

Article

How Collectivism Affects Organic Food Purchase Intention and Behavior: A Study with Norwegian and Portuguese Young Consumers

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Abstract: Organic food purchase behavior is attracting increasing attention from researchers and managers. However, there is a need to further explore differences among groups of consumers, namely with regards to cultural dimensions. To help fill this gap, this article aims to examine the impact of collectivism on the determinants of organic food purchase intention and behavior. Building on the theory of planned behavior, this article suggests its extension by considering an additional set of explanatory variables that are shown to be relevant to explain consumer behavior. It includes a quantitative study conducted with young consumers from two European countries, Norway ($n = 468$) and Portugal ($n = 448$). Structural equation modelling allowed to conclude that collectivism positively impacts attitude, subjective norm, perceived price, and environmental concern towards organic food. The expected positive impacts of collectivism on product availability and health concerns were not supported by the study. Furthermore, the positive impact of attitude, subjective norm, perceived price, health consciousness, and environmental concerns on intention to purchase organic food were also confirmed, even though availability had an insignificant impact on intentions. Finally, and aligned with extant literature, this study also found a positive impact of intention to purchase behavior on organic food. Interestingly, the positive relationship between Collectivism and Availability, and between Availability and Purchase Intention, was only significant for Portugal. The study confirms the relevance of considering cultural dimensions, particularly collectivism/individualism, to further understand consumer behaviors toward organic food. Based on the findings, implications for both managers and researchers are highlighted.

Keywords: consumer behavior; organic foods; theory of planned behavior; young consumers



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1. Introduction

Organic food refers to natural food items free from any type of artificial chemicals, i.e., food items that have been produced without the aid of products such as pesticides, herbicides, fertilizers, and antibiotics, being generally accepted as beneficial for individual health, the environment, and for society as a whole [1]. Consequently, organic agriculture directly contributes to the pursuit of the Sustainable Development Goals proposed by the United Nations, especially regarding sustainable consumption and production (Goal 12). The organic food market is deserving of particular interest from both practitioners and researchers because of both its size and its dynamism. Indeed, this market is expected to more than double between 2021 and 2027, from 232 to 519 billion US dollars [2], which would represent a growth rate of over 14% between 2020 and 2027.

Despite the market growth, the dimension of the organic foods' market is still relatively small and quite dissimilar when comparing different countries and regions. For instance, it is noticeable that in Europe, markets in different countries are at different development stages [1], making it relevant to further explore regional differences in the adoption of organic food and especially the determinants of those differences.

Without surprise, many recent contributions in the literature explore the determinants of consumer behaviors of organic food products, especially focusing on intentions. In fact, few studies, e.g., [3–10], have measured the behavior (i.e., purchasing organic foods), leading to recurrent calls for studies that include actual purchase behavior and not only its intention, e.g., [11–14]. Additionally, there is a need to have more studies that further explore differences in groups of consumers. Although research is quite consensual regarding the factors that influence consumers' behavior towards organic food [15], the priority in which these factors affect consumers seems to be different depending on the country, as shown by the divergent findings in the literature. As a matter of fact, it is widely accepted that culture directly influences consumer behavior [16], and that the literature would benefit from more studies regarding organic food purchases [17]. Indeed, Ishaq et al. [18] stressed the scarcity of studies regarding health-consciousness, environmental concern, and purchase intentions in a cross-cultural context. Comparative studies between developed and developing countries [17,18] and between countries within the European Union [19] revealed differences in both the determinants and the actual consumer behavior. Furthermore, research suggests that cultural dimensions [5,20], particularly collectivism, might be relevant variables in influencing consumers' purchase intention towards green products, such as organic food, further supporting the call for additional cross-country studies.

To fill the gaps found in the literature, the main goal of this article is to investigate the extent to which collectivism affects consumers' intentions and behavior towards organic food, mediated by the effect of attitude, subjective norm, perceived price, product availability, health consciousness, and environmental concern. The research problem is defined as follows: How does collectivism affect organic food purchase intention and behavior among young consumers? The literature enabled to define a set of 13 hypotheses that were tested with Norwegian and Portuguese young consumers. These countries have been chosen because they display several differences in what regards the organic foods market development, the economy, the geographic location, and culture. According to data from the Research Institute of Organic Agriculture and the IFOAM [1], the market for organic foods in Portugal is relatively small and displays low expansion rates, accounting for 21 € million sales in 2017 (2 € per capita). Oppositely, the Norwegian market for organic foods has seen a steady and significant increase, having reached 419 € million sales in 2017 (80 € per capita). Additionally, Norway's GDP per capita (62,650 USD) is approximately the double of the GDP per capita in Portugal (34,177 USD) [21,22]. Finally, although belonging to the same continent, these two countries are located in distinct positions (north vs. southern Europe), which strengthens the cultural gap existing between these two countries. Hence, it is expected that the model will not be invariant, due to the existent previous identified dissimilarities between the two analyzed countries. This difference can be relevant, as purchasing power seems to influence the purchase of environmental products [23]. Moreover, according to the latest report on European citizens' attitudes towards the environment [24], Portuguese and Norwegian consumers have different profiles regarding environment-related attitudes and behaviors.

The next section presents the literature review and the resulting research hypotheses.

2. Theoretical Background

To keep pace with the market expansion, researchers have been trying to understand the motives fostering and hindering consumers to purchase organic food. Several cognitive theories, such as the Theory of Reasoned Action, the Theory of Planned Behavior (TPB), the Value–Norm–Belief theory, and the Attitude–Behavior–Context theory, have been

employed in an attempt to identify the factors that influence consumers' purchase intention and behavior toward organic food [15].

TPB is one of the most used social psychological models to predict human behavior and intention in diversified contexts and specifically to the context of consumer behavior and consumer behavior towards organic food [11,15,25], especially due to its ability to enable extensions of the model by incorporating other relevant independent variables to explain consumer intentions, e.g., [4,11,13,26–28].

In brief, and as explained in detail by Ajzen [29], TPB postulates that consumer behavior is determined by the intention to perform that behavior. Additionally, and according to TPB, consumer intention can be accurately predicted by the attitudes towards the behavior, subjective norm and perceived behavioral control [29]. Following TPB, several research hypotheses were defined for this article, as presented in the next two sections.

