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The Role of Health Consciousness in the Impact of Environmental Concerns on Organic Food Purchase Intention in Türkiye

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ABSTRACT

Purpose- Egoistic, altruistic, and biospheric value(s) orientations are essential to understanding environmental behavior. This study aims to explore the direct and health consciousness-mediated indirect effects of egoistic, altruistic, and biospheric concerns on organic food purchase intentions using social-cognitive theory and value-belief-norm (VBN) theoretical perspectives.

Design/Methodology/Approach- The data were obtained from the participants using the convenience sampling method through an online survey to test the hypotheses. The data was analyzed by confirmatory Factor Analysis (CFA) and the bootstrap-based SPSS PROCESS macro.

Results- The results reveal that participants' egoistic and altruistic concerns about the environment positively affect their intentions to purchase organic food, and participants with higher health consciousness have a higher potential to buy organic food. Accordingly, participants' health consciousness mediates the relationship between individuals' egoistic and altruistic concerns towards the environment and their intention to purchase organic food. However, participants' biospheric environmental concerns negatively affect their intention to purchase organic food.

Discussion- This study examined the direct effects of individuals' egoistic, altruistic and biospheric environmental concerns on their intention to purchase organic food and their indirect effects through their health consciousness. Accordingly, among participants with different levels of egoistic and altruistic environmental concerns, individuals with higher health consciousness have higher intentions to purchase organic food.

1. Introduction

As concern about environmental sustainability, such as global warming and the depletion of non-renewable resources, grows, so does interest in food system issues (Arbit et al., 2017). The food production process intensively consumes energy resources from production to storage, distribution, and subsequent waste disposal. In addition, synthetic pesticides and fertilizers used in production are among the factors causing climate change (Chen, 2009). Studies show that more than a quarter of global greenhouse gas emissions come from the food system (Ritchie, Rosado, & Roser, 2022). Some experts underline that improving agricultural techniques alone will not reduce these effects and that nutritional behavior and consumption patterns must also be changed (Arbit et al., 2017; Garnett, 2011).

Sustainable food consumption is essential in dealing with major environmental problems such as the climate crisis (Chen, 2020). Consuming organic food is also thought to reduce the environmental impacts of food production by sustainability principles (Aprile & Fiorillo, 2023; Brons & Oosterveer, 2017). Organic food includes "natural foods free of artificial chemicals such as fertilizers, herbicides, pesticides, antibiotics, and genetically modified organisms" (Paul & Rana, 2012, p. 158). Organic foods grown with unique methods without the use of chemicals and pesticides increase the fertility of the soil in terms of production processes, thus contributing to sustainability (Kumar, Gupta, Kumar, & Singh, 2023).

When a worldwide evaluation is made, organic food is seen as a mainstream rather than a niche market (Van Doorn & Verhoef, 2015). According to The World of Organic Agriculture: Statistics & Emerging Trends 2024 report by The International Federation of Organic Agriculture Movements (IFOAM), global organic agriculture areas grew in many developed markets in 2022, reaching 96 million hectares, an increase of 26.6%

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compared to the previous year. Global sales of organic food and beverages will reach almost 135 billion euros in 2022. As of 2022, there are 4.5 million organic producers worldwide. India has the highest number of organic producers, followed by Uganda and Thailand (Willer, Trávníček, & Schlatter, 2024).

The organic food market in Türkiye lags behind world trends despite various incentives and support from the Ministry of Agriculture and Forestry. While organic agricultural areas are growing worldwide, they have decreased in Türkiye by 5.2% compared to last year and by 32.7% compared to 2013. Organic farming is done on 0.8% of Türkiye's total agricultural land. While the annual organic food expenditure per capita in the world is around 17 euros (the prominent countries are 437 euros in Switzerland, 365 euros in Denmark, and 274 euros in Austria), it is reported that the annual per capita organic food expenditure in Türkiye is at the level of 1 euro (Willer et al., 2024).

Looking at the worldwide trend in organic food production and consumption, most organic food producers operate in underdeveloped and developing countries. In contrast, most organic consumers live in developed countries (Donat, 2021).

These statistics emphasize that the growing organic food market and economy on a global scale should be closely monitored. Various studies will be critical in understanding consumers' nutritional trends and preferences by revealing the antecedents and consequences of organic food consumption, especially in developing countries. In addition, the significant difference between consumers' interest and positive attitudes towards environmentally friendly products and their actual purchasing behavior is one of the areas that still needs to be researched in many aspects.

Although various studies in the literature shed light on the reasons that push consumers to purchase organic food, environmental concerns, and health consciousness have not fully understood the willingness of people to buy organic food in developing countries such as Türkiye. To serve this gap in the literature, this study focused on people's environmental concerns and health consciousness as antecedents of consumers' intentions to purchase organic food. While environmental concern is considered a one-dimensional variable in some studies in the literature (Kumar et al., 2023; Le-Anh & Nguyen-To, 2020; Shin, Im, Jung, & Severt, 2019), it has been examined in three different dimensions: egoistic, biospheric, and altruistic concern and its effects on environmental behavior have been weighed. Value-based theory suggests that different value orientations lead to other environmental attitudes (Schultz, 2001). Individuals' egoistic, altruistic, and biospheric value orientations are considered important antecedents of environmentalist behaviors. In addition, the study evaluated the mediating role of participants' health consciousness on the effect of environmental concern on organic food purchasing intention.

2. Literature Review and Hypotheses

Organic food, which attracts consumers' attention as a sustainable consumption source (Kumar et al., 2023) is based on protecting the environment and providing quality and safe products to the public (Bazaluk et al., 2020, p. 4). Organic food is characterized by the environmental and health impacts of the production phase, not the purchase or consumption process. To mention these effects, organic food must be certified, and ultimately, consumers are expected to be sure that the products they purchase achieve these qualities (Jungles, Garcia, Carvalho, Braga Júnior, & Da Silva, 2021).

