Factors Affecting Organic Food Consumption: Insights on Consumer Awareness and Behavioral Drivers

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ABSTRACT

As a tendency of sustainable consumerism, organic food consumption has become a great trend among consumers and one of the unique ones in the global economy. This study aimed to reveal factors affecting consumers' intention to purchase organic food by using a holistic approach considering behavioral drivers, consumer awareness, and demographic characteristics. Theory of Planned Behavior was used to have a deep understanding of behavioral drivers. Logistic regression analysis was applied to determine the factors affecting consumers' intention to purchase organic food. Behavioral factors were derived by different scales and the suitability of these measurement tools was approved by confirmatory factor analysis. The findings of the study showed that subjective norms, perceived behavioral control, health awareness, social responsibility concern, and trust had a positive influence on individuals' intention to purchase organic food; whereas, subjective attitudes and environmental awareness had no effect. The study produced knowledge on drivers and barriers of organic food consumption that may help all stakeholders of the sector mainly producers, marketers, and policymakers. Results of the study present an integrated model on consumer behavior toward organic food in emerging countries.

Keywords: Consumer preferences, Logistic regression, Sustainable consumption, Theory of planned behavior.

INTRODUCTION

Organic food consumption has been captured by consumers' interest with the increasing value of sustainability, and the demand for these products has increased worldwide in recent years (Mainardes *et al*., 2017; Du *et al*. 2017; Hansmann *et al*., 2020). Current dynamics of consumer preferences such as sustainability, consumer consciousness, consumer ethics, and social responsibility have supported the changes in consumer tendencies (Kyrylov *et al*., 2018). Thus, worldwide, consumers have shifted their preference from conventional food to organic food and tend to consume organic products daily (Molinillo *et al*., 2020; Nithya *et al*., 2022). Also, UN's Sustainable Development Goals such as Zero Hunger (Goal 2), Good Health and Well-Being (Goal 3), and Responsible Production and Consumption (Goal 12) are related to the organic food sector and suggest actions to create better opportunities for future generations. In the other words, this tendency provides an area to ensure sustainable consumption and production patterns.

Turkey is one of the most important emerging countries in which the organic food production area has increased steadily in recent years (Deviren, 2017; Atalay *et al*., 2019; Aydogdu and Kaya, 2020). In the country, the organic food production area has grown by 3.33 times and increased from 93,134 to 698,771 hectares between 2005 and 2019 (MAF 2020). Organic food

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production is not consumed in the domestic market but exported to other countries (Boz and Kaynakci, 2019). Although there is a significant increase in organic food production, the value of retail sales of these products was quite lower in the domestic market than in other producer countries (Goktuna and Hamzaoglu, 2019). The value per capita was only one Euro in Turkey, while averagely 55.80 Euro in Europe and 84.40 Euro in European Union (Willer _et al_., 2021). However, recently, the development of this sector in the world and the Covid-19 pandemic stimulated to increase healthy food consumption and consumers have had more tendency to purchase organic food. Thus, all stakeholders of this sector have made great efforts to understand drivers of consumers' intention to purchase organic food to reach more consumers and have had marketing–strategies that are more effective.

Behavioral drivers of organic food purchasing have been investigated by only a few researchers in emerging countries (Al-Swidi, 2014; Demirtas, 2019; Sadiq _et al_., 2020; Cavite _et al_., 2022) and, as Pacho (2020) underlined, there is only little knowledge on determinants affecting consumers' intention to purchase organic food in these countries. This study will help to provide broader insight into behavioral drivers of organic food consumption in these countries. Related to this subject, Rana and Paul (2017) also stressed that, although there have been many studies to understand consumer habits towards organic food purchasing, different aspects of the issue such as reasons, motivators, and barriers to increasing organic food consumption should be deeply examined in emerging countries.

This study aimed to reveal drivers of consumers' intention to purchase organic food with a holistic approach based on Theory of Planned Behavior (TPB) construct, consumer consciousness, and demographic characteristics. Effects of consumer awareness were taken into consideration with three sub-dimensions as health awareness, environmental awareness, and social responsibility awareness. To the

best of our knowledge, the present study will be one of the very few empirical studies combining data on the TPB construct, consumer awareness concept, and demographic characteristics in emerging countries.

MATERIALS AND METHODS

Theoretical Framework

Theory of Planned Behavior: The theory is one of the widely utilized constructs by various researchers to explain consumers' intention towards a certain behavior (George, 2004; Mirkarimi _et al_., 2016; Tommasetti _et al_., 2018; Werf _et al_., 2019; Soorani and Ahmadvand, 2019). According to Ajzen (1991), "intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try and how much of an effort they are planning to exert, to perform the behavior". The theory presents that intention has three major determinants in explaining a person's intention. These determinants are named attitude, subjective norms, and perceived behavioral control.

Attitude is explained as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question". As underlined by Tarkiainen and Sundqvist (2005), the more favorable an attitude, the higher the intention to reveal particular behavior since attitude has an important influence on intentions. Broadly, as a personal factor, it represents individuals' beliefs for outcomes of behavior. Most previous studies presented supporting evidence on the relationship between attitudes and intention to buy organic food (Maya _et al_., 2011; Kumar, 2012; Zhu, 2018; Liu _et al_., 2020). In this study, it is hypothesized that:

Hypothesis 1: The attitude is positively associated with the intention to purchase organic food.