2.1. From Purchase Intentions to Behavior

One of the main contributions of the TPB is to underline that intention is the main determinant of consumer behavior [29,30]. Intention is understood as an individual's promptness to perform the behavior [29]. This assumption that intention determines behavior has been applied in many consumer behavior studies, including on organic food purchases. Although studies that approach the actual behavior of consumers regarding organic food are scarce, they tend to conclude that intention is a significant predictor of organic food purchase behavior [3,4,6,8,9,12,27]. Hence, it is expected that the stronger the intention a person displays towards purchasing organic food, the more likely the person is to effectively purchase that type of food product. This is the basis of the first hypothesis proposed for this article:

Hypothesis 1 (H1): *Intention to purchase organic food positively influences consumer purchase behavior.*

2.2. Main Cognitive Determinants of Purchase Intentions

TPB gives a central role to behavioral intentions to explain behavior, and consequently to the determinants of those intentions. In particular, this theory identifies three cognitive variables as the main determinants of consumer intentions: attitudes towards the behavior, subjective norm, and perceived behavioral control [29].

Attitude is defined by Ajzen [29] as the consumer's favourable/unfavourable evaluation or appraisal of the behavior. The literature on organic food purchase intention demonstrates the importance of these evaluations to explain consumer intention, frequently concluding that attitude is the main determinant of intention to purchase organic food [4,6,8,9,12–14,17,25–28,31,32]. Therefore, the second hypothesis for this study is:

Hypothesis 2 (H2): *Consumers' attitude towards organic food positively influences purchase intention.*

Subjective norm is another variable highlighted by TPB as a determinant of consumer intentions. It represents the social influence on individuals and is defined as the "perceived social pressure to perform or not perform the behavior" [29] (p. 188). By recognizing that social influence is important to food choice, namely in the case of organic food, several studies have included social norm as a determinant of the intention to purchase organic food and confirmed the positive and significant relationship between the two variables [3,4,6,8,12,17,27,33–35]. Hence, this study considers that:

Hypothesis 3 (H3): *Subjective norm positively influences consumers' intention to purchase organic food.*

TPB also proposes that intention is determined by perceived behavioral control, understood the perceived effective ability and easiness of performing the behavior and the absence of perceived barriers [29]. In line with this definition, some authors have included in the TPB model specific indicators of barriers that may be particularly important in the case of organic food. In this regard, Rana and Paul [15] identified organic food availability and consumers' perception of price as some of the more frequent barriers preventing consumers from purchasing organic food. Scalco, Noventa, Sartori, and Ceschi [12] recommended considering price and availability to measure perceived behavioral control, since these factors are strictly connected with the individual perception one has over his/her ability to purchase organic foods.

Organic food products are usually more expensive than conventionally grown ones [7] and these price differences can influence one's perceived controllability and perceived self-efficacy [9]. In fact, consumers often associate organic food with upscale and luxurious food products [27]. Although consumers are more willing to pay a price premium for organic food, they still feel discouraged by the higher prices [15], and consequently perceived price has a significant impact on intention to purchase organic food [9]. Higher prices can have a deeper effect in purchase behavior when consumers face economic constraints [36,37], which may lead them to buy cheaper products. Therefore, it is expected that:

Hypothesis 4 (H4): *Perceived price negatively influences consumers' intention to purchase organic food.*

Similarly, the reduced availability of organic food is considered by consumers as one of the main struggles [7]. Consequently, product availability is shown to positively impact purchase intention [9]. Thus, the following research hypothesis was defined for this study:

Hypothesis 5 (H5): *Product availability positively influences consumers' intention to purchase organic food.*

2.3. The Role of Health Consciousness and Environmental Concerns on Organic Food Purchase Intention

Past studies have identified that beyond the cognitive aspects, such as the ones highlighted by TPB (e.g., attitude, subjective norm), consumers' concern about health and the environment act as main drivers for organic food purchase intention [15], which can be due to the fact that consumers are ever more aware of health-related issues and the seriousness of environmental degradation. By incorporating these constructs in the TPB, several researchers, e.g., [11,13,38], have extended its ability to predict intention.

Health consciousness describes the extent to which individuals are aware of their behaviors' healthiness [39]. The more health conscious a person is, the higher the likelihood for the individual intention to engage in behaviors known to contribute to health maintenance and/or improvement. Since organic food is believed to be healthier and more nutritious than conventionally grown food, one might expect consumers who are more health conscious to display a stronger intention to purchase organic food. In line with this, several studies in the literature confirmed that health concerns and consciousness positively impact purchase intention of organic food [3,11,25,35,40–42]. Thus, the following research hypothesis is proposed for this article:

Hypothesis 6 (H6): *Health consciousness positively influences consumers' intention to purchase organic food.*

Regarding the impact of environmental concern on sustainable behaviors, previous studies have reported divergent results. While some studies found no significant impact of environmental concern on attitudes [13,43] among Vietnamese and Portuguese consumer samples, a comparative study of Italian and Pakistani consumers found environmental

concern to be a strong predictor of purchase intention only among the Italian sample [18]. However, it is common to assume that the more concerned a person is about the environment, the more likely the person is to engage in environmentally friendly and sustainable behaviors, such as purchasing green products and organic food. Thus, this variable stands out in the literature as one relevant determinant of purchase intention of organic food [15], with several studies confirming the positive and significant relationship between the two variables [6,33,44]. Hence, the following research hypothesis is formulated:

Hypothesis 7 (H7): *Environmental concern positively influences consumers' intention to purchase organic food.*

2.4. The Integration of Cultural Dimensions: Collectivism

Culture is an important construct when trying to explain and understand consumer behavior [16]. Hofstede [45] (p. 5) defines culture as “the collective programming of the mind that distinguishes the members of one group or category of people from others”. Culture influences people’s way of thinking, feeling, and acting; in sum, it shapes individuals’ perception of the world and their surroundings, determines social norms and expectations, and shapes individual behaviors [46]. Therefore, people belonging to different countries or regions might have distinct perceptions and attitudes towards the same issue. Among the various cultural dimensions proposed by Hofstede, collectivism/individualism (i.e., the strength of the existing ties among the different members of a society) is thought to be one that mostly influence consumers’ intention and behavior relative to green products [20,47] such as organic food.