In the studies conducted, while consumers' perceptions of organic products are healthier, more delicious, and of higher quality, the green trust and pro-environment features of these products also come to the fore (Jensen et al., 2019; Kamboj, Matharu, & Gupta, 2023; Paul & Rana, 2012; Xie, Wang, Yang, Wang, & Zhang, 2015). The primary distinctions and similarities between the organic food markets in Denmark and Great Britain were noted in a study conducted by Wier et al. (2008). 'Special good' attributes, defined by contemporary production, like freshness, flavor, and health advantages, were the main drivers behind the purchase of organic food. It has been suggested that these attributes can be perceived as compatible with the sales structure.

Food consumption habits are changing rapidly due to environmental impacts, health concerns, and consumers' concerns about the nutritional value of foods (Kamboj et al., 2023, p. 1).

Concern for the environment and perceived value significantly impact consumers' attitudes, according to a study done to boost the green toy industry in India. Buyers are ready to pay high prices because they value environmentally friendly features (Saini, Kumar, Mishra, Kar, & Bansal, 2023). In a study investigating the health, environment, and food safety awareness of consumers in Türkiye and their intentions to purchase organic food through consumers' attitudes and price perception, it was concluded that health consciousness, environmental concerns, and food safety awareness positively affect consumers' organic food attitudes (Yilmazel, 2023). Studies on Brazilian consumers' intentions to purchase organic foods reveal that limited product knowledge, consumer behavior, ecological concern, and healthy consumption impact these intentions (Eberle, Sperandio Milan, Borchardt, Medeiros Pereira, & Paula Graciola, 2022).

2.1. Organic Food Purchase Intention

Purchase intention predicts the consumer's future behavior based on a specific purchase, providing a sales forecast of new products or repeat sales of already launched products (Sreen, Purbey, & Sadarangani, 2018). Considering the reduction of chemical use, preservation of biodiversity, and other long-term effects, it can be said that the intention to purchase organic food includes many different variables. It is possible to assess these long-term effects when all stages are considered, including the sale of the product and organic food as an output. According to Paul and Rana, organic food is perceived as healthier and safer, while organic practices are more environmentally friendly (2012, p. 124). However, the most important factors explaining consumers' intention to purchase organic food are the various features of organic food (health, safety, etc.) and their attitudes towards the environment (Salleh, Ali, Harun, Jalil, & Shaharudin, 2010, p. 124).

When the individual's degree of positive attitude towards the behavior is indexed to the intention to perform the behavior, it is revealed that consumer attitudes significantly affect their intention to purchase organic food (Teng & Wang, 2015, p. 1069). Pham et al. (2019) showed that the attitude toward organic products strongly affects purchasing intention.

2.2. Health Consciousness

Consumers' health consciousness, values, and beliefs are vital in choosing organic food (Devi, Singh, Roy, & Cúg, 2023, p. 4104). Health-conscious consumers are more likely to have a "wellness-oriented" lifestyle and engage in preventive health behaviors, such as regular exercise and eating nutritious foods than non-health-conscious consumers (Japutra, Vidal-Branco, Higueras-Castillo, & Molinillo, 2022, pp. 199–200). Environmental protection and health orientation, which are also shown among consumers' value orientations, are also based on VBN theory; organic consumption attitudes and personal norms of organic consumption can be used to create a logical chain of consumers' organic consumption (C. Liu, Zheng, & Cao, 2021, p. 2).

Health consciousness, better taste, and a better understanding of the environment are the reasons for purchasing organic (Hill & Lynchehaun, 2002, p. 533). While studies have shown that health consciousness significantly impacts organic purchasing intention (Hsu, Chang, & Lin, 2016), findings argue that these effects are more significant than environmental concerns (Chen, 2009; Salleh et al., 2010). However, Paul & Rana (2012, p. 413) define consumers' ecological behavior as choosing and rejecting products, as well as volunteering in various activities promoted to protect the environment and they stated that consumers are interested in ecological products while shopping not only because they are a healthier option but also because they are concerned about future generations.

While much research has shown that health is a key driver behind organic purchasing, there is also research that shows that health awareness is not strongly related to organic purchasing (Tarkiainen & Sundqvist, 2005, p. 816).

2.3. Environmental Concern

Environmental concern refers to people's awareness of environmental problems, their commitment to finding solutions to these problems, and their willingness to make a personal contribution to finding solutions (Dunlap & Jones, 2002, p. 485). According to Schultz et al., who express environmental concern as an aspect of environmental attitude, the term environmental concern expresses the impact associated with environmental problems, and the term environmental attitude expresses the beliefs and influences that a person has regarding environmental activities or issues and is used to define behavioral intentions (2005, p. 458). Today, people are

increasingly concerned about global environmental issues such as climate change, biodiversity loss and natural disasters. The effects of climate change can cause regional and global disasters, such as tropical storms, global warming, rising sea levels, and coastal erosion (Janmaimool & Chudech, 2020, p. 6).

Environmental concern refers to avoiding elements that cause ecological destruction, affect social life, and predict consumer perceptions about organic foods based on the available data (Su, Khaskheli, Raza, & Yousufi, 2022, p. 1253). However, according to the conceptual framework, environmental concern implies that people protect the environment because they are concerned that environmental degradation will harm their health and well-being and those around them (Lou & Li, 2021, p. 1). Whereas the highly aware may be expected to follow societal guidelines and norms for appropriate environmental behavior carefully, the less aware may be more willing to 'loosen up' their environmental behavior (Hirsh, 2010, p. 248).

