 1. Consumers' reasons for purchasing organic foods

Respondents were asked their reasons for not buying organic food using a Likert scale ranging from 1 'strongly disagree' to 5 'strongly agree'. The weighted averages of the results obtained are shown in Figure 2. When analyzing the reasons why participants do not buy organic food, the option 'high prices' of organic food ranks first with a weighted average score of 3.85 and the option 'not easily available' ranks second with a score of 3.63. The lowest weighted average score was 2.04 points for the option 'taste is worse than non-organic'. Therefore, the main factor deterring consumers from buying organic food is the high price.

Figure 2. Weighted mean scores of participants' reasons for not buying organic food

The distribution of organic food purchases among consumers was analyzed, revealing that 32.4% acquired their organic products directly from farmers, 26.8% from local markets, 16.0% from specialized organic food stores, 10.2% from supermarkets, 7.3% from neighborhood shops, and 7.3% through online sources. In the study, participants were asked to assess the importance of various criteria when buying organic food, using a Likert scale ranging from 1 ('not at all important') to 5 ('very important'). The analysis of weighted average scores highlighted 'label information' as the most pivotal factor, receiving a score of 3.75, followed by 'the presence of the inspection and certification body's logo' at 3.69, and 'the presence of the Ministry of Organic Products' logo at 3.59. 'Appearance' scored an average of 3.44, while both 'packaging' and 'brand' received an average score of 3.10. This data underscores the significance consumers place on label information, certification logos, and the Ministry's organic product logo when making organic food purchases, in contrast to factors such as appearance, packaging, and brand.

When analyzing the values of the determining factors for organic food among the consumers participating in the research, it was found that the most important factor in determining whether a food product purchased by the participants was really organic or not was "the presence of the Ministry of Organic Products logo" (28.8% of the participants), followed by trust in the place of purchase (28%), the information provided by the producer (24.9%), product taste (11.2%), and product appearance (7.1%).

Consumers participating in the study were asked how much more they would be willing to pay to consume organic food compared to conventional food: 53.6% of consumers said they would be willing to pay a

price difference of '0%–20%', 31.2% '20%–40%', 8.5% '40–60%', 4.2% '60–80%' and 2.5% '100%'. When analyzing the sources of consumers' information about organic food, friends and family come first (40.3%), followed by social media (23.5%) and websites (22.5%). TV and radio advertising is the lowest source (6.9%). The respondents indicated that the most appropriate medium as a source of information about organic food is social media (37.3%). This is followed by TV and radio advertising (27.1%), websites (16.3%), billboards (12.7%) and magazines and newspapers (6.6%). When asked to indicate the reason for the higher price of organic food compared to conventional food, 32% of consumers said that the reason is the lower production volume, 28.7% of consumers responded that organic food is expensive to produce, 23.1% thought that it is difficult to produce, 14.9% said that it is because the market is not large, while 1.2% did not know. The factors that encourage consumers to buy more organic products are shown in Figure 3. It can be seen that the most important factor encouraging consumers to buy more organic products is price discount (39.3%), followed by an increase in product variety (26.8%), opening more organic shops (25.5%), and more advertising (5.3%), whereas 3.1% of consumers said they would never buy more than they currently do.

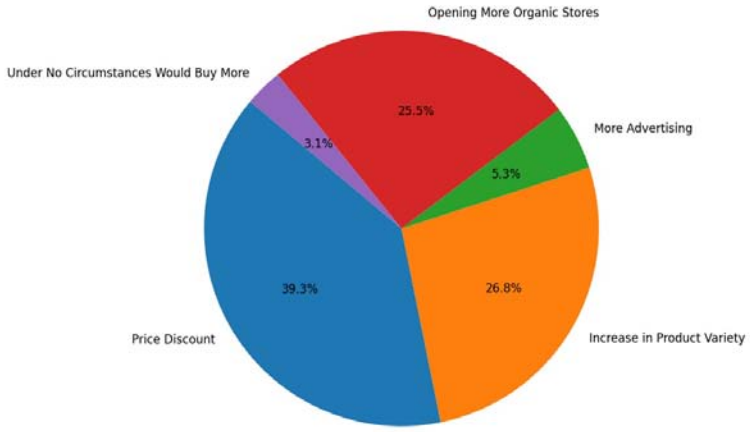

Figure 3. Factors encouraging consumers to buy more organic food products

The findings of the Spearman correlation analysis conducted to determine the relationship between the frequency of purchasing organic products and the demographic characteristics of the participants are presented in Table 3. According to these findings, there was no significant relationship between the frequency of organic product purchase and the age, number of children and average monthly income of the participants ($p>0.05$), while there was a significant negative relationship between the educational status ($p<0.05$).

