



Determining consumers' intent to purchase organic foods in emerging market: price perception affect in moderated mediation model

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Received: 22 July 2022 / Accepted: 22 October 2022 / Published online: 9 November 2022
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Abstract

The main purpose of this research is to explore whether consumers' consciousness of health, environment and food safety concern affect their intention to purchase organic foods through attitude mediation and price perception moderation. In the study, a sample of consumers who buy organic food was determined. 386 data were collected in Turkey. Confirmatory factor analysis made in the Amos 22.0 program and hypothesis tests were carried out in the Process Macro with Model 14. The results indicated that consciousness of health, environment and food safety effect consumers' organic food attitude positively. Further, consumer attitude towards organic food effect their purchase intention. In addition, price perception show moderating effect on this relationship. Moreover attitude mediation effect (full and partial) has been proven. With this study, a comprehensive model has been revealed for emerging countries regarding the purchase of organic foods. Price perception moderating effect between attitude and purchase intention has been proven.

Keywords Health consciousness · Environmental concern · Food safety concern · Price perception · Purchase intention · Organic foods

1 Introduction

Organic product purchasing has been the subject of researches in many countries (Xie et al., 2015; Nagaraj, 2021) and in many sectors (Nguyen et al., 2019; Yu et al., 2021). The reason for this is the health benefits, environmental benefits and economic benefits provided by the organic product. In the field of health, the benefits of organic nutrition for the human body are known by researches (Pham et al., 2019). Environmentally, it is known that there is a significant difference between traditional

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foods and organic foods in terms of damage to nature (Siegrist & Hartmann, 2019). Economically, organic nutrition becomes a very important issue for both individuals and governments, as it reduces the health expenditures of people in the long run (Yadav et al., 2019). Organic product sales reached 120 billion dollars in the World in 2020 (Statista, 2022). Although organic product consumption is on the rise in developing countries, developed countries currently have the highest organic product consumption rate (%86) (Asif et al., 2018). Controlled and certified products that are produced without the use of chemical inputs, additives and processes/methods that are harmful to humans and the ecosystem, at all stages from seed to harvest and from harvest to the end user, are described as “organic foods” (Pacho, 2020; Iqbal et al., 2021). The effects of organic foods on human health, environmental health and welfare of countries are known (Asif et al., 2018). For this reason, it is necessary to increase the consumption of organic foods in developing countries and then to start practices in underdeveloped countries. On the other hand, the pandemic process has increased the interest in organic nutrition (Statista, 2022). In addition, Turkey attracts the attention of researchers as it is a large market, with around 25% of its population working in the agricultural sector in organic food production (Gulseven, 2018). Therefore, in the study, the reasons for consumers in Turkey to buy organic foods will be investigated.

When the studies on purchasing organic foods in the literature are examined, it has been seen that many studies (Nguyen et al., 2019; Rong-Da Liang & Lim, 2020) have been carried out to increase all kinds of consciousness (such as health, environment, etc.). However, it has been observed that the price variable has not been studied sufficiently. Especially in developing countries, it is thought that researches without price variable in the purchase of organic foods may be incomplete. In this regard, the price variable has been considered as an important gap in the purchase of organic foods in developing countries. Therefore, the main purpose of this research is to explore whether consumers’ consciousness of health, environment and food safety concern affect their intention to purchase organic foods through attitude mediation and price perception moderation. Thus, a more comprehensive model for purchasing organic foods will be developed for developing countries. This is the first significant contribution of the study to the literature. In addition, by revealing the effect of health, environment and food safety consciousness, it will be possible to determine which variable should be given more importance. Thus, this variable will be more prominent in the promotions (advertisement, sales promotion, etc.) related to the organic foods. In addition to these, necessary components will be revealed for the development of consumers’ attitude. Accordingly, by increasing the consumers’ attitude towards organic foods, human health will be protected in the long term and individuals/governments will be able to gain economic benefits.

2 Literature and hypothesis development

Nowadays, we are faced with many production-based problems (climate change, air pollution, unconscious consumption of resources). Especially developing countries increase these problems more due to rapid economic growth, increase in population