Value-belief-norm (VBN) theory, which explains various behavioral indicators of environmentalism developed by Stern and Dietz (1994), sees values or valued objects as the source of environmental concerns. According to this, It is assumed that people's attitudes and pro-environmental behaviors regarding environmental issues are based on self (egoistic), other people (social), or all living things (biospheric) value orientations (Stern & Dietz, 1994). Following Stern's model, Schultz (2000, 2001) developed three object clusters: altruistic concern for others (people in my society, children, all people, my children), biocentric concerns for all living things (plants, marine life, birds, animals), and egoistic concerns centered on the self (my health, my future, my lifestyle, me and my well-being). Previous studies show that each subvalue proposition of environmental concern elicits different pro-environmental behavior outcomes (Wesley Schultz & Zelezny, 1999).

2.3.1. Relationship between Egoistik Concern, Health Consciousness, and Organic Food Purchase Intention

Egoistic concerns are based on valuing oneself over other people and things (Schultz, 2000, p. 392). It is often suggested that egoistic values lead to resisting or even actively opposing environmental protection (Snelgar, 2006, p. 87). Self-interested values increase the importance placed on health issues, thus influencing individual consumption decisions (Wei, Liu, She, & Wu, 2022, p. 3). An egoistic value concept can be defined as a pro-self concept showing concern for personal health or family care (Prakash et al., 2019, p. 165). An intensely egoistic orientation is detrimental when the desired behavior contradicts an individual's wants and desires (Kollmuss & Agyeman, 2002, p. 245).

Although studies in which egoistic concern is generally negatively related to pro-environmental attitudes come to the fore in the literature (Fornara, Pattitoni, Mura, & Strazzera, 2016; Milfont, Duckitt, & Cameron, 2006; Rahman & Reynolds, 2017; Stern & Dietz, 1994), Schult (2000, p. 392) states that high egoistic values It states that individuals with this condition may feel anxious when environmental problems pose a threat to them. With this in mind, the following hypotheses have been put forward.

H_1: There is a positive relationship between consumers' egoistic concerns and their health consciousness.

H_2: There is a positive relationship between consumers' egoistic concerns and their intentions to purchase organic food.

H_3: Consumers' egoistic environmental concerns will positively predict individuals' intention to purchase organic food indirectly through health consciousness (i.e., the mediating role of health consciousness).

2.3.2. Relationship between Altruistic Concern, Health Consciousness, and Organic Food Purchase Intention

Environmental Altruism is concerned with environmental issues affecting society, future generations, and the environment (N. Kim & Lee, 2023, p. 3) and considering how to protect the environment from a social perspective (Li, Yang, Zhang, Li, & Chen, 2021). Purchasing organic products may be associated with higher other-oriented benefits for altruistic individuals (Van Doorn & Verhoef, 2015, p. 439). According to Schultz, social-altruistic values motivate people to care about environmental concerns when they assess the costs and advantages of environmental issues for various groups, including themselves, their community, their nation, or all of humanity (2000, p. 392). In a study on young people's purchasing intentions for environmentally friendly packaging in India, altruistic values were revealed as an important determinant of environmental

concerns. Thus, marketers have been advised to convey promotional campaigns for environmentally friendly packaged products with an altruistic appeal (Prakash et al., 2019). In another study, focusing on personal and family health was stated as the most likely strategy to increase the number of buyers of organic products (Bullock, Johnson, & Southwell, 2017, p. 438). In line with these perspectives:

H_4: There is a positive relationship between consumers' altruistic concerns and their health consciousness.

H_5: There is a positive relationship between consumers' altruistic concerns and their intention to purchase organic food.

H_6: Consumers' altruistic environmental concerns will positively predict individuals' intention to purchase organic food indirectly through health consciousness (i.e., the mediating role of health consciousness).

2.3.3. Relationship between Biospheric Concern, Health Consciousness, and Organic Food Purchase Intention

A person's biospheric values reveal their concern for the environment and the well-being of animals (Van Doorn & Verhoef, 2015, p. 438). The biospheric value represents personal moral norms about treating non-human objects (Lee & Jan, 2015, p. 195). People with high biospheric values focus more on the consequences of their behavior for the environment when taking specific actions (Van Der Werff, Steg, & Keizer, 2013). The perceived costs and benefits for the biosphere and ecosystem will be the basis for their decisions to take environmental action (De Groot & Steg, 2007, p. 1820). A stronger relationship was found between biospheric values, perceived ecological stress, and ecological coping (Helm, Pollitt, Barnett, Curran, & Craig, 2018). According to biospheric values humans have no right to degrade the environment to meet their needs because it has inherent values and rights (Li et al., 2021).

Although the literature shows that biospheric values contribute to pro-environmental purchasing behavior (Nguyen, Lobo, & Greenland, 2016; Rahman & Reynolds, 2017), studies also show that there is no relationship between biospheric concerns and green, organic, and sustainable marketing strategies and/or a negative relationship between them (Perera, Kalantari Daronkola, & Johnson, 2022). In light of all this information, the following hypotheses are proposed for the study:

H_7: There is a positive relationship between consumers' biospheric concerns and their health consciousness.

H_8: There is a positive relationship between consumers' biospheric concerns and their intention to purchase organic food.

H_9: Consumers' biospheric environmental concerns will positively predict individuals' intention to purchase organic food indirectly through health consciousness (i.e., the mediating role of health consciousness).

3. Research Methodology

3.1. Data Collection Process, Sample and Procedures

The research population comprises all people aged 18 and over interested in organic foods. Due to the size of the population and the lack of a sampling frame that meets the research requirements, the convenience sampling method was preferred in the study (Saunders, Lewis, & Thornhill, 2023). Before the research, approval was received from Istanbul Topkapı University Academic Research and Publication Ethics Board on 28.07.2023 with the decision number E-49846378-050.01.04-2300008743.