Subjective norms are described as "the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991). Subjective norms refer to the social pressure received from people around you and people that are important to you in your life (Zhu, 2018). Subjective norms are evaluated as social factors and individuals' perception of social pressure or easiness to carry out the behavior. Previous studies revealed that people's intention to buy organic food is likely to be higher if the individuals believe that other people would like them to consume these foods (Voon *et al*., 2011; Al-Swidi *et al*., 2014; Demirtas, 2019; Pacho, 2020). Hypothesis 2: Subjective norm is positively associated with the intention to purchase organic food

According to the theory, the last determinant, i.e. perceived behavioral control, is explained as "the perceived ease or difficulty in performing the behavior and it is assumed to reflect experience as well as anticipated impediments and obstacles" (Ajzen, 1991). This term suggests that an individual's expectations concerning behavior affect motivation and execution of that behavior. Most studies have included purchasing behavior, purchasing opportunities, time, and income constraints to purchase organic food (Kumar, 2012; Pomsanam *et al*., 2014; Liu, 2020; Fleşeriu *et al*., 2020). In this study, it is hypothesized that:

Hypothesis 3: Perceived behavioral control is positively associated with the intention to purchase organic food.

Consumer Awareness: Even though there is a wide and significant application of TPB in studies on consumer behavior, there is a need to extend the theory to explain the influences of consumer awareness on organic food purchasing intention (Ponsanam *et al*., 2014; Tran and Vinh, 2016; Hansen *et al*., 2018; Qi *et al*., 2020; Molinillo *et al*., 2020). Awareness is defined as "the ability of a person to recognize herself/himself and his surroundings" and, in addition, an individual is aware of her/his activities and behaviors through awareness

(Zureik and Mowshowitz, 2005). In this study, consumer awareness towards organic food was studied with three sub-dimensions of "health awareness, environmental awareness, and social responsibility awareness" based on studies by Rizzo *et al*. (2020), do Prado and Moraes (2020), and Fogarassy *et al*. (2020).

Health awareness is an impulsive dimension that forces consumers to bear healthy actions (Michaelidou and Hassan, 2008). It shows the degree to which health interest is incorporated with an individual's daily actions (Chiciudean *et al*., 2019). Moreover, it represents the individual's internal motivation to ensure good health (Dutta-Bergman, 2004). According to Basha *et al*. (2015), this concept is the prior preferential reason for the consumer to purchase organic food. Most empirical studies support that health awareness has a positive effect on the intention to purchase organic food (Voon *et al*., 2011; Pomsanam *et al*., 2014; Tuan and Vinh, 2016; Qi *et al*., 2020). The hypothesis about health awareness is that:

Hypothesis 4: Health awareness is positively associated with the intention to purchase organic food.

Environmental awareness is expressed as a persons' attitudes toward judgments and behavior and intentions regarding environmental problems (Shamsudin *et al*., 2018). According to the notion, involvement in environmental behaviors is associated with individuals' beliefs, knowledge, and a favorable tendency towards personal activities. In the literature, an increasing number of researches indicate that environmental awareness has significant effects on an individual's intention to purchase organic food (Basha *et al*., 2015; Shamsudin *et al*., 2018; Wang *et al*., 2020). Because of general environmental concerns, hypothesis 5 was formulated as below:

Hypothesis 5: Environmental awareness is positively associated with the intention to purchase organic food.

Social responsibility is that consumers take into consideration social concerns when

they make purchasing decisions (Fogarassy *et al*., 2020). It was found in previous studies that consumers' sense of responsibility concerning social issues has a positive effect on their organic food purchasing behavior (Fu and Liang, 2019; Hansen *et al*., 2018; Fleşeriu *et al*., 2020; Molinillo *et al*., 2020). The hypotheses regarding social responsibility can be expressed as follows:

Hypothesis 6: Social responsibility awareness is positively associated with the intention to purchase organic food.

Demographic Characteristics: Demographic characteristics were also quite important to explain consumers' intention to buy organic food (Aertsens *et al*., 2009; Slamet *et al*., 2016). It is generally underlined that gender (Stobbelaar *et al*., 2007; Raj *et al*., 2020), age (Cranfield and Magnusson, 2003; Grubor and Djokic, 2016; Singh and Verma, 2017), education level (Raj *et al*., 2020), and income (Voon *et al*., 2011; Raj *et al*., 2020) have influences on organic food purchasing behaviors in different ways. However, there are still controversial results on the effect, size, and direction of these characteristics (Grubor and Djokic, 2016; Kranjac *et al*., 2017). Thus, these demographic characteristics were included in the study to have better explanatory power in this study. The hypothesis about demographic characteristics is given as follows:

Hypothesis 7: Demographic characteristics are associated with the intention to purchase organic food.

Furthermore, trust in organic food in the market needs to be included as a factor in the model based on previous research (Watanabe *et al*., 2020). Consumer trust means belief, feeling, or expectation of loyalty, resulting from integrity or competence (Moorman *et al*., 1992). Some researchers indicated the role of trust on organic food purchasing behavior (Curvelo *et al*., 2019). The hypothesis regarding trust in organic food is given as follows:

Hypothesis 8: Trust in organic food in the market is positively associated with the intention to purchase organic food. (Figure1)