and insufficient infrastructure (Kinney, 2018). Therefore, increasing conscious behaviors is very important for the sustainability of individuals, societies and the environment in developing countries. Among the conscious behaviors, the prominent studies (Shin et al., 2019; Tandon et al., 2021) in the literature are generally between health and environmental consciousness. The important purchasing element associated with these issues is organic food. Although concepts such as biological, organic and ecological are generally used to describe similar concepts, there are small differences between them arising from the perception of society. The concept of “ecological product”, which is another frequently used word when marketing products, means that the entire life cycle of the product is environmentally friendly and the product is of good quality (Li et al., 2021). That is, the entire cycle must be environmentally friendly, including raw materials, production, packaging, shipping, recycling of packaging or product. In European Union countries, environmentally friendly and high quality products can have the Ecolabel logo with EU Ecolabel certification. Ecological and organic agriculture are used synonymously in Turkey, and these concepts and logos can be included in the product packaging by obtaining the necessary certifications from different certification authorities (Almli et al., 2019). Also, according to European Union regulations, for a product to be called organic, 95% of the product content must be organic, and the remaining 5% must be content subject to strict restrictions and regulations (Lafarga, 2019). In addition, a code number and country of origin must be written next to the organic logo. The requirements in Turkey are also in this direction. The importance of organic foods is gradually increasing, especially in terms of using traditional methods in the production process, not using chemicals that increase the harvest, and reducing the damage to the environment and animals. In addition, considering that nutrition with organic foods will reduce future health expenditures, it is foreseen that it is an issue that needs to be addressed in terms of states (Kushwah et al., 2019). For this reason, it should be one of the important duties of states to turn to organic foods and to increase the number of conscious individuals in this regard.

2.1 Health consciousness

Health consciousness means that individuals know and practice activities (such as sports, food, sleep, relaxation, etc.) that they need to perform for their own health (Asif et al., 2018). Health is one of the issues that are considered as a priority by consumers when purchasing products (Pacho, 2020). This becomes even more important when it comes to food consumption. Consumers describe organic foods as healthy and natural (Kushwah et al., 2019). In addition, organic foods contain fewer chemicals and more nutrients. For this reason, consumers find it healthier than traditional foods (Iqbal et al., 2021). For this reason, an important link is established in the minds of consumers. Therefore, health consciousness is seen as the main driver in purchasing organic food. Rong-Da Liang and Lim (2020) who have studies on this subject, found that when health consciousness increases, people's positive attitudes towards organic foods also increase. In addition, it has been revealed that the main reason for purchasing organic food is health concerns

(Tandon et al., 2021). Yazar and Burucuoglu (2019) also find significant relationship between health consciousness and customers attitude for both women and men. Moreover, this effect was found to be higher in women. Nagaraj (2021) revealed in his research that there is a significant relationship between purchasing organic products and health consciousness. In addition, he showed that health consciousness has positive effect on consumers' attitude. There are many scholars (Asif et al., 2018; Pacho, 2020; Rong-Da Liang & Lim, 2020; Nagaraj 2021) who have reached similar conclusions in this regard. Thus, the first hypothesis was prepared in this direction as follows;

H1: Health consciousness affects attitude towards organic foods positively and significantly.

2.2 Environmental concern

One of the prominent variables in purchasing organic foods after health consciousness is environmental concerns. Especially the abuse of animals and the gradual deterioration of the balance of nature increase this concern (Shin et al., 2019). Since animal rights are taken into account in the production of organic foods and the use of chemicals is reduced, the damage to the environment can also be reduced. Moreover, facilitating recycling elements is also beneficial for the environment. Generations X and Y, who have reached the purchasing age, taking more care in this regard also helps to increase the interest in organic products (Ayyub et al., 2018). In addition, future purchases are also shaped depending on the level of consumer consciousness. This, in turn, will support sustainable consumption practices along with the attitudes of individuals. In addition, it has been revealed that environmental consciousness is effective on attitudes and behaviors in different cultures. In the studies (Ayyub et al., 2018; Pham et al., 2019) conducted on this subject, significant relationships were found between the importance given to the environment and the attitude and purchase. Nguyen et al. (2019) found that consumers environmental concerns and organic foods attitude positively related. Also, Ayyub et al. (2018), in their study measuring the preferences of young consumers, revealed that environmental consciousness strongly influences the purchasing organic food decision of consumers. Similarly, Pham et al. (2019) confirmed the effect of environmental consciousness on attitudes in their research on organic product preferences of young consumers. In addition, Shin et al. (2019) revealed in their research on organic menu preferences of consumers that the variables that cause more payment and intention to buy are environmental consciousness, health consciousness and social values. Moreover, environmental consciousness has come to the fore as the variable that has the most impact in their study. Thus, the second hypothesis was prepared in this direction as follows;

H2: Environmental concern affects attitude towards organic foods positively and significantly.