Data for this study were gathered through an online self-administered, cross-sectional survey conducted from October to December 2023. Survey links, created via Microsoft Forms, were shared with participants on social media. No incentives were provided, as participation was entirely voluntary. The collected responses were used to test the research model (Figure 1). The survey form consists of three parts. In the first section, the purpose of the research was explained to the users. Then, various screening questions were asked to determine the interest of the users who clicked on the link to progress in the study towards organic foods and thus their suitability for the target audience of the study (e.g., Do you consume organic food? Do you regularly include organic foods in your shopping list?). The survey questions are designed to progress based on the answers to the screening questions. Accordingly, the survey continued for users who stated that they consumed or purchased organic food and ended by thanking other users. The survey was initiated with the participants' approval in the information form explaining the scope and purpose of the study. The second section includes

questions regarding the demographic information of the participants. The third section includes statements regarding the scales used in the research. After completing the survey form, a pilot study was conducted. The survey link was sent to 70 people, and 62 surveys were completed. The final version of the survey form was created based on the feedback received from these survey results. Three of the surveys received had questions that were answered incompletely. Thereupon, the survey form in the system was redesigned so that it could be sent only if the participants answered all the questions. Thus, no missing data was encountered in the study. Additionally, at the end of the survey, participants were asked to share the survey link on their social media accounts, thus benefiting from the snowball effect.

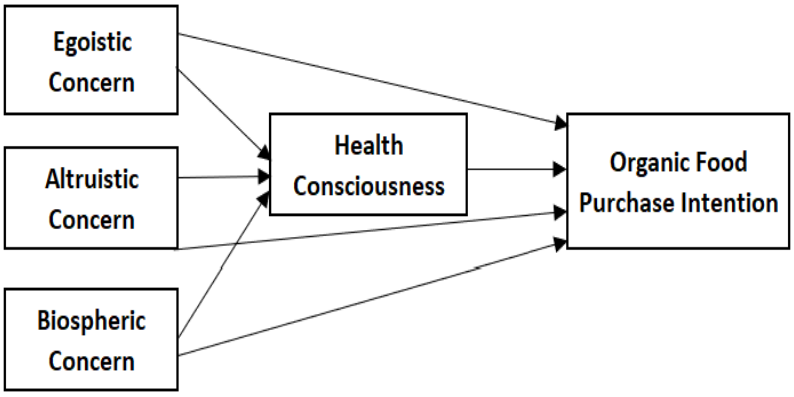

Figure 1. Proposed Research Model

In designing the survey form, procedural measures recommended by Podsakoff et al. (2003) were taken into account to avoid the possible effects of common method variance in the study. It was aimed to prevent social desirability bias by explaining to users at the beginning of the survey that their answers would remain confidential. In addition, by stating that there are no right or wrong answers to the questions, it is aimed for users to give honest answers based on their own opinions without worrying about evaluation. The questions avoided ambiguous, unusual, or double-barreled expressions. In the pilot study, users were asked to indicate their ambiguous or complex expressions. Based on the feedback received, the survey form was revised.

Additionally, the study used an instructional manipulation check (IMC) to evaluate users' attention (Oppenheimer, Meyvis, & Davidenko, 2009). Accordingly, in the survey, "If you are reading this question, please select 1-Strongly Disagree." The words "If you are reading this question, please select option 4" have been added. The analysis did not include the data of 34 participants who answered these questions incorrectly. Outliers in the collected data were eliminated by examining the results in the Graphs/Legacy Dialogs/Boxplot field in the SPSS package program and the Mahalonobis distance fields in the AMOS program. The analyzes were carried out on 347 data. The formula $N \geq 50 + 8m$ (where m is the number of IVs) was used to determine the study's sample size (Tabachnick & Fidell, 2014, p. 159). Accordingly, the sample size of 347 people is sufficient. Hair et al. (2014, p. 574) also state that a minimum number of 150 samples is enough for models containing seven or fewer structures. Demographic data about the participants are given in Table 1.

Table 1. Descriptive statistics of the sample

Demographics variables		Frequency	Demographics variables		Frequency
Gender	Female	236 (68%)	Personal Status	Single	216 (62.2%)
	Male	111 (32%)		Married	131 (37.8%)
Age	18-24	54 (15.6%)	Income (per month - TRY)	< 11,400	59 (17.0%)
	25-34	197 (56.8%)		11,401 - 25,000	129 (37.2%)
	35-44	39 (11.2%)		25,001 - 45,000	123 (35.4%)
	45-54	37 (10.7%)		45,001 - 70,000	29 (8.4%)
	55-64	17 (4.9%)		>70.001	7 (2.0%)
	>65	3 (0.9%)			
Education Level	Primary education	28 (8.1%)	Organic Food Consumption	once a month	8 (2.3%)
	High School	54 (15.6%)		several times a month	33 (9.5%)
	University	221 (63.7%)		once a week	97 (28.0%)
	Post-graduate or above	44 (12.7%)		several times a week	188 (54.2%)
				every day	21 (6.1%)

IBM-AMOS and SPSS package programs were used to analyze the research data. Accordingly, the theoretical model's validity and reliability were examined first, and hypothesis tests were conducted.

3.2. Measures

The items used to test the research model were adapted from previously approved scales in the literature. Egoistic, altruistic, and biospheric environmental concern scales were adapted from the work of Gansser & Rich (2023). For the healthy awareness scales, the studies of Liu et al. (2020) and Kemmelmeier (2002) were used. The organic food purchase intention scales were adapted from the Le-Anh & Nguyen-To (2020) study. All scales used in the study were measured using a seven-point Likert scale.

3.3. Measurement Model Evaluation

The validity and reliability of the theoretical model were tested using IBM-AMOS and SPSS package programs. Accordingly, confirmatory factor analysis was performed using the AMOS program's maximum likelihood parameter estimation in covariance-based SEM.