Data Collection and Sampling Method

This study applied a cross-sectional design to gather the data on consumers' behavioral drivers and awareness towards intention to buy organic products. The data was gathered by an online survey from the people who are educated to have at least little knowledge on organic food and are willing to support the survey to provide valid data. With this goal, the snowball sampling method was employed to select the samples, and 390 respondents filled out the online questionnaires in Turkey. The questionnaire consisted of two sections. In the first section, demographic characteristics (age, gender, education, occupation, marital status, household size, and income) were collected. In the second section, behavioral drivers and consumer awareness and trust towards purchasing organic food were defined. The questionnaire was tested on 10 organic food consumers and the final correction was made. The survey was conducted between 1–15 September 2020, and each questionnaire lasted almost 15 minutes.
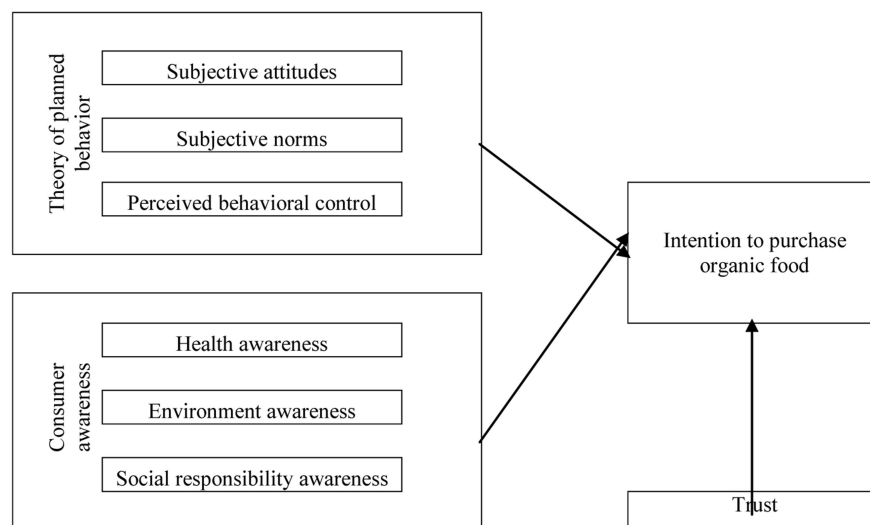
Figure 1. The conceptual framework for the study.

Measurement Tool

The questionnaire includes items related to the TPB construct (attitudes, subjective norms, and perceived behavioral control) and consumer awareness concept (health, environmental and social responsibility awareness). In the questionnaire, consumers' intention to purchase organic food was assessed with six items. Then, the scales based on TPB were designed by using eight items for attitudes, five items for social norms, and four items for perceived behavioral control. To measure consumer awareness in detail, we used six items for health awareness, six items for environmental awareness, and three items for social responsibility awareness. Regarding consumers' trust, consumers were asked to show their degree of participation by evaluating the phrase "I trust certified organic food in the market". Likert scale was used to measure the level of agreement with each item (1:totally disagreement, 5:totally agreement) obtained from previous research (Voon *et al*., 2011; Al-Swidi *et al*., 2014; Asif *et al*., 2018; Secapramana and Katargo, 2019; Fleşeriu *et al*., 2020; Molinillo, 2020) on factors affecting organic food consumption.

Data Analysis

In this study, firstly, descriptive analysis was used to describe the demographic characteristics of consumers. Then, a measurement tool was verified to test how well the observed items represent the examined factors, explanatory factor analysis was performed to understand sampling adequacy and internal consistency; confirmatory factor analysis was utilized to reveal construct validity or how well the measures fitted the model. Finally, a binary logistic regression model was applied to have better understanding of the effects of factors on consumers' intention to purchase organic food.

Generally, logistic regression provides good ideas to describe and test hypotheses on associations between a categorical dichotomic dependent variable and one or more categorical or continuous independent variables (Peng *et al*., 2010). This method aims to build the best model to explain a

dependent variable based on a set of predictor variables or independent variables. These variables indicate the characteristics of the issues (Domínguez-Almendros, 2011). The outcome in logistic regression analysis is coded as 1 or 0, where 1 shows that the outcome of interest exists, and 0 indicates that the outcome of interest is non-existent (Hair *et al*. 2006).

Extending the logic of the simple logistic regression to multiple predictors (Xi present explanatory variables), one can build a multiple logistic regression for Y as shown below (Peng *et al*., 2010):

$$logit(Y) = In\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 \tag{1}$$

In binary logistic regression when X independent variable is known, the possibility of being 1 of Y' is π and the special formula is as follows (Hair *et al*., 2014):

$$\pi(x) = P(Y = 1|X = x) = \frac{e^{(\beta_0 + \beta_1 x)}}{1 + e^{(\beta_0 + \beta_1 x)}} = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x)}} \tag{2}$$

Where, π is the probability of the event, α is the Y-intercept, βs are regression coefficients, and Xs are a set of estimators. For all explanatory variables, the odds ratios were calculated taking into account, the following formula:

$$Exp(B) \, or \, odds = \frac{P}{1-P} \tag{3}$$

It defines a single explanatory variable that, when taking all other variables constant, the number of times the likelihood of the dependent variable increases if the concerned explanatory variable is increased by one unit.

In this study, the dependent variable of the model was consumers' intention to purchase organic food, and the data was included in the analysis as "0" if the value is below 3.99 (average); "1" if the value is 4.00 and above this threshold. The independent variables were defined as various demographic characteristics (age, gender, education, and income), theory of planned behavior's sub-dimensions, consumer awareness, and trust in organic food products.

RESULTS

Consumers' Demographic Characteristics

Regarding demographic characteristics of the respondents, 64.4% of them were women and 35.6% were men. The respondents' age showed that 35.9% were between 21-30 years and the average age was 34.6 years. Also, 61.5% of the consumers had bachelor's degrees and 23.1% had MD and PhD. Moreover, 52.3% of the respondents were married and the average household size was 3.3 persons. The respondents were government and private sector staff, respectively (33.0 and 23.9%). The household average income was 1187.5 Euro, while the household average food expenditure was 300.0 Euro (Table 1).