The collectivism/individualism dimension refers to the preference a society has towards the social framework, i.e., the extent to which a society values more loosely or tightly knit relationships among its members [45]. In highly individualistic cultures, the preference for a loosely-knit social framework is predominant and the need for a group approval is practically inexistent [45]. Contrarily, in highly collectivistic cultures, people tend to prefer a tightly knit social framework, in which individuals are integrated in strong and cohesive in-groups [45]. All in all, individuals who display a collectivistic perspective are more likely to give priority to group goals over individual ones and to aim at preserving group harmony, even when compromising personal needs [48].

Collectivism may be associated with altruism linked with personal norms that involve feelings of obligation to adopt behaviors that can benefit others [49]. In the context of sustainable consumption, Luchs and Miller [50] refer to this feeling of obligation as consumer’s sense of responsibility to adopt behaviors “that promote their self-oriented values and their pro-social and/or pro-environmental values” (p. 256). Morais et al. [51] state that pure altruism is a key motivation driving green purchases. Wang [52] refers that collectivism values have positively impact green product purchase intentions. Kareklas et al. [53] found that altruistic motives have a positive effect on consumers’ beliefs, attitudes, and intentions to purchase organic food. Collectivism is also related to environmental concern, as environmentally concerned consumers are more willing to make personal sacrifices (e.g., change food habits, pay premium prices to buy organic foods) for the greater good of protecting the environment [18]. McCarty and Shrum [54] demonstrated that individuals’ collectivistic orientation significantly influences people’s intention to engage in environmentally friendly behaviors such as recycling. As a matter of fact, collectivism-oriented individuals tend to be driven by social norms and are more willing to share scarce resources with their peers [55]. Hence, collectivism is believed to foster environmentally friendly behaviors, while individualism is related with the pursuit of individual benefits such as health outcomes [20,54–56].

Altruism, which is closely associated with collectivism, is a driver of green buying [51] and consumer’s attitudes about organic food. Additionally, Samarasinghe [57] found that collectivist values positively influence Sri Lankan consumers’ environmental attitudes. Sreen, Purbey, and Sadarangani [20] studied the impact of collectivism on Indian

consumers' green purchase intention and concluded that this cultural dimension had a significant direct effect on attitude, subjective norm, and perceived behavioral control. These authors also demonstrated collectivism to indirectly influence consumers' green purchase intention [20,51–53] and positively affect attitudes [53]. Hence, the following research hypothesis is proposed for this article:

Hypothesis 8 (H8): *Collectivism positively impacts consumers' attitude towards organic food.*

Considering another of the variables featured by the TPB as a relevant determinant of purchase intentions, Screen et al. [20] also found that subjective norm was significantly determined by collectivism. In the same vein, Kim and Choi [58] state that “collectivistic people are more likely to pursue the goals of their in-groups” (p. 597). As such, it is hypothesized that:

Hypothesis 9 (H9): *Collectivism positively impacts consumers' subjective norm regarding organic food.*

Moon, Chadee, and Tikoo [56] and Arisal and Atalar [59] found that consumers in a collectivist society are more willing to pay a premium price for products perceived as beneficial for the society as a whole, when compared to their counterparts in individualistic societies, namely due to the altruistic nature of green consumption within the collectivist culture [51,57]. In line with these contributions, the following research hypotheses were added to this article:

Hypothesis 10 (H10): *Collectivism positively impacts consumers' perceived price of organic food.*

In line with Tran and Nguyen [10] and Scalco, Noventa, Sartori, and Ceschi [12], it is considered that the availability of organic products is an element of perceived behavior control, which is expected to influence consumers' perception of the difficulty of purchasing organic foods. Additionally, considering findings by Sreen, Purbey, and Sadarangani [20] and the effect of collectivism on perceived behavior control, the following hypothesis is proposed for this article:

Hypothesis 11 (H11): *Collectivism positively impacts consumers' perception of availability of organic food.*

Overall, collectivism is believed to foster environmentally friendly behaviors, while individualism is related with the pursuit of individual benefits such as health outcomes [20,51,54–57]. As such, it is hypothesized that:

Hypothesis 12 (H12): *Collectivism negatively impacts consumers' health consciousness towards organic food.*

Moreover, Mccarty and Shrum [34] demonstrated that individuals' collectivistic orientation significantly influences people's intention to engage in environmentally friendly behaviors. Arisal and Atalar [59] and Kim [60] found that collectivist values and environmental concern are positively related. As explained by Kim [60], “people who consider importantly the welfare of others and nature become more concerned with environmental issues” (p. 83). Thus, the following research hypothesis is proposed for this article:

Hypothesis 13 (H13): *Collectivism positively impacts consumers' environmental concern towards organic food.*

To conclude this section, the literature review enabled the formulation of a set of thirteen hypotheses to explain organic food purchase intention and behavior. A summary of those hypotheses is presented in Figure 1.

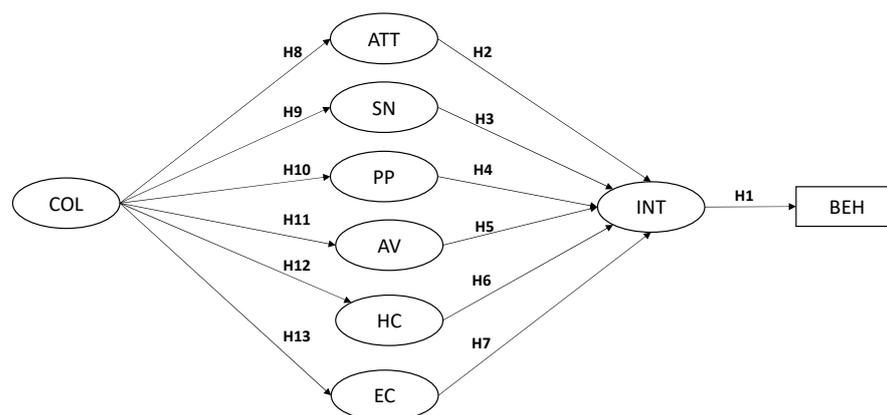


Figure 1. Proposed model. Notes: COL = Collectivism; ATT = Attitude; SN = Subjective Norms; PP = Perceived price; AV = Availability; HC = Health consciousness; EC = Environmental concern; INT = Intention; BEH = Behavior. Source: The Authors.