Table 2 shows the skewness and kurtosis values for the expressions. According to the results in the relevant table, the skewness and kurtosis in all expressions except two items are between +2/-2. In the third and fourth statements regarding egoistic anxiety, the relevant values are slightly above 2. Based on this information, the data does not seriously violate the normal distribution (George & Mallery, 2022).

Table 2. Skewness and Kurtosis Values for Variables

Code	Skewness	Kurtosis	Code	Skewness	Kurtosis
EGO1	-0.908	0.020	BIO3	-1.426	1.060
EGO2	-0.960	0.209	BIO4	-1.550	1.627
EGO3	-1.025	0.160	HC1	-0.333	-0.572
EGO4	-1.369	1.177	HC2	-0.816	0.535
ALT1	-1.201	0.700	HC3	-1.04	0.964
ALT2	-1.156	0,556	HC4	-0.711	-0.255
ALT3	-1.725	2.014	HC5	-0.707	-0.055
ALT4	-1.761	2.076	INT1	-1.404	1.586
BIO1	-1.582	1.660	INT2	-1.227	0.880
BIO2	-1.479	1.198	INT3	-1.215	0.369

The confirmatory factor analysis performed with the AMOS program analyzed whether Greed data supported the theoretical model. Accordingly, a five-factor measurement model of 20 items was examined. Table 3 shows

the model goodness of fit values for the conceptual model. Accordingly, it is seen that the goodness of fit values of the model are between the recommended threshold values.

Table 3. Model Fit Indices

Fit Measure	Observed Value	Recommended Value
$\chi 2/df$	2.46	$3 \leq \chi 2/df \leq 5$
CFI	0.97	>.90
SRMR	0.05	<.08
RMSEA	0.06	<.08
GFI	0.90	>.90
NFI	0.95	>.90

Standardized factor loadings for the factors are reported in Table 4. In addition, Cronbach's alpha values for the factors regarding the internal consistency of the scales and CR (Composite Reliability) and AVE (Average Variance Extracted) values for the convergent validity are included in the relevant table. When the results in the table are examined, it is seen that all scale items load on the relevant factors in a statistically significant way, with standardized loadings greater than 0.60 ($p<.01$). Additionally, it can be seen that AVE values in all latent structures are more than 0.50 and CR values are more than 0.70, and all CR values are higher than the relevant AVE values. Thus, the factors in the CFA model appear to have convergent validity (Hair et al., 2014). It is seen that Cronbach's alpha values for all factors are above 0.80. Accordingly, each latent structure has a sufficient level of internal consistency (George & Mallery, 2022).

Table 4. Standardized Factor Loadings and Cronbach's Alpha, AVE, CR Values of Factors

Instruction and Items	Factor Loading	Cronbach's Alpha	AVE	CR
Egoistic Concern		.92	.750	.923
How important are the consequences of environmental problems to you personally for….				
yourself?	.780			
your lifestyle?	.889			
your health?	.890			
your future?	.900			
Alturistic Concern		.928	.751	.922
people in your country?	.719			
all people?	.774			
children?	.985			
future genereations?	.957			
Biospheric Concern		.986	.948	.986
plants?	.947			
creatures of the sea?	.988			
birds?	.989			
mammals?	.969			
Health Consciousness		.875	.576	.870
"I'm very self-conscious about my health"	.770			
"I'm usually aware of my health"	.671			
"I'm aware of the state of my health as I go through the day"	.609			
"I'm alert to changes in my health"	.841			
"I take responsibility for the state of my health"	.870			
Organic Food Purchase Intention		.892	.740	.895

"I will buy organic food instead of other foods if it is possible"	.803
"I will continue to buy organic food in future"	.916
"I will advise to use organic food if asked"	.858

The discriminant validity of the factors was evaluated using AVE, MSV (maximum squared variance), and ASV (average shared square variance) values. For discriminant validity, MSV<AVE, ASV<AVE, and √AVE> factors criteria must be met (Gürbüz, 2019; Hair et al., 2014). Table 5 shows that all these criteria are met. The fact that the AVE values of the factors are higher than the MSV and ASV values and the √AVE values are higher than the correlation between the factors indicates that the factors' discriminant validity is supported.

Table 5. Correlations and MSV-ASV Values

Factors	AVE	MSV	ASV	1	2	3	4	5
1. Egoistic Concern	.750	.560	.689	**(.866)**				
2. Altruistic Concern	.751	.560	.682	.748	**(.866)**			
3. Biospheric Concern	.948	.182	.384	.218	.298	**(.973)**		
4. Health Consciousness	.576	.345	.215	.221	.110	-.249	**(.759)**	
5. Org. Food Purchase Int.	.740	.345	.420	.276	.174	-.115	.587	**(.860)**

Note: Values in parentheses indicate √AVE scores.

3.4. Assessment of Common Method Varience

In this study, to avoid the possible problems of common method variance, the survey form was prepared by considering the various procedures suggested by Podsakoff et al. (Podsakoff et al., 2003), as explained in detail in the previous section.

Additionally, various statistical techniques have been used to examine CMV potential. First, exploratory factor analysis was conducted in SPSS for Harman's single-factor test. All variables were loaded on the exploratory factor, and the percentage of the covariance between the items explained by a single factor was examined. The basic logic of this test is that if there is a significant CMV effect in the data, a single latent factor explains a substantial part of the variance of all variables (Podsakoff et al., 2003). The analysis revealed that a single latent factor explained only 35% of the total variance. This shows that common method bias in the data is not a serious problem. Additionally, the data were evaluated with the CFA approach in the AMOS program in terms of common method bias. Accordingly, the fit values of the single-factor model were far from acceptable values (CMIN/DF= 41.273; RMSEA= .341; CFI= 0, GFI= .247; AGFI= .167).