The items that were taken into consideration are presented in Table 1. Firstly, explanatory factor analysis was utilized using the principal component analysis method with Varimax rotation to summarize the relations among the variables. In this regard, only items were accepted as valid if factor loadings were 0.5 and above. Following, the Kaiser-Mayer-Olkin (KMO) test and Barlett's test of sphericity were taken into consideration due to revealing convenience of measurement scales to reveal sampling adequacy. If the KMO value was between 0.60–0.69, the sampling was accepted as adequate or moderate, and the higher value indicated better sampling adequacy. KMO values for the evaluated factors ranged from 0.625 to 0.890, which means the scales satisfied the sampling adequacy condition.

Barlett's test of sphericity shows the strength of the relationship; the significant value less than 0.05 indicates that the data are acceptable for further analysis (Field, 2000). The significant value of Barlett's test of sphericity based on the current data was found significant with a P-value of 0.000. Moreover, Cronbach's Alpha value was used to measure scale reliability or internal

Table 1. Consumers' Demographic Characteristics.

Characteristics	n	%	Characteristics	n	%
Gender			Age		
Women	251	64.4	-20	24	6.2
Men	139	35.6	21-30	140	35.9
Total	390	100.0	31-40	114	29.2
			41-	112	28.7
			Total	390	100.0
			Average	34.6	
Marital status			House Hold Size		
Married	204	52.3	1-2 persons	107	27.4
Single	186	47.6	3-4 persons	227	58.2
Total	390	100.0	More than 5 persons	56	14.4
			Total	390	100.0
			Average (Person)	3.3	
Education level			Occupation		
Primary School Graduate	3	0.8	Government Staff	116	33.0
Secondary School Graduate	4	1.0	Private Sector Staff	84	23.9
High School Graduate	53	13.6	Student	59	16.8
University Graduate	240	61.5	Academician	32	9.1
MA Degree	60	15.4	Self Employed	24	6.8
Ph.D. Degree	30	7.7	Retired	15	4.3
Total	390	100.0	Housewife	22	6.3
			Total	352[*]	100.0
Household income (Euro/Month)[**]			Household Food Expenditure (Euro/Month)		
-625	108	27.7	-155	145	37.2
626-1250	142	36.4	156-315	127	32.6
1251-	140	35.9	316-	118	30.3
Total	390	100.00	Total	390	100.0
Average	1187.5		Average	300.00	

Note: [*]Un-employment= 38 persons.   [**]1 Turkish Liras= 6.4 Euro.

consistency of each factor. It is generally suggested that the value of 0.60-0.69 indicates an acceptable level of reliability (Hulin *et al*., 2001; Cortina, 1993). In the study, Cronbach's alpha value for each factor was also found to be above the cut-off level ranging from 0.621 to 0.888, which represents the reliability of scales.

Confirmatory factor analysis produced information on construct validation of the measurement model. Results of the analysis indicate that goodness of fit values [X^2 (608, N= 390)= 1693.927; P< 0.01; X^2/df= 2.786; CFI= 0.837; RMSEA= 0.068; SRMSA= 0.0728] confirmed that the measurement model was suitable and acceptable for the collected data. CR and AVE values were also evaluated to have a better understanding of composite reliability and convergent validity of the measurement tool. The CR values (all of

them were above 0.70) showed that all factors had high composite reliability. Furthermore, the model had convergent validity since all AVE values were higher than 0.50 and smaller than CR values. Finally, all scales satisfied the requirements for both reliability and validity of scales. It showed that the measurement scale was suitable for further analysis.

Determinants of Intention to Purchase Organic Food

According to the analysis, the model was statistically significant [χ^2 (df= 11)= 218,852, P≤ 0.01]. The –2Log likelihood value was 307.677 and the Nagelkerke R^2 value was 0.580. Eleven independent variables were included in the model and seven of them were statistically significant

and had the expected signs. These variables were specified as education level, income level, subjective norms, perceived behavioral control, health awareness, social responsibility awareness, and trust. In terms of education, one unit increase in education level increases the probability of consumers' intention to purchase organic food by 0.848 times provided that all other independent variables remain constant. This means that consumers, who had master's and doctorate degrees, were 0.848 times more likely to purchase organic food than consumers who had a bachelor degree and below. Similarly, income level acts as a significant predictor, such that having a higher income is associated with more positive intention to purchase organic food. Concerning the TPB construct, the Exp (B) values were 0.949 for subjective norms and 0.418 for perceived behavioral control. It shows that consumers who had higher subjective norms and perceived behavioral control had 0.949 times and 0.418 times higher probability of dependent variable, respectively. Similarly,

consumer health awareness and social responsibility awareness had significant positive effects on intention to purchase organic food. Individuals who had higher consumer health awareness and social responsibility awareness had 0.469 and 1.586 times higher probabilities of intention, respectively. Moreover, the trust had also a positive significant effect (0.597 times) on the model (Table 2).

DISCUSSION

It is very important to have a better understanding of consumers' intention to purchase organic food for producers, marketers, and policymakers. Since the worldwide organic food market has been a rapidly growing market, having a better understanding of consumer behaviors and factors affecting consumer behaviors will help to improve the sector as a whole. Current studies (Nguyen et al., 2019; Pércsi and Fogarassy, 2019; Qi et al., 2020) stress

Table 2. Logistic Regression Results.