3. Method

In order to test the proposed hypotheses, this study adopted a quantitative approach by conducting a survey among young consumers from Norway and Portugal. The questionnaire (Supplementary Materials) was organized in three sections. The first section was dedicated to the informed consent. Only the respondents that agreed with the terms of the study were considered. The second section comprised questions regarding respondents' characteristics (e.g., age, gender, education, whether the participant was responsible for buying groceries for the household). This section also included the question "How many times did you buy organic foods last month?" to measure purchase behavior (BEH). The third section included measurement scales for the constructs integrating the conceptual model that were adapted from extant literature, as shown in detail in Appendix A Table A1. It should be noted that three new items were added to the adapted scales. According to the guidelines proposed by several authors, e.g., [61], a minimum of three items is required to saturate the latent variable. Therefore, one item was specifically developed and added to the scale measuring Price ("The price for organic foods is fair") and similarly two items were added to the scale measuring Availability ("It is easy to find organic foods"; "It is easy to have access to organic foods"). In this section of the questionnaire, all the items were measured using five-point scales, ranging from 1—Completely disagree to 5—Completely agree.

The original items were translated from English into Portuguese and Norwegian following the methodological procedures suggested by Banville et al. [62]. After translation, the questionnaires were reviewed by native speakers of both languages and then back-translated into the original language (i.e., English) to confirm the language accuracy. A pretest was conducted with 30 Portuguese and 30 Norwegian consumers, who confirmed the overall clarity and adequacy of the questionnaire.

This study adopted a convenience sampling method, as respondents were randomly approached in universities by one of the researchers and invited to participate in the study by filling a self-completion questionnaire. The study population comprises young consumers. Several studies emphasize the importance of young consumers in green purchase, stressing that young people are inclined to seek eco-friendly products [19,63]. Samples of young consumers often include a share of individuals that are still students, and it should be noted that student samples are common in cross-cultural and young consumer studies e.g., [63], namely due to the facility of recruitment, lower cost of administration, and assumed lower response bias [41]. Cheah and Phau [64] affirm that the usage of younger population samples has been considered to generate reliable research findings and represent a key segment to conduct research on organic food purchase behavior [65].

Participants' characteristics are summarized in Table 1. The most evident difference between the two countries regards the household: Portuguese participants mostly lived with other people (e.g., family), while most Norwegian participants lived on their own. As a consequence, in Portugal only 30.6% of the respondents were responsible for purchasing groceries, while in Norway 78.8% of respondents bought the groceries for the household.

Table 1. Participants' characteristics.

Participants' Characteristics		Total Sample		Norway		Portugal	
		N	%	N	%	N	%
Age	18–21	412	45.2	197	42.0	215	48.0
	22–26	424	46.3	235	50.2	189	42.2
	27–30	80	8.5	36	7.8	44	9.8
Gender	Female	630	68.8	309	66.0	321	71.7
	Male	286	31.2	159	44.0	127	28.3
Highest Education Level Completed	High school	531	58.0	299	63.9	232	51.8
	Graduate	329	35.9	160	34.2	169	37.7
	Postgraduate	56	6.1	9	1.9	47	10.5
Occupation	Student	401	43.8	108	23.1	293	65.4
	Part-time job	448	48.9	360	76.9	88	19.6
	Full-time job	67	7.3	0	0.0	67	15.0
Household	1 person	287	31.3	232	49.6	55	12.3
	2–3 people	376	41.0	166	35.5	210	46.9
	4–5 people	234	25.5	61	13.0	173	38.6
	>5 people	19	2.1	9	1.9	10	2.2
Responsible for purchasing groceries for the household	Yes	506	55.2	369	78.8	137	30.6
	No	410	44.8	99	21.2	311	69.4

Source: The Authors.

All participants signed an informed consent form and anonymously and voluntarily answered the questionnaire. The same procedure took place in both countries. Data was collected in November and December 2018 in Norway and in February 2019 in Portugal.

Data was screened for missing values and the 10 questionnaires with less than 5% of missing values were filled by using the multiple imputation procedures [66] in IBM SPSS Statistics version 23.0. Questionnaires with more than 5% of missing values were excluded. After the adjustments, 468 Norwegian questionnaires and 448 Portuguese questionnaires were included in the final sample. Regarding the sample dimension, Kline [67] suggests a minimum of 5 observations per parameter to estimate, considering 10 observations as acceptable and 15 as the recommended, which is the case of this study.

A two-step maximum likelihood analysis using IBM SPSS AMOS 24 was performed, following Kline's [67] recommendations. Firstly, a Confirmatory Factor Analysis (CFA) was conducted, testing the psychometric proprieties of the model. Average Variance Extracted (AVE) was calculated to evaluate convergent validity [42] and scores higher than 0.5 confirm a construct's convergent validity [61,68,69]. Likewise, the thresholds for accepted factor loadings was 0.5, as commonly accepted in the literature [61,67]. Discriminant validity was confirmed as AVE scores were higher than the squared correlation across constructs of the measurement model [61]. Composite reliability (CR) was used as an indicator of internal consistency of each scale, and >0.70 was used as cut-off value [67].

Secondly, Structural Equation Model (SEM) was performed in order to analyze the relations among all constructs by creating regression paths. Goodness of fit was assessed by considering the chi-square divided by the degrees of freedom (χ^2/df), considering a threshold value of 5 or less as acceptable model fit. The Comparative fit index (CFI) and the Incremental fit index (IFI) were also analyzed, considering an accepted cut-off value of 0.9, and the Root means square error of approximation (RMSEA) of 0.08. Finally, in regard to the value of Squared Multiple Correlations (R²), Cohen [70] suggested R² values for endogenous latent variables are assessed as follows: 0.26 (substantial), 0.13 (moderate), and 0.02 (weak).

4. Results

4.1. Common Method Bias

Since a single source of data was used, data was tested for the common method bias by Harman's single factor test [71]. The results of Harman's single factor indicate the percentage of variance accumulated in the first component, which is 24.265 per cent manifested by 30 items. This value is well below the threshold value of 50 per cent, which shows that the study does not have a serious problem with common method variance.

4.2. Descriptive Analysis, Validity Indicators, and Goodness of Fit

Mean and standard deviations were examined for all items for the total sample, for the Portuguese and the Norwegian ones separately (Table 2). The results of skewness and kurtosis indicate none of the values of observed variables had skewness greater than ± 2.0 and kurtosis index greater than ± 2.0 . Based on the recommendation of George and Mallery (2011), the absolute values of the Skewness and Kurtosis of all the items in this study are within the acceptable range of -2 and $+2$, respectively. In addition, the factor loadings were greater than 0.50 for all constructs at all points of measurement. Chin [72] recommended that the standardized loading for each item should be greater than 0.5 or 0.6.