2.3 Food safety concern

Food safety was one of the issues that people paid attention to in the past (World Health Organization, 1999). However, it has become much more important during the pandemic period as people stay home and pay more attention to what they eat. Individuals learned more about food additives, artificial sweeteners, antibiotics, harmful chemicals (Yu et al., 2021). In addition, healthy nutrition studies on social media and mass media make people think more about this issue. Therefore, it is stated that the more people become aware of food safety, the more their demands for organic foods will increase. From research on this subject, Pham et al. (2019) revealed that food safety concerns and health consciousness have a significant impact on the attitude of young consumers. Also Nguyen et al. (2019) showed that adult consumers' food safety concern affects their attitudes towards organic foods. In addition, Yazar and Burucuoglu (2019) proved that there is a relationship between food safety concern and attitude in both men and women. Moreover, it has been observed that this effect is higher in women than in men. In other study, Nagaraj (2021) found a significant relationship between food safety concern and attitude. In addition, food safety concern has proven to affect consumers' purchase intention. In addition, Le-Anh and Nguyen-To (2020) found a strong relationship between food safety and attitude towards organic foods. Similarly, Iqbal et al. (2021) revealed that the components of health consciousness and food safety concern are the first-level influencing components in the purchasing process of organic foods. Thus, the third hypothesis was prepared in this direction as follows;

H3: Food safety concern affects attitude towards organic foods positively and significantly.

2.4 Price perception

Price is one of the features that consumers primarily evaluated while making a purchase. When the markets with high sales in developing countries are evaluated, discount markets take the first place (Katt & Meixner, 2020). This shows that the number of customers who care about price is quite high. When it comes to organic products, although many consumers consider it healthier and more natural than traditional products, they may give up on purchasing because their prices are higher than traditional products (Saleki et al., 2019). Due to the level of welfare in developing countries, this situation affects consumers more clearly. According to research, 82% of the customers stated that they gave up on organic products because of the price (Xie et al., 2015), while they were willing to pay 10–12% higher prices at most (Yadav et al., 2019). However, many organic foods are priced as high as 25–30%. Although consumers are conscious of the benefits of organic foods, their prices are more prominent in purchasing (Rödiger & Hamm, 2015). Therefore, price emerges as an important barrier to the purchase of organic foods. Similar results can be observed in researches on this subject. Saleki

et al. (2019) proved that price perception has a moderating effect between purchase intention and purchase behavior in his research on organic foods. Nguyen et al. (2019) also revealed that the price barrier had a negative impact on consumers' organic food purchase intention. Moreover, Yadav et al. (2019) showed that the most important barrier felt in purchasing organic foods is the high price from interviews with customers. In the second place, it is difficult to find organic foods in supermarkets. Suttikun (2021) investigated the effect of price consciousness on purchasing organic products. Consequently, the perception of the price as high or low plays a decisive role in purchasing organic foods. Empirical studies on this subject in developing countries are insufficient in the literature. Therefore, the next hypothesis is based on the regulatory effect of price perception;

H4: Price perception moderates the relationship between attitude towards organic foods and purchase intention.

2.5 Attitude towards organic foods and purchase intention

There are many theories (theory of reasoned action, theory of planned behavior, alphabet theory, expectancy value theory and rational choice theories) in the literature with purchase intention. Fishbein and Ajzen (1981) revealed the link between attitude, intention, and behavior in the decision-making process. Ajzen and Madden (1986) developed a new theory by preserving the relationship between attitude, intention and behavior (Theory of planned behavior). One of the prominent points in these theories is the connection between attitude and intention. With the affirmation of the attitude, the intention of the individuals also tends to the positive. Therefore, revealing the antecedents that make the attitude positive and the elements that can transform the positive attitude into intention form the basis of many studies. In this study, variables/drivers that can create a positive attitude towards organic foods and price moderation that can affect the transformation of a positive attitude into purchasing will be discussed. In addition to these, the relationship between consciousness level and attitude can be evaluated within the scope of knowledge-attitude-behavior theory (Wang et al., 2019). So theoretically, it's pretty clear that there is a strong link. Also, scholars have confirmed the relationship between attitude and intention in many fields (Trivedi et al., 2018; Wang et al., 2020). One of these areas is the organic product sector. From research on this subject, Pham et al. (2019) revealed in their research that the attitude towards organic products strongly affects the purchase intention. Nagaraj (2021) stated that attitude towards organic foods and purchase intention is significantly related. Similarly Le-Anh and Nguyen-To (2020) found a strong link between attitude towards organic foods and purchase intention. Thus, the fifth hypothesis was prepared in this direction as follows;

H5: Attitude towards organic foods affects purchase intention positively and significantly.

3 Methodology

The main purpose of this research is to explore whether consumers' consciousness of health, environment and food safety affect their intention to purchase organic foods through attitude mediation and price perception moderation. For this reason, the behavior of consumers towards organic foods, who work in Turkey and have their own economic freedom has been examined. All the participants were full-time employees in private and public sector. The model studied in the study is shown in Fig. 1.