	Beta	SE	Wald χ2	Sig	Exp(Beta)
Constant	-15.186	2.009	57.112	0.000	0.000
Gender[a]	0.157	0.298	0.278	0.598	1.170
Age[b]	0.144	0.317	0.208	0.648	1.155
Education[c]	0.848	0.347	5.958	0.015[*]	2.335
Income[d]	1.137	0.340	11.173	0.001[**]	3.116
Attitude	-0.038	0.280	0.018	0.892	0.963
Subjective norms	0.949	0.233	16.592	0.000[***]	2.583
Perceived behavioral control	0.418	0.194	4.657	0.031[*]	1.519
Health awareness	0.469	0.268	3.064	0.080[*]	1.598
Environmental awareness	-0.275	0.362	0.578	0.447	0.760
Social responsibility awareness	1.586	0.327	23.469	0.000[***]	4.884
Trust	0.597	0.160	13.880	0.000[***]	1.818
-2 Log likelihood	307.677				
Cox and Snell R Square	0.429				
Nagelkerke R Square	0.580				

SE: Standard Error; χ2: Chi-square; df: Degrees of freedom; P: Significance level; Exp(Beta): Odds values. P< 0.05 is considered statistically significant. n= 390. * P< 0.05, ** P< 0.01, *** P< 0.001.
[a] Woman= 1; Man= 0, [b] 35 and Above= 1; Below 35= 0, [c] Postgraduate and above= 1; Below post graduate= 0, [d] 1190 and Above= 1; Below 1190 €= 0.

that all stakeholders of the organic food sector are significantly aware of the increase in consumption tendency toward organic food products and need to capture motivators, drivers, and barriers of consumers' behaviors. When this is explained with different aspects, entrepreneurs can understand and appropriately satisfy consumers' demands. It is also quite important to determine different consumer segments to be able to satisfy consumers' needing through suitable strategies.

This study aimed to present a designed model to investigate consumers' intentions to purchase organic food in Turkey. In this study, the TPB model was used and extended with consumer awareness and demographic factors to provide a better understanding on organic food.

The connection between education level and organic food purchasing intention is consistent with various previous studies, and almost all studies suggested that individuals with higher education levels have more tendency to consume these foods (Dimitri and Dettmann, 2012). According to the current study, education level had a statistically significant effect on intention. This means that individuals who have higher education levels are more likely to purchase organic food. This finding is supported by some other studies, such as those of Magnusson *et al*. (2001), Curl *et al*. (2013), and Hansmann *et al*. (2020). Income level is also a good indicator for organic food consumption and it is proven by many previous studies (Aertsens *et al*., 2009; Dimitri and Dettmann, 2012; Singh and Verma, 2017; Hansmann *et al*., 2020). In this study, income level was obtained as a good determinant of intention to purchase organic food, just as some other researchers such as Onyango *et al*. (2007) and Chen *et al*. (2018) have revealed.

Regarding organic food purchase, even some studies claimed that there is no significant association between subjective norms and intention to purchase organic food (Yazdanpanah and Forouzani, 2015;

Zhu, 2018). The current study proved that subjective norms are one of the drivers of intention. Similarly, results of Aertsens *et al*. (2009), Bai *et al*. (2018), and Pacho (2020) agreed with ours about subjective norms. As for perceived behavioral control, Kumar (2012), Tuan and Vinh (2016) and Fleşeriu *et al*. (2020) confirmed a positive and significant association between perceived behavioral control and intention. This study has the same direction for intention and perceived behavioral control.

Health awareness is also considered one of the basic drivers of consumers' intention to purchase organic food. The current study revealed that consumers' health awareness has a role in the intention, which has been also supported by previous research (Pomsanam *et al*., 2014; Irianto, 2015; Hansen *et al*., 2018; Qi, 2020). However, the results of this study show that there is no significant association between environmental awareness and intention to buy these foods. In the literature, some studies support this finding (Nguyen *et al*., 2019; Qi, 2020), whereas others state that environmental awareness has an influence on consumer's intention to purchase organic food (Irianto, 2015; Asif *et al*., 2018; Wang *et al*., 2020). Concerning consumer awareness, it is also determined that there was a positive effect of social responsibility awareness, as also found in other studies (Fu and Liang, 2019; Molinillo *et al*., 2020; Qi, 2020). Moreover, trust is one of the determinants to purchase organic food, as confirmed by other studies (Konuk, 2018; Curvelo *et al*., 2019).

CONCLUSIONS

The present study aimed at understanding the factors affecting the consumers' intention to purchase organic food by using the TPB construct, consumer awareness concept, and demographic characteristics in the case of Turkish consumers. According to the research findings, a model including demographic characteristics -in particular education and

income- subjective norms, perceived behavioral control, health awareness, social responsibility awareness and trust on the products is able to explain well consumers' intention to purchase organic food. These findings suggest that marketers should take into account subjective norms, perceived behavioral control, health awareness, social responsibility awareness, and trust to provide more confidence for consumers to buy organic food. Furthermore, market segmentation should be designed and formed on the education and income levels of the consumers. With regards to trust, all the stakeholders of the sector should present consistent, reliable, and fair information to the consumers. Although the current study adds knowledge to the consumer behaviors literature from different perspectives, some limitations should also be mentioned. Firstly, some difficulties of using the snowball sampling method should be underlined. The demographic characteristics of the participants showed that they were mainly women and had higher education. Secondly, since this is a cross-sectional study, the results are considered to reflect the current status of organic food consumption behavior. Thirdly, some of the factors about ethical issues had higher scores than they were expected. Since the data is based on self-evaluation of participants, this result is considered acceptable. Some points could be stressed for future research. First of all, the current study took into consideration organic food as a whole on food groups. Future studies may examine each food group separately such as vegetables, meat products, or milk products in detail. Moreover, the study used binary logistic regression. For further study considerations, the integrated techniques may be used in this context and some comparisons could be made.