Table 3.
Correlation analysis findings between frequency of organic product purchase and demographic characteristics

		Age	ES	NC	AMI
The frequency of buying organic products	r	-0.055	-0.158	-0.024	-0.078
	p	0.271	0.001	0.624	0.115

The findings of the Chi-Square tests conducted to determine whether there is a relationship between the frequency of purchasing organic products and the gender, marital status and employment status of the participants are presented in Table 4. According to these findings, while there was no statistically significant relationship between the frequency of organic product purchase of the participants and their gender and marital status ($p>0.05$), a statistically significant relationship was found between their employment status ($p<0.05$). When the findings are examined, it is observed that among those who purchase organic products several times a year, the highest percentage is among public employees (40.0%); among those who purchase organic products once a week, the highest percentage is among those who are not working (32.3%); and among those who purchase organic products every day, the highest percentage is among private sector employees (29.5%).

The findings of the Spearman correlation analysis conducted to determine the relationship between the level of participation of the participants in the statements related to the reasons for purchasing organic products and their demographic characteristics are presented in Table 5. There is a significant positive correlation between the level of agreement with the statement "they are produced without harming the environment" and the age of the participants ($p<0.05$). There is a significant negative correlation between the level of agreement with the statements "they have a higher nutritional value than conventional products", "they have a better taste than conventional products"

and "you can support local producers by purchasing organic food products" and the educational level of the participants (p<0. 05). It was determined that there were significant positive relationships between the level of participation in the statements "they have higher nutritional value than conventional products" and "they are produced without harming the environment" and the number of children of the participants (p<0.05).

Table 4.
Chi-Square analysis findings on frequency of organic product purchase and demographic characteristics

Approximately How Often Do You Buy Organic Products?		**Gender**	
		Female	Male
Several times a year	Number	46	29
	Line %	61.3	38.7
	Column %	18.0	18.8
Once a month	Number	28	23
	Line %	54.9	45.1
	Column %	11.0	14.9
A couple of times a month	Number	64	45
	Line %	58.7	41.3
	Column %	25.1	29.2
Once a week	Number	94	36
	Line %	72.3	27.7
	Column %	36.9	23.4
Every day	Number	23	21
	Line %	52.3	47.7
	Column %	9.0	13.6
	X^2: 9.246	**Sd: 4**	**p: 0.055**

Approximately How Often Do You Buy Organic Products?		**Marital Status**	
		Single	Married
Several times a year	Number	15	60
	Line %	20.0	80.0
	Column %	12.5	20.8
Once a month	Number	14	37
	Line %	27.5	72.5
	Column %	11.7	12.8
A couple of times a month	Number	35	74
	Line %	32.1	67.9
	Column %	29.2	25.6
Once a week	Number	46	84
	Line %	35.4	64.6
	Column %	38.3	29.1
Every day	Number	10	34
	Line %	22.7	77.3
	Column %	8.3	11.8
	X^2: 6.866	**Sd: 4**	**p: 0.143**

Approximately How Often Do You Buy Organic Products?		**Employment Status**				
		Private Sector	Public Employee	Retired	Student	Not working
Several times a year	Number	14	30	1	9	21
	Line %	18.7	40.0	1.3	12.0	28.0
	Column %	14.4	25.9	6.7	15.0	17.4
Once a month	Number	14	15	0	7	15
	Line %	27.5	29.4	0.0	13.7	29.4
	Column %	14.4	12.9	0.0	11.7	12.4
A couple of times a month	Number	27	28	5	17	32
	Line %	24.8	25.7	4.6	15.6	29.4
	Column %	27.8	24.1	33.3	28.3	26.4
Once a week	Number	29	35	4	20	42
	Line %	22.3	26.9	3.1	15.4	32.3
	Column %	29.9	30.2	26.7	33.3	34.7
Every day	Number	13	8	5	7	11
	Line %	29.5	18.2	11.4	15.9	25.0
	Column %	13.4	6.9	33.3	11.7	9.1
	X^2: 19.196	**Sd: 16**	**p: 0.000**			

Table 5.
Correlation analysis findings between demographic characteristics and reasons for purchasing organic products

		Age	ES	NC	AMI
They are healthier than traditional products	r	0.041	0.069	0.054	0.094
	p	0.414	0.172	0.282	0.062
They reduce the risk of illness	r	-0.011	-0.049	0.044	0.000
	p	0.827	0.330	0.381	0.995
They do not contain GMOs, pesticides, antibiotics, and other additives	r	0.095	0.067	0.062	0.143
	p	0.059	0.188	0.221	0.004
They have a higher nutritional value than traditional products	r	0.013	-0.190	0.141	-0.040
	p	0.803	0.000	0.005	0.436
They have a better taste than traditional products	r	0.033	-0.143	0.084	0.005
	p	0.521	0.005	0.101	0.917
They are produced without harming the environment	r	0.103	-0.076	0.127	0.023
	p	0.043	0.137	0.013	0.646
Animal welfare is considered in animal production	r	0.000	-0.092	0.058	-0.025
	p	0.992	0.071	0.253	0.621
You can support local producers by buying organic food products	r	-0.046	-0.109	0.074	-0.028
	p	0.365	0.031	0.144	0.586