3.1 Population

The population of the study is living in Turkey and all of them organic food consumers. The sample was chosen among these consumers by purposeful sampling and the study was carried out. 386 people voluntarily agreed to participate. For the purpose of the study, each participant was asked whether he/she bought organic foods or not. Thus, investigating the purchase intention of consumers with a certain level of organic food purchasing knowledge will help produce more predictable results. It was also asked whether he/she had his/her own economic freedom and continued to work with those who approved. For those who do not work in any job were not included in the study.

3.2 Measures and data collection

An online questionnaire form (googleforms) was used to collect data in the research. Since the research was conducted online, the participants were able to participate from all regions of Turkey, provided that they work in any job (to ensure economic freedom) and they bought organic food before. Between the dates of 01.04.2022 and 26.04.2022, the data were collected by online survey method through google forms. Before the study was carried out, Ethics Committee Permission was obtained from Bayburt University in order to carry out the scales and the study in accordance

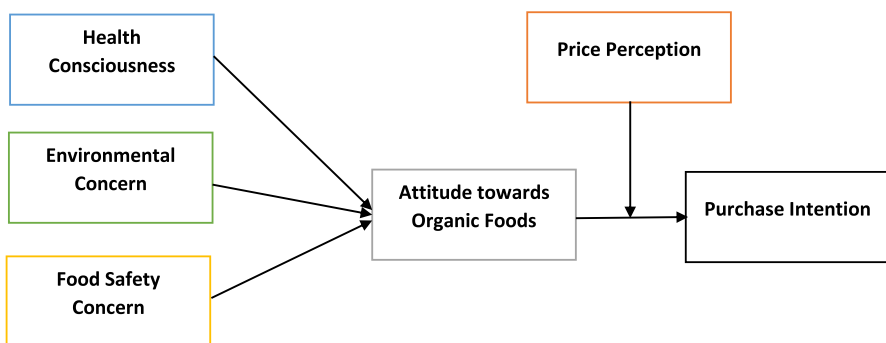


Fig. 1 Proposed theoretical framework

with ethical rules. The applied questionnaire consists of two parts. In the first section, questions about consumers' organic food preferences are in the form of Likert type (1:strongly disagree-7:strongly agree); In the second part, questions about demographic characteristics are included with nominal scale. Health consciousness, environmental concern, food safety concern, price perception, attitude and purchase intention were measured for organic food preferences of consumers. For content validity, two independent marketing lecturer control translated original scales.

Health consciousness and price perception adopted from Chu (2018); environmental concern adopted from Yadav & Pathak (2016); food safety concern, attitude toward organic food and purchase intention adopted from Pham et al. (2019) studies. The Health consciousness scale includes the items 'sacrifice a lot for health', 'eat healthy as possible', 'consider a lot in my life', 'how to eat well'. The price perception scale includes the items 'organic not cheap', 'more fit for high revenue', 'share premium', 'beyond my budget'. Environmental concern scale includes items such as 'nature is delicate', 'abuse environment', 'balance with nature', 'human interferences'. The food safety concern scale includes items such as 'chemical sprays and fertilizers', 'artificial additives', 'quality and safety'. Attitude toward organic foods scale includes items such as 'beneficial', 'wise choice', 'feel good', 'pleased'. Purchase intention scale includes items such as 'willing to buy', 'intend to purchase', 'make an effort'.

3.3 Preliminary analysis

The data obtained as a result of the research were analyzed in the "SPSS 22.0" statistical program via Process Macro (Hayes, 2022). In the research firstly, extreme value analysis was performed to detect the data with extreme values and outlier data were excluded from the study. Afterwards, it was examined whether the data showed a normal distribution and it was seen that all values were within the expected limits of +1.5–1.5 (Tabachnick & Fidell, 2013). Further, the VIF values ranged from 1.04 to 1.2 (below 5), and intercorrelations between variables less than 0.70, indicating the absence of multicollinearity.

Table 1 shows inter-construct correlation values, cronbach alpha value, composite reliability and ave values. In the study, cronbach alpha and composite reliability

Table 1 Correlations, cronbach alpha, composite reliability and AVE values

Variables	1	2	3	4	5	6	C.A.	C.R.	AVE
1	-	0.124	0.095	-0.044	0.23	0.163	0.85	0.80	0.62
2		-	-0.039	0.070	0.20	0.132	0.90	0.88	0.71
3			-	0.072	0.21	0.270	0.89	0.86	0.74
4				-	0.26	0.274	0.79	0.67	0.50
5					-	0.151	0.90	0.87	0.70
6						-	0.95	0.94	0.86