Table 2. Results of descriptive statistics and factor loadings.

Construct	Items	Portugal (N = 448)		Norway (N = 468)		Total Sample (N = 916)				Factor Loadings	
		Mean	S.D	Mean	S.D	Mean	S.D	Skewness	Kurtosis	Initial	Revised
COL	COL1	2.94	0.94	3.05	0.96	3.00	0.95	-0.11	-0.26	0.586	0.579
	COL2	3.99	0.85	3.57	0.88	3.78	0.89	-0.48	-0.03	0.386	(*)
	COL3	3.40	0.96	3.32	0.86	3.36	0.91	-0.24	-0.08	0.781	0.777
	COL4	3.23	0.98	3.21	0.94	3.22	0.96	-0.21	-0.22	0.762	0.791
	COL5	3.01	0.98	2.89	0.96	2.95	0.97	-0.02	-0.30	0.567	(*)
	COL6	3.13	0.99	2.94	0.91	3.03	0.95	-0.08	-0.25	0.531	(*)
HC	HC1	3.75	0.86	3.65	0.91	3.69	0.89	-0.60	0.35	0.692	0.699
	HC2	3.86	0.83	3.50	0.97	3.68	0.92	-0.55	0.10	0.834	0.847
	HC3	3.94	0.89	3.32	1.02	3.62	1.01	-0.47	-0.32	0.539	(*)
EC	EC1	4.48	0.72	3.87	0.87	4.17	0.86	-0.84	0.29	0.724	0.723
	EC2	4.51	0.71	3.97	0.80	4.23	0.80	-0.85	0.42	0.601	0.602
	EC3	4.58	0.66	3.42	0.93	3.99	1.00	-0.71	-0.19	0.815	0.816
ATT	ATT1	4.08	0.78	3.66	0.89	3.86	0.86	-0.62	0.51	0.796	0.82
	ATT2	3.88	0.85	3.60	0.96	3.74	0.92	-0.63	0.51	0.779	0.805
	ATT3	3.88	0.88	3.50	0.98	3.68	0.95	-0.71	0.51	0.781	(*)
	ATT4	4.01	0.81	3.70	0.87	3.85	0.86	-0.63	0.55	0.741	0.738
SN	SN1	2.67	1.03	1.87	0.99	2.26	1.08	0.45	-0.59	0.829	0.828
	SN2	2.54	0.99	2.11	1.06	2.32	1.05	0.30	-0.65	0.871	0.872
	SN3	2.65	0.97	2.09	1.03	2.36	1.04	0.21	-0.69	0.891	0.891
	SN4	2.75	1.05	2.17	1.06	2.45	1.09	0.23	-0.85	0.551	0.55
PP	PP1	1.83	0.72	1.91	0.80	1.87	0.76	0.56	-0.13	0.365	(*)
	PP2	2.95	0.89	2.71	0.88	2.83	0.89	-0.15	-0.21	0.768	0.901
	PP3	2.81	0.93	2.73	0.93	2.77	0.93	-0.05	-0.34	0.744	0.623
AV	AV1	2.71	0.82	3.01	0.89	2.86	0.87	0.05	-0.22	0.582	0.581
	AV2	2.90	0.88	3.36	0.90	3.14	0.92	-0.01	-0.63	0.815	0.815
	AV3	2.79	0.88	3.43	0.84	3.12	0.92	-0.15	-0.42	0.852	0.852
INT	INT1	3.98	0.86	3.01	1.04	3.48	1.07	-0.50	-0.21	0.87	0.873
	INT2	3.76	0.92	2.96	1.09	3.35	1.09	-0.38	-0.32	0.891	0.894
	INT3	3.64	0.94	3.02	0.99	3.32	1.02	-0.41	-0.18	0.85	0.845
BEH	BEH1	1.16	1.09	1.04	0.98	1.10	1.03	1.02	0.83	n.a	n.a

Notes: COL = Collectivism; HC = Health Consciousness; EC = Environmental Concern; ATT = Attitude; SN = Subjective Norms; PP = Perceived Price; AV = Availability; INT = Intention; BEH = Behavior; S.D = Standard Deviation; n.a. stands for non-applicable (the construct comprises only one item); (*) Removed. Source: The Authors.

It should be noted that, due to factor loadings lower than 0.5 and cross loading with other items, the “COL2, COL5, COL6, HC3, ATT3, and PP1” are eliminated from further analysis.

4.3. Convergent and Discriminant Validity

The results of goodness-of-fit for revised measurement model showed the χ^2 value for revised model is 516.977 with 217 degrees of freedom. The Comparative fit index (CFI) is 0.969, the Incremental fit index (IFI) is 0.969, and the Root means square error of approximation (RMSEA) is 0.039.

In this study, internal consistency reliability was evaluated by using composite reliability (CR) of 0.7 [61]. From Table 3, all the CR values in this study are greater than 0.7, which is considered the minimum value to support the reliability of the measures. According to Fornell and Larcker [68], the average variance extracted (AVE) can provide evidence for convergent validity. Results show that the convergent validity is supported since the average variance extracted (AVE) is larger than 0.50. A value higher than 0.5 indicates a construct’s convergent validity [61,68].

Table 3. Results of convergent and discriminant validity.

Construct	CR	AVE	1	2	3	4	5	6	7	8
Availability	0.80	0.58	0.76							
Collectivism	0.76	0.52	0.03	0.72						
Health consciousness	0.75	0.61	0.12	0.02	0.78					
Environmental concern	0.76	0.52	−0.19	0.18	0.28	0.72				
Attitude	0.83	0.62	0.01	0.10	0.25	0.46	0.79			
Subjective norms	0.87	0.64	0.06	0.21	0.24	0.29	0.46	0.80		
Perceived price	0.74	0.60	0.22	0.14	0.13	0.14	0.36	0.34	0.77	
Intention	0.90	0.76	0.02	0.15	0.41	0.52	0.76	0.58	0.41	0.87

Notes: The numbers in the diagonal are the square root of AVE; CR = Composite Reliability; AVE = Average Mean Extracted. Source: The Authors.