ACKNOWLEDGEMENTS

REFERENCES

1. Aertsens, J., Verbeke, W., Mondelaers, K. and Van Huylenbroeck, G. 2009. Personal Determinants of Organic Food Consumption: A Review. *Br. Food J.,* **111:** 1140-1167.
2. Ajzen, I. 1991. The Theory of Planned Behavior. *Organ. Behav. Hum. Decis. Process.,* **50:** 179-211.
3. Aleksandar, G. and Djokic, N. 2016. Organic Food Consumer Profile in the Republic of Serbia. *Br. Food J.,* **118(1):** 164-182.
4. Al-Swidi, A. A., Huque, S. M. R., Hafeez, M. H. and Shariff, M. N. M. 2014. The Role of Subjective Norms in Theory of Planned Behavior in the Context of Organic Food Consumption. *Br. Food J.,* **116(10):** 1561–1580.
5. Asif M., Xuhui, W., Nasiri, A. and Ayyub, S. 2018. Determinant Factors Influencing Organic Food Purchase Intention and the Moderating Role of Awareness: A Comparative Analysis. *Food Qual. Prefer.,* **63:** 144–150.
6. Atalay, C., Olhan, E. and Ataseven, Y. 2019. Factors Affecting Organic Food Consumption a Case Study of Ankara. *J. Environ. Protec. Ecol.,* **20(1):** 196–205.
7. Aydogdu, M. H. and Kaya, F. 2020. Factors Affecting Consumers' Consumption of Organic Foods: A Case Study in GAP-Şanlıurfa in Turkey. *J. Agr. Sci. Tech.,* **22(2):** 347-359.
8. Bai, L., Wang, M. and Gong, S. 2018. Understanding the Antecedents of Organic Food Purchases: The Important Roles of Beliefs, Subjective Norms, and Identity Expressiveness. *Sustainability,* **11:** 1-19.
9. Basha, M. B., Mason, C., Shamsudin, M. F., Hussain, H. I. and Salem, M. A. 2015. Consumers Attitude towards Organic Food. *Procedia Econ. Financ.,* **31**: 444-452.
10. Boz, I. and Kaynakci, C. 2019. Possibilities of Improving Organic Farming in Turkey. *Int. J. Innov. Econ. Dev.,* **5(4):** 25-35.
11. Cavite, H. J., Mankeb, P., Kerdsriserm, C., Joedsak, A., Direksri, N. and Suwanmaneepong, S. 2022. Do Behavioral and Socio-Demographic Factors Determine Consumers' Purchase Intention towards Traceable Organic Rice? Evidence from Thailand. *Org. Agric.,* **12**: 243–258.
12. https://doi.org/10.1007/s13165-022-00387-1

13. Chen, B., Saghaian, S. and Zheng, Y. 2018. Organic Labelling, Private Label, and US Household Demand for Fluid Milk. *Appl. Econ.,* **50:** 3039–3050.

14. Chiciudean, G. O., Harun, R., Ilea, M., Chiciudean, D. I., Arion, F. H., Ilies, G. and Muresan, I. C. 2019. Organic Food Consumers and Purchase Intention: A Case Study in Romania. *Agronomy*, **9(3):** 145.

15. Cortina, J. M. 1993. What Is Coefficient Alpha? An Examination of Theory and Applications. *J. Appl. Psychol.,* **78(1):** 98–104.

16. Cranfield, J. A. L. and Magnusson, E. 2003. Consumers' Willingness to Pay for Pesticides Free Food Products: An Ordered Probit Analysis. *Int. Food Agribus. Manag. Rev.,* **6(4):** 13-30.

17. Curl, C. L., Beresford S.A., Hajat A., Kaufman, J., Moore, K., Nettleton, J. and Ana, D. R. 2013. Associations of Organic Produce Consumption with Socioeconomic Status and the Local Food Environment. Multi-Ethnic Study of Atherosclerosis (MESA). *PLoS One,* **8(7):** 1-8.

18. Curvelo, I. C. G., Watanabe; E. A. M. and Alfinito, S. 2019. Purchase Intention of Organic Food under the Influence of Attributes, Consumer Trust and Perceived Value. *Revista de Gestão,* **26(3):** 198-211.

19. De Canio, F. and Martinelli, E. 2021. EU Quality Label vs Organic Food Products: A Multigroup Structural Equation Modeling to Assess Consumers' Intention to Buy in Light of Sustainable Motives. *Food Res. Int.,* **139:** 109846.

20. Demirtas, B. 2019. Assessment of the Impacts of the Consumers' Awareness of Organic Food on Consumption Behavior. *Food Sci. Technol.,* **39(4):** 881-888.

21. Deviren, N. V. and Celik, N. 2017. Dünya'da ve Türkiye'de Organic Tarimin Ekonomik Açıdan Değerlendirilmesi. *Uluslararası Sosyal Araştırmalar Dergisi,* **10(48):** 669-678.

22. Du, S., Bartels, J., Reinders, M. and Sen, S. 2017. Organic Consumption Behavior: A Social Identification Perspective. *Food Qual. Prefer.,* **62:** 190–198.

23. Dimitri, C. and Dettmann, R. 2012. Organic Food Consumers: What Do We Really Know About Them?. *Br. Food J.,* **114(8):** 1157-1183.

24. Domínguez-Almendros, S., Parejo, N. B. and Gonzalez-Ramire, A. R. 2011. Logistic Regression Models. *Allergologia et Immunopathologia,* **39(5):** 295-305.

25. do Prado, N. B. and Moraes, G. H. S. M. D. 2020. Environmental Awareness, Consumption of Organic Products and Gender. *Revista de Gestão,* **27(4):** 353-368.