Variables: 1-Health consciousness, 2-Environmental concern, 3-Food safety concern, 4- Price perception, 5-Attitude towards organic foods, 6-Purchase Intention

were examined for reliability, and confirmatory factor analysis was used for construct validity. For reliability in the study, cronbach alpha and C.R. coefficients were examined and reliability was ensured as it was above 0.7 for all variables (Hair et al., 2017). Convergent validity was proven by average variance extracted (AVE) value for all constructs was above 0.5 and all constructs C.R. values greater than AVE values. Therefore, convergent validity was provided in the study (Hair et al., 2010). Only the price perception composite reliability value is 0.67, which is below the expected value. However, since the C.A. value was over 0.7 and the C.R value converged quite a lot, the study was continued with these variables (Lai, 2021). In addition, the square root of AVE value was compared with the correlation coefficient value to see if discriminant validity was achieved in the study (Fornell and Larcker, 1981). The square root of AVE value for each variable is greater than the correlation value with other variables. Therefore, discriminant validity was provided in the study.

4 Results

4.1 Confirmatory factor analysis

In the research, in addition to the AVE value for construct validity with confirmatory factor analysis, analysis was performed. Model fit values were calculated as GFI: 0.95, AGFI: 0.93, TLI: 0.99, CFI: 0.99 and RMSEA: 0.03. Therefore, since perfect fit values were achieved in terms of the values in the Byrne (2013) fit index, confirmatory factor analysis was accepted without any modification, and moved on to hypothesis testing. Also, the standardized factor loading of each item ranged from 0.51 to 0.95 and statistically significant ($p < .001$). Therefore, after confirming the confirmatory factor analysis data, hypothesis testing was started.

4.2 Hypothesis testing

SPSS Process Macro program produced by Hayes (2012) was used for hypothesis testing. In Process Macro, interaction effect is calculated automatically via the software and it also produces the proportion of the variance explained by the moderating effect of price perception. Process macro program is based on bias-corrected bootstrap method. Bias-corrected bootstrap method was used to examine the significance of mediation effect. If the confidence interval does not contain zero, it means the significance of the effects. In order to test the hypotheses in the research, the 14th model was determined as the most suitable model and set the sample size to 5,000 and the confidence interval to 95% and the analyzes were carried out (Hayes, 2022). The regression coefficients are estimated using two OLS regression analyzes at the base of the model. Since there is only one independent variable and one mediator variable in this model, the method of increasing the number of independent variables suggested by Hayes (2022: 415) was followed. Thus, the impact of three independent variables on consumers' organic food attitude (mediator) and purchase

intention was revealed under price perception moderation. The results of moderated mediation analysis presenting in Tables 2, 3 and 4.

The results indicate that health consciousness has a significant impact on attitude towards organic foods ($F=24.54$, $p<.001$, $R^2=0.06$) and varied at high and low health consciousness levels ($LLCI=0.034$, $ULCI=0.253$). Accordingly, the H1 hypothesis was accepted. Also, the effect of attitude on purchase intention is confirmed (H5). In addition, the indirect relationship between health consciousness and attitude, price and intention is also revealed ($F=16.79$, $p<.001$, $R^2=0.15$). Accordingly, a partial mediation effect of attitude was found between health consciousness and purchase intention. Moreover, price perception moderator effect has been revealed between attitude and purchase intention (H4).

In two price perception level (low and average) have significant impact on attitude and price perception ($p<.05$). However, high price perception level don't have impact on this relationship ($p>.05$). As seen in Fig. 2, when price perception is low, there is a significant increase in attitude and purchase intention. At the average price level, it can be stated that there is an improvement in the attitude towards the organic food and the purchase intention.

Environmental concern has a significant effect on attitude ($F=11.49$, $p<.001$, $R^2=0.03$) and varied at high and low environmental concern levels ($LLCI=-0.044$, $ULCI=0.156$). Thus, the H2 hypothesis was accepted. Also, the effect of attitude on purchase intention is confirmed (H5). However, it was observed that environmental concern had no effect on purchase intention (Table 3). On the other hand, indirect relationship between health consciousness and attitude, price and intention is revealed ($F=15.22$, $p<.001$, $R^2=0.14$). While environmental concern does not directly affect the organic food purchase intention, it does affect it through attitude. Therefore, it can be stated that there is a full mediation effect here. In addition, price perception moderating effect between attitude and purchase intention has been revealed (H4).

Similarly with health consciousness, in environmental concern, two price perception level (low and average) have significant impact on attitude and price perception ($p<.05$). On the other hand, high price perception level don't have impact on this relationship ($p>.05$). When price perception is low, there is a strong significant increase in attitude and purchase intention (Fig. 3). At the average price level, it can be stated that there is an increase in the purchase intention. However, there is no significant change in purchase intention at the high price perception level.