4.4. Evaluation of Structural Model and Hypotheses Testing

The SEM model showed a good fit to the data ($\chi^2 = 1096.685$, $df = 240$, $\chi^2/df = 4.57$, CFI = 0.912, IFI = 0.912, RMSEA = 0.062).

4.4.1. Test of Hypotheses

In regard to the value of Squared Multiple Correlations (R^2), Cohen [70] suggests that R^2 values for endogenous latent variables are assessed as follows: 0.26 (substantial), 0.13 (moderate), 0.02 (weak). As can be seen from Table 4, R^2 for Intention and Behavior are 0.616 and 0.160, respectively, showing substantive data variation explained by the relevant independent variables.

The results confirm H8 to H10, which predicted an effect of Collectivism on Attitude (H8: $\beta = 0.169$, $t = 4.093$, $p < 0.01$) Subjective Norms (H9: $\beta = 0.258$, $t = 6.289$, $p < 0.01$), and Perceived Price (H10: $\beta = 0.184$, $t = 4.359$, $p < 0.01$). In addition, the effect of Collectivism on Availability (H11: $\beta = 0.035$, $t = 0.851$, $p > 0.05$) and Health Consciousness (H12: $\beta = 0.061$, $t = 1.426$, $p > 0.05$) are rejected. The anticipated positive effect of Collectivism on Environmental Concern (H13: $\beta = 0.219$, $t = 4.996$, $p < 0.01$) is supported. Moreover, the results indicated that Attitude (H2: $\beta = 0.583$, $t = 16.984$, $p < 0.01$), Subjective Norms (H3: $\beta = 0.305$, $t = 10.574$, $p < 0.01$), and Perceived price (H4: $\beta = 0.156$, $t = 4.258$, $p < 0.01$) have a direct and positive influence on Intention. The effect of Availability on Intention (H5: $\beta = -0.007$, $t = -0.240$, $p > 0.05$) is rejected. The expected positive effects of Health Consciousness (H6: $\beta = 0.236$, $t = 7.172$, $p < 0.01$) and Environmental Concern (H7: $\beta = 0.222$, $t = 7.192$, $p < 0.01$) on Intention are accepted. Finally, H1 is supported since the link between Intention to Behavior is positive and significant (H13: $\beta = 0.400$, $t = 11.918$, $p < 0.01$).

Table 4. Results of hypothesis testing.

Path	Estimate	S.E.	C.R.	P	R ²
H1: Intention → Behavior	0.400	0.042	11.918	0.001	0.160
H2: Attitude → Intention	0.583	0.040	16.984	0.001	
H3: Subjective Norms → Intention	0.305	0.026	10.574	0.001	
H4: Perceived price → Intention	0.156	0.037	4.258	0.001	
H5: Availability → Intention	−0.007	0.045	−0.240	0.810	0.616
H6: Health consciousness → Intention	0.236	0.041	7.172	0.001	
H7: Environmental concern → Intention	0.222	0.039	7.192	0.001	
H8: Collectivism → Attitude	0.169	0.053	4.093	0.001	-
H9: Collectivism → Subjective Norms	0.258	0.067	6.289	0.001	-
H10: Collectivism → Perceived price	0.184	0.061	4.359	0.001	-
H11: Collectivism → Availability	0.035	0.038	0.851	0.395	-
H12: Collectivism → Health consciousness	0.061	0.051	1.426	0.154	-
H13: Collectivism → Environmental concern	0.219	0.051	4.996	0.001	-

Notes: H stands for Hypothesis. Source: The Authors.

4.4.2. Comparison between Portugal and Norway

Multi-group moderation tests were conducted using the full model. In this study, to examine the categorical moderation hypotheses, we produced the critical ratios for the differences in regression weights between the groups of Portugal (N = 448) and Norway (N = 468). From these critical ratios we calculated *p*-values to determine the significance of the difference.

The chi-square difference between fully constrained and unconstrained for all 13 path of the model shows that the *p*-value is insignificant ($\Delta \chi^2$ (df) = 27.653 (13), $p < 0.01$). Therefore, groups are different at the model level, and it could be inferred that the models obtained from the Portugal and the Norway are different.

As detailed in Table 5, the results show that Collectivism positively affected Attitude for Norway ($\beta = 0.125$, $p < 0.05$) and Portugal ($\beta = 0.207$, $p < 0.01$). The absolute value for the difference in Chi-Square value is 0.144, while the difference in Degrees of Freedom is 1. Since the *p*-value of the Chi-Square difference test is not significant, the path from Collectivism to Attitude does not differ across groups. The path from Collectivism to Subjective Norms ($\Delta \chi^2$ (df) = 0.011 (1), $p > 0.05$) and Collectivism to Perceived Price ($\Delta \chi^2$ (df) = 0.126 (1), $p > 0.05$) are not significantly different between the two groups. In addition, the path from Collectivism to Availability does not differ across groups ($\Delta \chi^2$ (df) = 1.944 (1), $p > 0.05$), however the positive relationship between Collectivism and Availability is only significant for Portugal ($\beta = 0.125$, $p < 0.05$). The paths from Collectivism to Health Consciousness ($\Delta \chi^2$ (df) = 0.03 (1), $p > 0.05$), from Collectivism to Environmental Concern ($\Delta \chi^2$ (df) = 1.877 (1), $p > 0.05$) and from Attitude to Intention ($\Delta \chi^2$ (df) = 0.451 (1), $p > 0.05$) are not significantly different between the two groups. The findings highlight that the path (Subjective Norms → Intention) differs across groups ($\Delta \chi^2$ (df) = 14.526 (1), $p < 0.01$), and the positive relationship between Subjective Norms and Intention is stronger for Norway ($\beta = 0.327$, $p < 0.01$). Moreover, the path from Perceived Price to Intention ($\Delta \chi^2$ (df) = 3.372 (1), $p > 0.05$) is not significantly different between the two groups. However, the positive relationship between Perceived Price and Intention is stronger for Norway ($\beta = 0.174$, $p < 0.01$).

Table 5. Results of hypotheses testing (Multi-group Moderation).