*__ES:__ Education Status, __NC:__ Number of Children, __AMI:__ Average Monthly Income

4. Discussion

Nowadays, interest in ecological foods is growing rapidly, with consumers becoming more aware of the environment, health and nutrition. This interest allows the domestic market to grow and it is becoming increasingly important to understand consumer tendencies, trends and demographics in the marketing of ecological products.

International studies emphasize the effect of gender on consumer food preferences, especially women's more positive attitudes towards organic food (Hursti and Magnusson, 2003; Lockie et al., 2004; Lea and Worsley, 2005; Mitić and Čolović, 2022). In this study, no significant relationship was found between the frequency of purchasing organic products and gender ($p>0.05$). This result is in line with studies indicating that gender has no effect on the frequency of organic food purchase (Marreiros et al., 2010; Hashem et al., 2018). There are different results in the studies conducted in Turkey. When examining the results in which the attitude towards purchasing organic food products differed according to gender, it was found that women tended to purchase organic products more and more frequently than men (Eti, 2014), and especially women with young children preferred organic products more (Somuncu, 2016). Similarly, it has been shown that women tend to purchase ecological products significantly more than men under the influence of social awareness and environmental concern factors (Akın et al., 2010). In addition, there are also studies in which the intention to purchase organic food does not differ according to gender (Duman, 2021; Taçyıldız, 2021). The lack of significant gender differences in organic food consumption in recent studies may be due to increased health and environmental awareness.

In this study, there was no significant relationship between the frequency of purchasing organic products and age ($p>0.05$). There are different results about the relationship between age and organic food consumption in the literature. Magnusson et al. (2001) reported that the attitudes of young people (18–25 years old) towards organic foods were more positive than older participants. In terms of the frequency of purchase, it was found that, although younger consumers showed more interest, they did not purchase organic food more often than older consumers. Lea and Worsley (2005) found that age has little effect on beliefs about organic food and does not play an important role in shaping organic food consumption. In a study conducted by Čolović and Mitić (2021), significant differences in organic food purchasing behavior among age groups were found. It was determined that the group with the highest frequency of organic food purchasing consisted of young participants aged between 18 and 24. When the studies conducted in Turkey are examined, it is seen that consumers in the 35–44 age group are the age group that tends to respond most positively to the question "Have you ever bought organic food?" (Eti, 2014).

In this research, no statistically significant relationship was found between the frequency with which participants bought organic products and their marital status ($p>0.05$). Other studies showed that marital status is an effective factor in the consumption of organic products and married couples prefer organic products especially for their children. McEachern and Willock (2004), Freyer and Haberkorn (2008) and Yue (2008) reported that families with children are more likely to buy organic products. The reason for choosing organic products is generally the need to ensure the health of children. Riefer and Hamm (2008) found that families' consumption of organic food may decrease as children make their own food choices after adolescence. Looking at the studies conducted in Turkey, married consumers generally buy more organic food. In the study conducted by Sandallıoğlu (2014), it was reported that the monthly expenditure amounts of married consumers on organic products were higher than those of singles, and that they gave more importance to friends' and environmental advice and curiosity criteria when making a choice. However, a study conducted by Sarıkaya (2007) found that there was no significant difference between participants' attitudes towards organic products and their marital status, which is in line with the findings of this study.

In this study, there was a significant negative relationship between the frequency of purchasing organic products and the educational status of the participants ($p<0.05$). As the level of education increases, the frequency of purchasing organic products decreases. The results of the study show that the most frequently purchased product group is fresh fruits and fruits, with a rate of 27.6%, and when we examine the distribution of organic food products according to where they are purchased, it is seen that 32.4% of them are obtained directly from the farmer. Studies show that consumers are confused about the distinction between natural and organic products and have difficulty in distinguishing them (Kuchler et al., 2020; Lang and Rodrigues, 2022). It has been reported that selling organic certified foods side by side with uncertified natural foods in retail channels and in the market and promoting that they share characteristics such as health and environmental protection cause consumer confusion (Lang and Rodrigues, 2022). The negative significant relationship between the frequency of purchasing organic products and educational status found in this study may be due to the fact that consumers with low educational level consider natural production products purchased directly from farmers as organic production.