26. Dutta-Bergman, M. J. 2004. An Alternative Approach to Social Capital: Exploring the Linkage between Health Consciousness and Community Participation. *Health Commun.,* **16(4):** 393-409.

27. Grubor, A., and Djokic, N., 2016. Organic Food Consumer Profile in the Republic of Serbia. *Br. Food J.,* **118:** 164-182.

28. Hansen, T., Sørensen, M., Eriksen, M., 2018. How the Interplay between Consumer Motivations and Values Influences Organic Food Identity and Behavior. *Food Policy.* **74:** 39-52.

29. Konuk, F., 2018. The Role of Store Image, Perceived Quality, Trust and Perceived Value in Predicting Consumers' Purchase Intentions towards Organic Private Label Food. *J. Retail. Consum. Serv.,* **43:** 304-310.

30. Kranjac, M., Vapa-Tankosić, J., Knezevic, M., 2017. Profile of Organic Food Consumers. *Ekonomika poljoprivrede,* **64:** 497-514.

31. Mirkarimi, K., Mansourian, M., Kabir, M., Ozouni, D. R., Eri, M., Hosseini, S., Qorbani, M., Safari, O., Rastgarimehr, B., Noroozi, M., Charkazi, A., and Shahnazi, H. 2016. Fast Food Consumption Behaviors in High-School Students Based on the Theory of Planned Behavior (TPB). *Int. J. Pediatr.,* **4:** 2131-2142.

32. Molinilloa, S., Brancob, M. V. and Arnold Japutra, A. 2020. Understanding the Drivers of Organic Foods Purchasing of Millennials: Evidence from Brazil and Spain. *J. Retail. Consum. Serv.,* **52:** 1-9.

33. Moorman, C. and Matulich, E. 1992. A Model of Consumers' Preventive Health Behaviors: The Role of Health Motivation and Health Ability. *J. Consum. Res.,* **20(2):** 208–228.

34. Nguyen, H. V., Nguyen, N., Nguyen, B. K., Lobo, A., and Vu, P. A. 2019. Organic Food Purchases in an Emerging Market: The Influence of Consumers' Personal Factors and Green Marketing Practices of Food Stores. *Int. J. Environ. Res. Public Health,* **16:** 1-17.

35. Nithya, N., Kiruthika, R. and Dhanaprakhash, S. 2022. Shift in the Mindset: Increasing Preference towards Organic Food Products in Indian Context. *Org. Agric.,* **12:** 213–228.

36. Onyango, B. M., Hallman, W. K. and Bellows, A. C. 2007. Purchasing Organic Food in US Food Systems: A Study of Attitudes and Practice. *Br. Food J.,* **109(4- 5):** 399-411.

37. Pacho, F. 2020. What Influences Consumers to Purchase Organic Food in Developing Countries?. *Br. Food J.,* **122(12):** 3695-3709.

38. Peng, C. Y. J, Lee, K. L. and Ingersoll, G. M. 2010. An Introduction to Logistic Regression Analysis and Reporting. *J. Educ. Res.,* **96(l):** 3-14.

39. Pércsi, K. N. and Fogarassy, C. 2019. Important Influencing and Decision Factors in Organic Food Purchasing in Hungary. *Sustainability,* **11:** 2-21.

40. Pomsanam, P., Napompech, K. and Suwanmanee, S. 2014. An Exploratory Study on the Organic Food Purchase Intention among Thai-Cambodian Cross-border Consumers. *Asian J. Appl. Sci.,* **7(5):** 294-305.

41. Qi, X., Yu, H. and Ploeger, A. 2020. Exploring Influential Factors Including COVID-19 on Green Food Purchase Intentions and the Intention–Behaviour Gap: A Qualitative Study among Consumers in a Chinese Context. *Int. J. Environ. Res. Public Health*, **17:** 1 – 22.

42. Raj, V. A., Raj, S. and Singh, S. 2020. The Effect of Demographic Factors on Consumers Organic Food Purchase During Covid 19. *Emerg. Res.,* **7(IV):** 65-70.

43. Rana, J., Paul, J., 2017. Consumer Behavior and Purchase Intention for Organic Food: A Review and Research Agenda, *J. Retail. Consum. Serv.,* **38**: 157-165.

44. Rizzo, G., Borrello, M., Guccione, G. D., Schifani, G. and Cembalo, L., 2020. Organic Food Consumption: The Relevance of the Health Attribute. *Sustainability*, **12(2):** 1-12.

45. Sadiq, M., Paul, J. and Bharti, K. 2020. Dispositional Traits and Organic Food Consumption. *J. Clean. Prod.,* **266:** 1-10

46. Secapramana, L. V. H. and Katargo, A. L. G. 2019. Antecedents Affecting Organic Food Purchase Intentions. *Int. J. Organ. Innov..* **12(2):** 140-150.

47. Shamsudin, M., Basha, M., Mason, C., Hussain, H. I., Salem, M. A. and Ahmad, Z. 2018. Role of Environmental Concern towards Purchase Intention in Organic Food Product Consumption. *Int. J. Eng. Technol. (UAE),* **7:** 34-36.

48. Singh, A. and Verma, P. 2017. Factors Influencing Indian Consumers' Actual Buying Behaviour towards Organic Food Products. *J. Clean. Prod.,* **167:** 473-483.

49. Slamet, A. S., Nakayasu, A. and Bai, H. 2016. The Determinants of Organic Vegetable Purchasing in Jabodetabek Region, Indonesia. *Foods,* **5:** 85.

50. Soorani, F. and Ahmadvand, M. 2019. Determinants of Consumers' Food Management Behavior: Applying and Extending the Theory of Planned Behavior. *Waste Manag.,* **98.** 151-159.