	Comparison	χ^2 (df)	Difference (from Base Model)		Standardized Estimate	
			χ^2 (df)	<i>p</i>	Norway	Portugal
Model	Unconstrained (Base Model) ^a	1267.07 (482)	-	-	-	-
	Constrained (All Variables) ^b	1294.722 (495)	27.653 (13)	0.010	-	-
Path Name	Collectivism → Attitude	1267.213 (483)	0.144 (1)	0.705	0.125 *	0.207 **
	Collectivism → Subjective Norms	1267.08 (483)	0.011 (1)	0.915	0.237 **	0.261 **
	Collectivism → Perceived Price	1267.195 (483)	0.126 (1)	0.723	0.187 **	0.164 **
	Collectivism → Availability	1269.013 (483)	1.944 (1)	0.163	−0.007	0.125 *
	Collectivism → Health Consciousness	1267.099 (483)	0.03 (1)	0.863	0.039	0.063
	Collectivism → Environmental Concern	1268.946 (483)	1.877 (1)	0.171	0.263 **	0.207 **
	Attitude → Intention	1267.52 (483)	0.451 (1)	0.502	0.551 **	0.720 **
	Subjective Norms → Intention	1281.595 (483)	14.526 (1)	0.001	0.327 **	0.181 **
	Perceived Price → Intention	1270.441 (483)	3.372 (1)	0.066	0.174 **	0.100 *
	Availability → Intention	1267.998 (483)	0.929 (1)	0.335	0.038	0.118 **
	Health Consciousness → Intention	1267.208 (483)	0.138 (1)	0.710	0.214 **	0.266 **
	Environmental Concern → Intention	1267.666 (483)	0.597 (1)	0.440	0.109 *	0.072
	Intention → Behavior	1268.055 (483)	0.986 (1)	0.321	0.502 **	0.381 **

Notes: ^a Paths for the two groups were allowed to be freely estimated. ^b The path specified was constrained to be equal across the two groups. ** $p < 0.010$. * $p < 0.050$. Source: The Authors.

The path Availability to Intention ($\Delta \chi^2$ (df) = 0.929 (1), $p > 0.05$) is not significantly different between the two groups, but the positive relationship between Availability and Intention is only significant for Portugal ($\beta = 0.118$, $p < 0.01$). The paths from the Health Consciousness to Intention, from Environmental Concern to Intention and from Intention to Behavior did not differ between Portugal and Norway.

The main findings are summarized in Table 6. As noted, the only difference found between the two groups concerned the path from Subjective norm to Intention. The next section presents a discussion of findings.

Table 6. Summary of multigroup analysis.

Path	Support to Hypothesis	Multi-Group Analysis		
		No	Pt	Interpretation
Collectivism → Attitude	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.144 (1), $p > 0.05$).
Collectivism → Subjective Norms	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.011 (1), $p > 0.05$).
Collectivism → Perceived Price	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.126 (1), $p > 0.05$).
Collectivism → Availability	R	N. Sig.	Sig.	The positive relationship between Availability and Collectivism is only significant for Portugal. The path does not differ across groups ($\Delta \chi^2$ (df) = 1.944 (1), $p > 0.05$).
Collectivism → Health Consciousness	R	N. Sig.	N. Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.03 (1), $p > 0.05$).
Collectivism → Environmental Concern	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 1.877 (1), $p > 0.05$).
Attitude → Intention	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.451 (1), $p > 0.05$).
Subjective Norms → Intention	S	Sig.	Sig.	The positive relationship between Subjective Norms and Intention is stronger for Norway. The path differs across groups ($\Delta \chi^2$ (df) = 14.526 (1), $p < 0.01$).
Perceived Price → Intention	S	Sig.	Sig.	The positive relationship between Perceived price and Intention is stronger for Norway. The path does not differ across groups ($\Delta \chi^2$ (df) = 3.372 (1), $p > 0.05$).
Availability → Intention	R	N. Sig.	Sig.	The positive relationship between Availability and Intention is only significant for Portugal. The path does not differ across groups ($\Delta \chi^2$ (df) = 0.929 (1), $p > 0.05$).
Health Consciousness → Intention	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.138 (1), $p > 0.05$).
Environmental Concern → Intention	S	Sig.	N. Sig.	The positive relationship between Environmental concern and Intention is not significant for Portugal. The path does not differ across groups ($\Delta \chi^2$ (df) = 0.597 (1), $p > 0.05$).
Intention → Behavior	S	Sig.	Sig.	There is no difference across groups ($\Delta \chi^2$ (df) = 0.986 (1), $p > 0.05$).

Notes: S = Supported, R = rejected; Sig. = Significant; N. Sig. = Not significant. Source: The Authors.

5. Discussion

As noted along these pages, it was confirmed that collectivism has a relevant role in consumer behavior towards organic food, considering its significant impact on attitude, subjective norm, perceived price, and environmental concern. These results are in line with the findings of extant literature that link collectivism with environmental-friendly behaviors [20,54,56]. The fact that the relationships found between collectivism and both product availability and health consciousness were found to be statistically insignificant demands that future studies continue to explore the relationship between cultural dimensions and consumers' behaviors toward organic food, especially considering that slight differences were found between the Norwegian and the Portuguese samples in the case of the impact of collectivism on product availability.

This study also demonstrates the additional richness that combining two distinct samples offers. In the current analysis, and although the results tended to be similar amongst the two samples, the divergencies found are particularly relevant. Despite the indications that environmental concern is a relevant determinant of intention to purchase organic food [6,15,33,44], this was not confirmed amongst the Portuguese respondents.

Another interesting aspect is the more positive impact of perceived price on intention found in Norway. These two findings may be related to the different profile of Norwegian and Portuguese participants regarding the responsibility for the household grocery purchases. Most of Norwegian participants (79%) make the household grocery purchases, which probably makes them more aware of prices and of the need to manage their budget. Only a minority of Portuguese participants (30%) do so, probably because they are still living with their parents or under their financial support, as noted by Kamenidou, Stavrianea, and Bara [36] regarding Greek Gen Z consumers, which may shield them from price awareness and prevent them from translating their environmental concerns into the intention to buy organic foods. Regarding environmental concern, other studies have stressed the inconsistencies of the findings on the role of environmental concern [3,73], leading Zagata [73], Hansmann, Baur, and Binder [37], and Nunes, Madureira, and Veiga [41] to suggest the prevalence of egocentric reasons to explain intentions toward organic food, particularly personal health.

Finally, the fact that the positive relationship between Availability and Intention is only significant for Portugal has important implications for managers and policy makers, as explored in the next section.