3.5. Hypotheses Testing

The SPSS package program was used to test the hypotheses developed based on the research model. Accordingly, PROCESS Model 4 with 5000 resamples, and 95% confidence interval options were used to determine the direct and indirect effects (mediation effect) between the variables (Hayes, 2022). Within the scope of the research model, three different models were established to examine the direct effect of three independent variables (egoistic, altruistic, and biospheric concern) on the intention to purchase organic food and their indirect effect through health consciousness (mediating role of health consciousness). Details of the models in which the assumed direct and indirect effects between variables are tested are given in Table 6.

Table 6. Summary of Hypotheses Tested within the Research Model

Pathways	Hypothesis
Egoistic → Health Consciousness	**H1**
Egoistic → Org. Food Purchase Int.	**H2**
Egoistic → Health Consciousness → Org. Food Purchase Int.	**H3**
Altruistic → Health Consciousness	**H4**
Altruistic → Org. Food Purchase Int.	**H5**
Altruistic → Health Consciousness → Org. Food. Purchase Int.	**H6**
Biospheric → Health Consciousness	H7
Biospheric → Org. Food Purchase Int.	H8
Biospheric → Health Consciousness → Ord. Food. Purchase Int.	H9

Note: Supported hypotheses are in bold text.

Table 7 provides the results of the H_1, H_2, and H_3 hypotheses, which are visualized in Figure 2. Accordingly, a statistically positive relationship exists between people's egoistic environmental concerns and their health consciousness (a=.30), and their intention to purchase organic food (c=.325). In addition, consumers' health consciousness mediates the relationship between their egoistic environmental concerns and their intentions to purchase organic food (ab = .141). Thus, among the participants with different levels of egoistic concern, it can be said that the relatively more anxious participants showed a difference of 0.141 units in their intention to purchase organic food as a result of their higher health consciousness; in other words, their intention to purchase organic food was higher. The model shows that egoistic concerns explain 5.4% of the variance in health consciousness (R^2=.054) and 30% of the variance in purchase intention (R^2=.305).

Table 7. Simple mediation model and unstandardized model coefficients (H_1, H_2, H_3)

		Consequent						
		Health Consciousness (M)				Organic Food Purchase Intention (Y)		
		Coeff.	SE	*p*		Coeff.	SE	*p*
Egoistic Concern (X)	*a*	0.300	0.068	< .001	c'	0.183	0.057	< .001
Health Cons. (M)		-	-	-	*b*	0.471	0.044	< .001
Constant	i_M	3.754	0.427	< .001	i_Y	2.372	0.383	< .001
		R^2= .054				R^2= .305		
		$F(1, 345)$= 19.547 p= < .001				$F(2, 344)$= 75.585 p= < .001		

Note: Unstandardized regression coefficients are reported, SE= Standard error

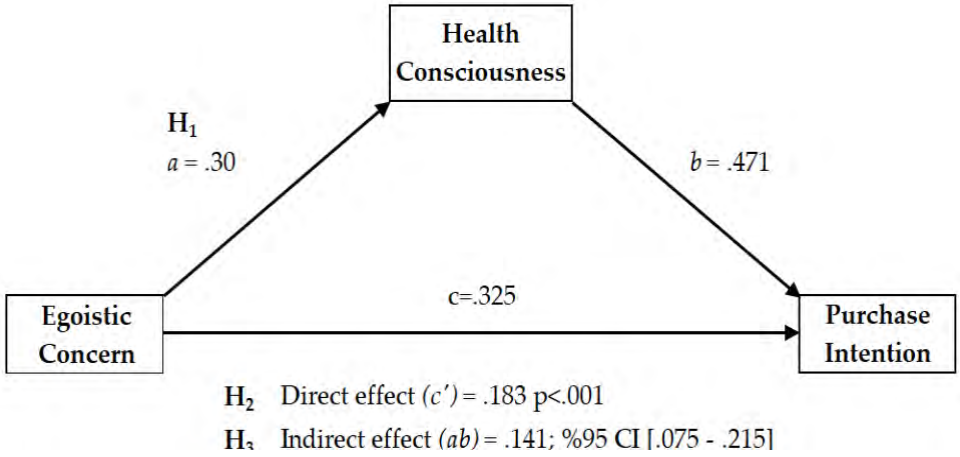

Figure 2. Statistical diagram for the simple mediation model (H_1, H_2, H_3)

Table 8 and Figure 3 show the results of hypotheses H_4, H_5 and H_6. Accordingly, a statistically significant relationship exists between the participants' altruistic environmental concerns and their health consciousness (a=.177). People's altruistic concerns affect their intentions to purchase organic food both directly (c' = .125) and indirectly through their health consciousness (ab = .087). The model explains 29% of the variance in organic food purchasing intentions (R^2=.294). These results show that a one-unit change in the altruistic concerns of relatively equal levels of health-conscious participation in the environment can lead to 0.125-unit variation in organic food purchasing intentions.