51. Stobbelaar, D. J., Casimir, G., Borghuis, J., Marks, I., Meijer, L. and Zebeda, S. 2007. Adolescents' Attitudes towards Organic Food: A Survey of 15- to 16-Year Old School Children. *Int. J. Consum. Stud.,* **31**: 349-356.

52. Tarkiainen, A. and Sundqvist, S. 2005. Subjective Norms, Attitudes and Intentions of Finnish Consumers in Buying Organic Food. *Br. Food J.,* **107(11):** 808-822.

53. Tommasetti, A., Singer, P., Troisi, O. and Maione, G. 2018. Extended Theory of Planned Behavior (ETPB): Investigating Customers' Perception of Restaurants' Sustainability by Testing a Structural Equation Model. *Sustainability*, **10:** 1-21.

54. Tuan, T. N. and Vinh, T. T. 2016. An Exploration in the Theory of Planned Behavior: A Case of Organic Food in Vietnam. *Int. J. Appl. Bus. Econ. Res.,* **14:** 4951–4972.

55. Tran, A. T. V. and Nguyen, N. T. 2021. Organic Food Consumption among Households in Hanoi: Importance of Situational Factors. *Sustainability*, **13:** 12496.

56. Verma, R. 2015. Environmental Benefits of Organic Food and Agriculture. *Soc. Issues Environ. Prob.,* **3(9):** 1-3.

57. Voon, J. P., Ngui, K. S. and Agrawal, A. 2011. Determinants of Willingness to Purchase Organic Food: An Exploratory Study Using Structural Equation Modeling. *Int. Food Agribus. Manag. Rev.,* **14(2):** 103-120.

58. Wang, J., Pham, T. L. and Dang, V. 2020. Environmental Consciousness and Organic Food Purchase Intention: A Moderated Mediation Model of Perceived Food Quality and Price Sensitivity. *Int. J. Environ. Res. Public Health,* **17:** 1-18.

59. Watanabe, E., Alfinito, S., Curvelo, I. and Hamza, K. 2020. Perceived Value, Trust and Purchase Intention of Organic Food: A Study with Brazilian Consumers. *Br. Food J.,* **122(4):** 1070-1184.

60. Werf, P. V. D., Seabrook, J. A. and Gilliland, J. A. 2019. Food for Naught: Using the Theory of Planned Behaviour to Better Understand Household Food Wasting Behaviour. *Can. Geogr.,* **63(3):** 478–493.

61. Willer, H., Jan, T., Claudia, M. and Bernhard, S. 2021. *The World of Organic Agriculture. Statistics and Emerging Trends 2021.* Research Institute of Organic Agriculture FIBL, Frick, and IFOAM – Organics International, Bonn. Avaible at: https://www.fibl.org/fileadmin/documents/shop/1150-organic-world-2021.pdf. Accessed on 03 September 2021.

62. Yazdanpanah, M. and Forouzani, M. 2015. Application of the Theory of Planned Behaviour to Predict Iranian Student' Intention to Purchase Organic Food. *J. Clean. Prod.,* **107:** 342-352.

63. Zhu, Y. 2018. Using the Theory of Planned Behavior to Investigate What Influences Chinese Intention to Purchase Organic Food. *China-USA Bus. Rev.,* **17(6):** 324-333.

64. Zureik, E. and Mowshowitz, A. 2005. Consumer Power in the Digital Economy. *Commun. ACM,* **48(10):** 46-51.

عوامل موثر در مصرف مواد غذایی آلی: شناسایی آگاهی مصرف کننده و محرک‌های رفتاری

ا. سسر

چکیده

ازنظر گرایش مصرف گرایی پایدار، مصرف مواد غذایی آلی (ارگانیک) به یک روند بزرگ در بین مصرف کنندگان و یکی از موارد منحصر به فرد در اقتصاد جهانی تبدیل شده است. این پژوهش با هدف شناسایی عوامل مؤثر بر تمایل مصرف‌کنندگان به خرید مواد غذایی آلی با استفاده از رویکردی جامع و با در نظر گرفتن محرک‌های رفتاری، آگاهی مصرف‌کننده، و ویژگی‌های جمعیت‌شناختی انجام شد. در این مورد، برای داشتن درک عمیق از محرک های رفتاری، از نظریه رفتار برنامه ریزی شده (Theory of Planned Behavior) استفاده شد. نیز، برای تعیین عوامل موثر بر نیت و قصد مصرف کنندگان برای خرید مواد غذایی آلی، تجزیه و تحلیل رگرسیون لجستیک به کار رفت. عوامل رفتاری با مقیاس‌های مختلف استخراج شد و تناسب این ابزار اندازه‌گیری با تحلیل عاملی تأییدی (confirmatory factor analysis) تأیید شد. یافته های این مطالعه نشان داد که هنجارهای ذهنی(subjective norms)، کنترل رفتاری ادراک شده، آگاهی از سلامت، نگرانی‌های مربوط به مسئولیت اجتماعی، و اعتماد تأثیر مثبتی بر قصد افراد برای خرید مواد غذایی آلی دارد، در حالی که نگرش ذهنی و آگاهی محیطی تأثیری نداشت. در مورد محرک ها و موانع مصرف مواد غذایی آلی، این پژوهش دانشی را فراهم آورد که ممکن است به همه ذینفعان این بخش به ویژه تولیدکنندگان، بازاریابان و سیاست گذاران کمک کند. نتایج این پژوهش یک مدل یکپارچه در مورد رفتار مصرف کننده نسبت به مواد غذایی آلی در کشورهای در حال توسعه ارائه می دهد.