Food safety concern has a significant impact on attitude ($F=18.77$, $p<.001$, $R^2=0.05$) and varied at high and low food safety concern levels ($LLCI=0.150$, $ULCI=0.359$). Thus, the H3 hypothesis was accepted. Also, the effect of attitude on purchase intention is confirmed (H5). Moreover, the indirect relationship between food safety concern and attitude, price and intention is also revealed ($F=21.47$, $p<.001$, $R^2=0.18$). Hence, a partial mediation effect of attitude has been found between food safety concern and intention. In addition, price perception moderating effect between attitude and purchase intention is also confirmed in this relationship (H4). In other words, the positive attitude of the consumers according to the organic food price perception can be strengthened and the purchase intention of organic foods can increase.

Table 2 Total, direct and indirect effects for health consciousness

Model Paths	Estimated Effect	Standard Error	95% CI	
			Lower Bounds	Upper Bounds
Total Effect				
Health Consciousness→Purchase Intention**	0.144	0.056	0.034	0.253
Direct Effect				
Health Consciousness→Attitude***	0.274	0.055	0.165	0.382
Attitude→Purchase Intention**	0.128	0.051	0.026	0.229
Price Perception→Purchase Intention***	0.273	0.059	0.156	0.390
Indirect Effect				
HealthConsciousness(X)→Attitude(M))→Price Perception(W)→Purchase Intention(Y)***	-0.282	0.084	-0.448	-0.116

Notes * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3 Total, direct and indirect effects for environmental concern

Model Paths	Estimated Effect	Standart Error	95% CI	
			Lower Bounds	Upper Bounds
Total Effect				
Environmental Concern→Purchase Intention	0.056	0.051	-0.044	0.156
Direct Effect				
Environmental Concern→Attitude***	0.174	0.051	0.073	0.274
Attitude→Purchase Intention***	0.154	0.050	0.054	0.254
Price Perception→ Purchase Intention***	0.254	0.060	0.137	0.371
Indirect Effect				
EnvrionmentalConcern(X)→Attitude(M)→Price Perception(W)→PurchaseIntention(Y)**	-0.278	0.086	-0.448	-0.108

Notes * $p < .05$, ** $p < .01$, *** $p < .001$

As in other variables, significant changes were observed in two price perception levels (low and average) in food safety concerns ($p < .05$). There was no significant change in the level of high price perception ($p > .05$). A strong effect is observed in low and average price perception levels, attitude and purchase intention (Fig. 4). This effect is higher in low price perception. In other words, the attitude of consumers who have a low price perception about organic foods is more positive and their purchase intention increases.

5 Discussion

With this study, a comprehensive model has been revealed for emerging countries regarding the purchase of organic foods. The results showed the significant effect of health consciousness, environmental concern and food safety concern on the attitude towards organic foods. In addition, the relationship between attitude and purchase intention was also confirmed. These results are consistent with studies in the relevant literature (Shin et al., 2019, Nagaraj, 2021). In the study, health consciousness affects the intention to purchase organic products at the highest level ($R^2 = 0.06$), while food safety concern comes second ($R^2 = 0.05$). Moreover, in this study, it is very important to reveal the moderator role of the price perception variable in the relationship between attitudes towards organic foods and purchase intention. It fills an important gap in the literature for developing countries. Because even if the organic food attitude of the consumers is positive, if the price perception is high, the purchase intention may decrease. Therefore, retailers should pay close attention to the prices of organic products and start working to make them suitable for the budgets of conscious consumers. The more conscious consumers are about their environmental awareness and health, the more experience or knowledge they have, and the

Table 4 Total, direct and indirect effects for food safety concern

Model Paths	Estimated Effect	Standard Error	95% CI	
			Lower Bounds	Upper Bounds
Total Effect				
Food Safety → Purchase Intention***	0.254	0.053	0.150	0.359
Direct Effect				
Food Safety → Attitude***	0.238	0.055	0.130	0.347
Attitude → Purchase Intention*	0.112	0.050	0.015	0.210
Price Perception → Purchase Intention***	0.248	0.082	0.156	0.390
Indirect Effect				
Food Safety(X) → Attitude(M) → Price Perception(W) → Purchase Intention(Y)***	-0.282	0.084	-0.464	-0.140

Notes * $p < .05$, ** $p < .01$, *** $p < .001$

Fig. 2 Simple slop test for health consciousness effect on purchase intention with mediation effect of attitude and moderation effect of price perception