Table 8. Simple mediation model and unstandardized model coefficients (H_4, H_5, H_6)

		Consequent						
		Health Consciousness (M)				Organic Food Purchase Intention (Y)		
		Coeff.	SE	*p*		Coeff.	SE	*p*
Altruistic Concern (X)	*a*	0.177	0.071	< .05	c'	0.125	0.058	< .05
Health Cons. (M)		-	-	-	*b*	0.491	0.043	< .001
Constant	i_M	4.492	0.460	< .001	i_Y	2.603	0.043	< .001
			R^2= .018				R^2= .294	
			F(1, 345)=6.182 *p*= < .05				*F*(2, 344)= 71.503 *p*= < .001	

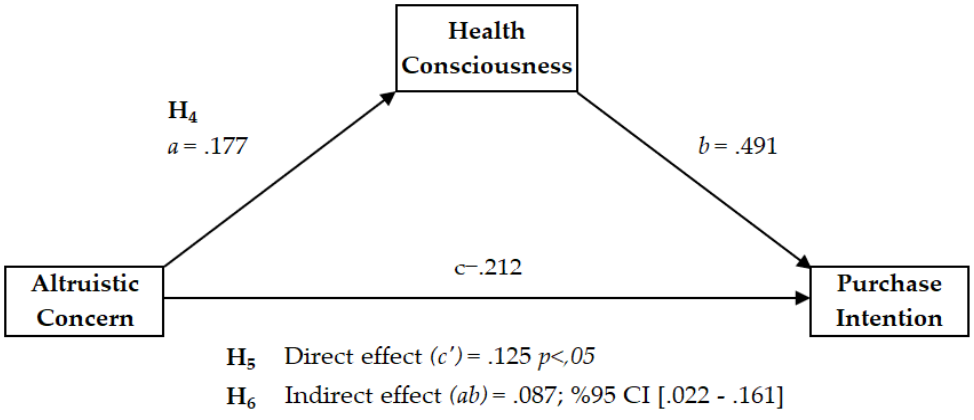

Figure 3. Statistical diagram for the simple mediation model (H_4, H_5, H_6)

Table 9 and Figure 4 give the results of H_7, H_8, and H_9. These results show a negative relationship between the participants' biospheric environmental concerns and their health consciousness (a=-.154). Additionally, the hypothesized direct and total effect of participants' biospheric concerns on their intentions to purchase organic food is not statistically significant. However, biospheric concerns have a negative effect on organic food purchase intentions through health consciousness (ab=-0.078).

Table 9. Simple mediation model and unstandardized model coefficients (H_7, H_8, H_9)

		Consequent						
		Health Consciousness (M)				Organic Food Purchase Intention (Y)		
		Coeff.	SE	*p*		Coeff.	SE	*p*
Biospheric Concern (X)	*a*	-0.154	0.039	< .001	c'	0.007	0.033	> .05
Health Cons. (M)		-	-	-	*b*	0.505	0.440	< .001
Constant	i_M	6.573	0.241	< .001	i_Y	6.580	0.231	< .001
			R^2= .042 F(1, 345)=15.252 p= < .001				R^2= .284 F(2, 344)= 68.265 p= < .001	

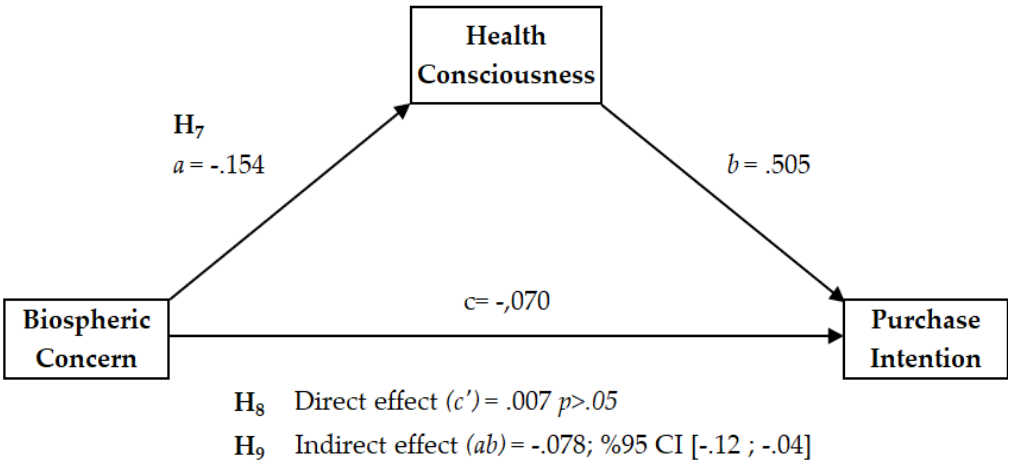

Figure 4. Statistical diagram for the simple mediation model (H_7, H_8, H_9)

4. Discussion, Conclusion, and Implications

This study aimed to determine the direct effects of individuals' egoistic, altruistic, and biospheric concerns towards the environment on their intentions to purchase organic food and their indirect effects through their health consciousness. Concern for the environment forms the basis of environmental research and is an essential factor in the consumer decision-making (Ahmed et al., 2021). Many studies confirm the positive effect of environmental concerns on organic food purchasing intention or behavior (Konuk, 2018; Saleki, Quoquab, & Mohammad, 2019). In the literature, environmental concern has been considered as a single-dimensional variable in some studies and its effects on environmental behaviors and attitudes and behaviors towards purchasing organic food have been examined (Kumar et al., 2023; Le-Anh & Nguyen-To, 2020; Shin et al., 2019). In some studies, it was examined in three different dimensions: egoistic, biospheric and altruistic concern, and its effects on the relevant dependent variables were investigated (Aprile & Fiorillo, 2023; Rahman & Reynolds, 2017; Shin, Moon, Jung, & Severt, 2017; Van Doorn & Verhoef, 2015; Yadav, 2016). Through three dimensions, this study evaluated the impact of people's environmental concerns about themselves, others, and

all living things on their intentions to purchase organic food. Previous research supports that different environmental concerns can lead to various dietary preferences (Arbit et al., 2017).

According to the findings in the previous section, there appears to be a positive relationship between consumers' egoistic and altruistic concerns, their health consciousness, and their intention to purchase organic food. Accordingly, participants' egoistic and altruistic concerns affect their intentions to purchase organic food both directly and indirectly through their health consciousness (the mediating role of health consciousness). Thus, it can be said that the participant with a higher health consciousness has a higher intention to purchase organic food than the two participants with different egoistic and altruistic concerns towards the environment. Even so, environmental behaviors are considered the reverse of egoistic principles (Li et al., 2021), it should not be forgotten that when people with high egoism perceive ecological damage as a threat to themselves, they may turn to products that will eliminate them (Schultz, 2000). Egoistic values lead people to reject environmental protection if they believe it will have a significant negative impact on their personal lives or to protect those parts of the environment that directly affect them (Stern & Dietz, 1994).