In this study, there was no significant relationship between the frequency of buying organic products and the number of children ($p>0.05$). The literature data showed a positive effect of the presence of children on organic food consumption (Davies et al., 1995). In a study conducted by Fricke and Alvensleben (1997), it was reported that families with children were more health conscious than families without children. Another study conducted in Finland showed that families with children had a positive attitude towards the consumption of organic products (Zanoli, 2004). On the other hand, a study conducted in the UK reported that consumers who regularly buy organic food have fewer children (Padel and Foster, 2005). A study conducted by Güngör (2019) reported that participants' interest in organic products did not differ according to the number of children. In a study conducted by İçli et al. (2016), there was no significant difference between consumers' preferences for purchasing ecological products according to the number of children, in line with the findings of this study.

In this study, a statistically significant relationship was found between the frequency of buying organic products and the employment status of the participants ($p<0.05$). It can be seen that private sector employees (29.5%) have the highest rate among the occupational groups that buy organic food on a daily basis. In the literature, there is limited research on the relationship between the frequency of buying organic food and employment status. In the studies conducted in China, it was found that the consumers of organic food were mostly office workers (Yin et al., 2010; Xie et al., 2015). The studies conducted in Turkey reported that unemployment is an important factor in the demand for organic food and that consumers of organic products are mostly civil servants and housewives (Kenanoğlu and Karahan, 2002; Çelik, 2013).

In this study, no significant relationship was found between the frequency of purchasing organic products and the average monthly income of the participants ($p>0.05$). The results of studies investigating the effect of income on the purchase of organic products are mixed. Some studies have found that people with higher income levels have positive attitudes towards organic products and are more likely to purchase them (Wandel and Bugge, 1997; Magnusson et al., 2001). In general, it has been reported that individuals with higher incomes purchase organic food more frequently (Ćirić et al. 2020; Kranjac et al. 2017). In the studies conducted in Turkey, significant relationships were found in the attitudes of consumers with high income levels towards organic products: as the income level of consumers increases, they buy more organic products and are willing to pay higher prices for these products (Sarıkaya, 2007; Tirkeş, 2008; Akın et al., 2010). However, a study conducted in Istanbul by İçli et al. (2016) reported no significant relationship between the frequency of purchasing ecological products and monthly household income, which is consistent with the findings of this study.

In this study, there was a significant positive relationship between participants' level of agreement with the statements about the reasons for buying organic products and their age, with older people having a higher level of agreement with the statement 'produced without harming the environment' than younger people ($p<0.05$). In the literature, there are mixed results from studies investigating the relationship between age and environmental sensitivity. While some studies mention the existence of a negative relationship between age and environmental sensitivity (Straughan and Roberts, 1999), other studies conclude that there is no significant relationship between age and environmental sensitivity (Laroche et al., 2014). In the study conducted by Yeşil and Turan (2020) on environmental sensitivity, a linear relationship was found between age and attitudes towards the environment, and it was interpreted that people start to understand the importance of nature and the environment better with age. Yaraş et al. (2011) reported that environmental awareness was highest in the 50–59 age group. In addition, a study conducted by Ayten (2010) reported that people's behavioral tendencies towards environmental protection increased with age.

In this study, there was no significant relationship between participants' willingness to pay extra for organic products compared to conventional products and their average monthly income ($p>0.05$). There are different results in the studies that examined the relationship between willingness to pay extra for organic products and monthly income. In the studies conducted by Bulut (2018) and Varoğlu (2016), it was reported that the willingness to pay extra price difference to buy organic products increases as the income level of individuals increases (Varoğlu and Turhan, 2016; Bulut, 2018). On the other hand, there are also studies that are consistent with this research finding. In a study conducted by Ramalingam (2021) in India, there was no significant relationship between the income of Indian consumers and their willingness to pay more for organic products.

In this study, factors such as the high level of education and income of the participants, and a limited sample in terms of age and geographic diversity, limit the generalizability of the findings. Future studies are advised to include more diverse participant groups and

geographic regions to obtain more comprehensive and generalizable results.

5. Conclusions

In the study, it was found that there was no significant relationship between the frequency of buying organic products by consumers and their gender, age, marital status, number of children and monthly income, while there was a significant relationship between their educational status and employment status. A significant negative relationship was determined between the frequency of buying organic products by the participants and their educational status, and the highest rate among those who buy organic food every day was observed for the employees of the private sector. Significant relationships were found between the level of participation of consumers in the statements related to the reasons for purchasing organic products and their age, educational status, number of children and monthly income. There was no significant relationship between consumers' willingness to pay extra price difference compared to conventional products in order to consume organic products and their average monthly income. By analyzing the data obtained as the result of the study, it becomes evident that appropriate marketing strategies should be employed to enhance the consumption of organic products. Producers aiming to sustain their presence in the organic products sector and stay aligned with global advancements in this field should focus on developing a consumer-centric marketing approach and align their strategies accordingly.

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Declaration of competing interests

The authors declare no conflict of interest.

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