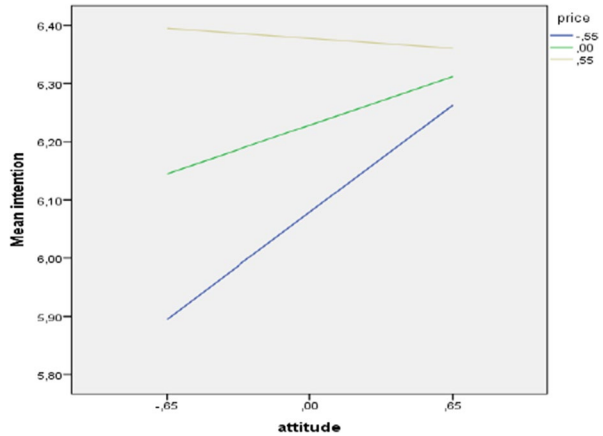
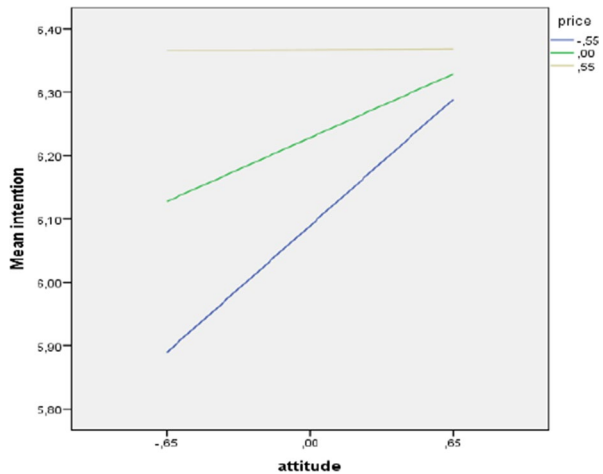


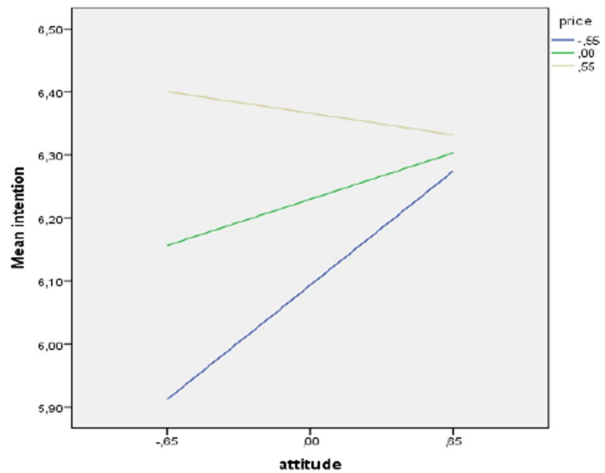
Fig. 3 Simple slop test for environmental concern effect on purchase intention with mediation effect of attitude and moderation effect of price perception



more positive their beliefs about the value of using organic foods, the more positive their attitudes will be.

Further, findings of the moderated mediation analysis revealed that the mediating impact of health consciousness, environmental concern and food safety concern via attitude does vary at high and low levels of consumers' purchase intention. While the attitude towards organic foods shows a partial mediating effect in the relationship between health consciousness, food safety concern and purchase intention, it shows a full mediation effect in the relationship between environmental concern and purchase intention. Therefore, it can be said that when consumers consuming organic foods, they think that they fulfill their responsibilities towards nature and their health. Therefore, they may be willing to pay a higher price. However, consumers may give up on these claims when prices are too high. In the current literature, there is no study investigating the moderator effect of price and the mediator effect

Fig. 4 Simple slop test for food safety concern effect on purchase intention with mediation effect of attitude and moderation effect of price perception



of attitude in this way. There are studies investigating the mediating effect of attitude or price (Nguyen et al., 2019; Suttikun, 2021). Therefore, the present study will provide important information for emerging countries with moderated mediation analysis to the literature.

If we evaluate it in the light of recent developments, it is predicted that the importance given to organic foods during the pandemic period may be affected/decreased as a result of worldwide events (such as increase in inflation, energy crisis, wars/tensions between countries, etc.). Especially in the last period, the tension between Russia and Ukraine has caused agricultural production not to be delivered to the countries in need, and the importance of production has been understood once again (Ben Hassen & El Bilali, 2022). Consequently, the elements found in the study should be emphasized more and consumers should be encouraged to turn to organic foods. Thus, countries will have to give more importance to the production of organic products. In addition, industrialized countries, which did not attach importance to agricultural production before, will be able to take steps in this direction. Therefore, the organic product will not be a product that can only be bought by a certain group/group and will be able to spread throughout the world. In this way, individuals will be fed better and a fairer distribution will be ensured.

5.1 Theoretical implications

Theoretically, the study contributes to the existing literature at several points. The first of these is to reveal the variables that will support the consumers' intention to buy organic foods under price moderation. No research has been found on this subject (price perception moderation) in developing countries. Since the price issue is a very important variable in purchasing organic foods and more importance is given in developing countries, it is thought that the current study makes an important contribution to this issue. Secondly, a comprehensive model was presented by testing the moderated mediation model (Hayes, 2022, model 14) with three different

independent variables (health consciousness, environmental concern, food safety concern) in organic food purchasing. Thirdly, the attitude towards organic food was considered as the mediator variable and the purchase intention as the dependent variable, and the theory of planned behavior was also confirmed in this study.