In terms of organic food consumption, pesticides and other preservation methods used in food production have negative effects on people's health and environmental negative effects, causing individuals to perceive a threat to themselves. These results seem to be compatible with previous results in the literature. Egocitic concerns for the environment may reflect individual responsibility for health-related environmental issues (Yadav, 2016). Increasing pollution and food production methods that harm the environment and human health may lead individuals to choose organic foods, which they perceive as healthier and safer. Similarly, altruistic concerns about the environment reflect individuals' concerns about harmful environmental factors for people, children, and future generations. For this reason, people concerned about environmental problems such as the greenhouse effect, climate change, and depletion of natural resources may increase their tendency to turn to organic products that have less environmental impact on themselves, others, and future generations (Aprile & Fiorillo, 2023).

The health consciousness variable is often treated as an independent variable in the literature. Its positive effects on organic food purchasing intention and behavior have been reported (Talwar, Jabeen, Tandon, Sakashita, & Dhir, 2021). However, studies examining the effects of environmental concern on behavioral variables, such as attitudes, intentions, and behaviors toward purchasing organic food through health consciousness, are limited. Molinilo et al. (2020) reported that social consciousness mediates the relationships between food safety concern, environmental concern, and sensory appeal with willingness to pay a price premium, while environmental concern indirectly affects frequency of purchases and readiness to pay a premium through health consciousness. It was concluded that the mediating role of health consciousness was not statistically significant. This finding regarding the mediating role of health consciousness in the relationship between environmental concern and the intention to purchase organic food will make an essential contribution to the literature.

Previous studies in the literature report inconsistent information on the relationship between biospheric concerns and intentions to purchase organic food or tendencies to engage in similar environmentally friendly behaviors. While some studies reveal a positive relationship between these variables (Hansla, Gamble, Juliusson, & Gärling, 2008; H. Kim, Lee, & Yang, 2015), various studies have concluded that there is no statistically significant relationship between the two variables. The literature mentions a blurred relationship between egoistic, altruistic, and biospheric values and environmental behavioral intentions. For example, Shin et al. (2017) reported that biospheric concerns positively affected pro-environmental attitudes but did not have a statistically significant effect on the willingness to pay more for organic products. Doorn and Verhoef (2015) revealed that biospheric concerns are essential in purchasing organic food. However, the negative effect of a category's vice nature on the share of organic purchases is more substantial for consumers with biospheric solid values. Researchers explained this situation because the strong biospheric value orientation cannot fully compensate for the potential negative quality implications for products in the organic vice category (alcohol, chocolate, sweets, beer, etc.).

The findings of this research may have been influenced by the demographic and sample characteristics of the study participants, suggesting that the results could be specific to this particular group. Therefore, the generalization of these findings should be approached with caution. On the other hand, since the participants' biospheric concerns about the environment express the ecosystem that covers all life, this may negatively

impact people with deep concerns about this area by suppressing their tendency to act or feel conscious about their health. Consumers with biospheric values are more interested in phenomena based on costs or benefits to ecosystems or the biosphere and are distinguished from egoistic and altruistic values (H. Kim et al., 2015). A skeptical attitude regarding the environmental effects of organic foods will cause people to avoid such products, brands, and companies. This finding, which is within the scope of the research, may encourage future research. Organic products are generally more expensive. Individuals with biospheric concerns may be willing to consider the cost of supporting environmental sustainability but may be skeptical about whether this cost is directly proportional to personal health benefits. The high inflationary environment in the country where the research was conducted (Türkiye) may have suppressed the hypothetical relationship between the variables. Future research may focus on explaining the reasons for this. Although individuals with strong biospheric values appreciate the environmental benefits of organic products, they may be more skeptical about their potential effects on personal health. Individuals with biospheric concerns may embrace broader environmental strategies beyond purchasing organic food, such as a zero-waste lifestyle or supporting local production.

This study offers pragmatic suggestions for producers and managers operating in the organic food industry. First, we provide detailed information on the antecedents of consumers' intentions to purchase organic food. People who care about themselves and others regarding environmental improvement are more likely to purchase organic food. People's health consciousness can potentially increase their intention to purchase organic food. Companies that produce and sell organic food must understand the background of their current and potential customers' purchasing decisions to expand the organic food trade. Businesses should actively benefit from the encouraging effect of egoistic and altruistic values on the intention to purchase organic food. Considering that people who are conscious about their health have a higher potential to purchase organic food, businesses can organize campaigns and events to raise awareness of consumers in this direction.

5. Limitations and suggestions future research

This study has several limitations that may be potential for future research. First, this study gave consumers a definition of organic food and examined the effects of different environmental concerns and health consciousness on their intention to purchase organic food in general. In future research, categories such as vegetables, fruits, and grains can be distinguished among organic foods, and the effect of relevant variables on the intention to purchase organic food in each category can be examined. In addition, future researchers can expand the study's sample and examine the effect of environmental concerns on organic food purchasing intention under different cultures and economic conditions. Thus, they can contribute to understanding the complex relationships between egoistic, altruistic, and biospheric concerns, health consciousness, and organic food purchasing intention. In addition, the effect of biospheric concerns obtained from this study on the health consciousness of the participants and the negative effect on the intention to purchase organic food through health consciousness can be contributed to the ongoing discussions in the literature by adding new variables to the research model. Finally, the study only reflects Turkish consumers' perceptions.

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