If we evaluate it together with the studies in the literature, the effect of health consciousness on organic food attitude is in parallel with the research of Rong-Da Liang and Lim (2020). Health consciousness is seen as the most important component influencing the attitude of consumers who buy organic foods in the literature. However, it was found to be the second important component in the study after food safety concern. The effect of environmental awareness on attitude is also reported by Nguyen et al. (2019) was confirmed in the study, similar to the their study. In addition, it has been observed that there is a strong relationship between food safety concern and attitude. This is similar to the Le-Anh and Nguyen-To (2020) research. Attitudes towards organic foods showed a partial mediating effect in health consciousness and food safety concern, while it showed a full mediation effect in environmental concern. In addition, an increase in purchase intention according to price perception level (especially in low price perception) is seen as a valuable output. However, no significant relationship was found in the perception of high price for three independent variables.

5.2 Practical implications

In addition to its contribution to the literature, the research also has useful suggestions for practitioners. The price factor in purchasing organic foods comes to the fore in this study. Therefore, it is necessary to make price adjustments in order to increase the purchase of organic foods. For example, the prices of organic foods can be reduced by government subsidies given to farmers. Another option is to increase people's awareness (such as advertisements, public service ads, etc.) and explain to consumers that organic foods are worth this price. Another important finding is that food safety concern comes to the fore more. Many people prefer organic foods to avoid exposure to chemical residues. Consuming organic foods can reduce your exposure to pesticide residues and antibiotic-resistant bacteria (Kushwah et al., 2019). Therefore, it is necessary to evaluate the awareness of people during the Covid19 pandemic process and to improve the level of knowledge on food safety. Establishing and developing a food safety labeling system will provide strong information to the customer. In addition, states are required to inform the public by establishing mechanisms to effectively supervise companies on this issue. Another factor that affects people's attitudes is health consciousness. Therefore, more individuals can be reached with influencers and celebrities who recommend consuming organic food for a healthy life. Finally, in the research, it has been seen that environmental concern is effective in purchasing organic foods through attitude. Especially if the importance given to this issue by the Y and Z generations is considered (Ayyub et al., 2018), it can be suggested that reducing the damage to the environment in the production of organic foods should be more prominent in advertisements. In addition, since improving

the attitude towards organic foods will have a positive effect on public health in the long run, health expenditures may also decrease. For this reason, in order to improve people's attitudes towards organic foods, besides companies, governments should also carry out an active promotion campaign.

5.3 Limitations and directions for future research

This study have several limitations. First of all, this study was carried out on organic foods. A more comprehensive study on organic products (like clothing, cosmetics, etc.) may increase the level of knowledge on this subject. Secondly, purposeful sampling was used in the study. A more generalizable study can be put forward with a research that can be done with one of the probability sampling techniques. Thirdly, the research is limited to consumers who only buy organic foods before, as they have more organic food information. In another study, if the attitudes and purchase intentions of customers who do not buy organic products are investigated, it will make a positive contribution to the literature. Another limitation of the study is that the variables that affect the level of consciousness of the consumer rather than cultural factors are taken into account in the study. Since the role of conscious consumers in the purchase of organic food is very high, a study has been carried out in this direction. However, it is thought that a model to be developed/expanded with cultural dimensions may produce different results in different developing countries. This model can actually be applied in all countries, but since price is an important variable in purchasing organic products in developing countries, the model will be more likely to yield meaningful results in such countries. It is thought that the moderator effect of price may decrease in developed and underdeveloped countries. Because, while the health variable, which is more important than price in developed countries, may come to the fore, it is thought that the purchase of organic products will be less in undeveloped countries due to the price. Therefore, it is expected that the price moderating effect will be less in such countries than in developing countries. The importance of using the price perception variable in the purchase of organic foods has been revealed in the research. It can also be used as a antecedent, mediator or moderator variable in research on organic products to be carried out in developing countries. Further research can assist practitioners in their efforts to ensure that consumers have a positive attitude towards organic products. In addition, in line with the recent developments, it is expected that the production for the organic product market will decrease and the prices will increase. Therefore, the number of researches on price sensitive customers is expected to increase. In this sense, it is thought that this research can be a guide for future researches.

Data availability Data: <https://doi.org/10.6084/m9.figshare.21507921>.

Declarations

We know of no conflicts of interest associated with this publication, and there has been no significant financial support for this work that could have influenced its outcome.

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