6. Conclusions

To the best of our knowledge, this study was one of the first to analyze the influence of cultural dimensions (i.e., collectivism) on consumers' intention to purchase organic foods and on consumers' behavior itself. As suggested by Minton et al. (2018), this research did not use prior cultural values results, but instead measured these variables in the study herein by assessing the collectivism based on respondents' own views.

6.1. Theoretical and Managerial Implications

Overall, this article makes several theoretical and managerial contributions. From a theoretical point of view, this study addresses several gaps identified by previous research, particularly the lack of studies addressing the actual purchase behavior of organic food [11–13]. Furthermore, it extends the TPB by considering the impact of collectivism as an antecedent of the determinants of purchase intention, contributing to the inclusion of cultural dimensions to explain behaviors toward this type of product [5,20].

From a practical point of view, results of this study highlight the need for marketers and countries' governmental bodies to consider in their actions (e.g., communication strategies, educational actions) the impact of culture when it comes to affect the determinants of consumers' intention to purchase organic food, more specifically collectivism. The study shows that collectivist-oriented consumers are more prone to have positive attitude toward organic food, and to give higher importance to subjective norm, perceived price, and environmental concerns toward organic food. Considering that all these factors positively affect intention to purchase organic food, collectivist-oriented consumers are shown to be amongst the most willing to adopt this type of consumption and to effectively prefer organic food instead of its alternatives.

This study also shows that the perceptions of product availability may vary between different groups of consumers. Indeed, the results point out to the need to improve the access to organic food products, especially for the Portuguese participants, confirming the importance of availability noted by Melović, Dabić, Rogić, Đurišić, and Prorok [63] in their study of Montenegro young consumers. Indeed, unavailability of organic foods may lead consumers to buy non-organic products [41]. Additionally, arguments regarding the more positive environmental impacts of organic food may not be effective in influencing some groups of consumers, as it is shown by the sample of Portuguese participants. On

the contrary, health consciousness, which is not affected by collectivism, seems a prevalent trigger of organic food purchase intentions.

Companies' marketing strategies and government campaigns should also focus on promoting a positive attitude towards organic food among consumers and engage in informative campaigns aiming at making people more knowledgeable about this type of food products, so that the organic food consumption becomes more and more a social norm.

Hence, the fact that actual purchase behavior was found to be determined by purchase intention, in line with the indications of TPB and with several studies previously conducted, is particularly important for managers and other stakeholders that want to foster organic food market. This article points out aspects of consumer behavior that should be taken into consideration. Indeed, attitude, subjective norms, perceived price, health consciousness, and environmental concern were found as significant determinants of purchase intention of organic food. As such, these factors should be the main focus of communication and marketing initiatives.

6.2. Limitations and Avenues for Future Research

Despite the relevant findings, this research is not without limitations, particularly the fact that the participants were from only two European countries, respondents belonged to younger generations, and that purchase behavior was self-reported.

Although young consumer samples have been considered to generate reliable research findings [64], it should be noted that age was found to be related with consumers' Intention towards organic food in previous studies [74]. Therefore, for the validity of results to be expanded, future research could consider different ranges of the population.

Like other studies in extant literature [13,75], this article confirms the flexibility and of TPB model to encompass additional independent variables to explain consumer intentions and behavior. Hence, it is recommended that further adaptations could be explored in the future, namely by considering other cultural perspectives based on Hofstede's [45] framework. The consideration of other independent variables beyond intention relevant to explain purchase behavior may enable the estimation of models with an increased ability to explain purchase behavior, i.e., models that may obtain more substantial Squared Multiple Correlations (R²) [70]. Amongst interesting perspectives to further explore are brand trust and product labelling [76].

Methodological alternatives can also be considered for analyzing real observed behavior rather than self-reported behavior, for instance by using organic food's sales data directly collected from supermarket chains and household food purchase expenses' reports. Finally, the literature suggests that consumption of organic foods is range biased [7], hence, future research could compare different food categories (e.g., organic fruits, organic meat, organic milk).

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su14127361/s1>, Blank questionnaire.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Construct Items.

Construct	Items ¹	Adapted from
Collectivism	COL1 Individuals should sacrifice self-interest for the group. COL2 Individuals should stick with the group even through difficulties. COL3 Group welfare is more important than individual rewards. COL4 Group success is more important than individual success. COL5 Individuals should only pursue their goals after considering the welfare of the group. COL6 Group loyalty should be encouraged even if individual goals suffer.	Yoo et al. [77]
Health consciousness	HC1 I choose food carefully to ensure good health. HC2 I think of myself as a health-conscious consumer. HC3 I often think about health issues.	Tarkiainen and Sundqvist [9]
Environmental concern	EC1 Humans are severely abusing the environment. EC2 Humans must maintain the balance with nature in order to survive. EC3 Human interferences with nature often produce disastrous consequences.	Yadav and Pathak [11]
Attitude	ATT1 Buying organic foods is a good idea. ATT2 Buying organic foods is a wise choice. ATT3 I like the idea of buying organic foods. ATT4 Buying organic foods would be pleasant.	Yadav and Pathak [11]
Subjective norm	SN1 People who are important to me think that I should purchase organic foods. SN2 People who are important to me would want me to purchase organic foods. SN3 People whose opinions I value prefer that I purchase organic foods. SN4 My friends' positive opinion influences me to purchase organic foods.	Paul et al. [78]
Perceived price	PP1 Organic foods are expensive. ³ PP2 The price of organic foods is in accordance with its benefits. PP3 The price for organic foods is fair. ²	Singh and Verma [7]
Availability	AV1 Organic foods are always sufficiently available. AV2 It is easy to find organic foods. ² AV3 It is easy to have access to organic foods. ²	Tarkiainen and Sundqvist [9]
Purchase intention	INT1 I intend to buy organic products in the near future. INT2 I plan to buy organic foods in the future. INT3 I will make an effort to buy organic foods in the future.	Lee et al. [79]
Behavior	BEH How many times have you bought organic food in the last month?	Developed for this study

Notes. ¹ All items from the different constructs were evaluated using a five-point Likert-type scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"), except for behavior, which was categorized into five levels: 0 ("0 times"), 1 ("1–2 times"), 2 ("3–4 times"), 3 ("5–6 times"), and 4 ("7 or more"). ² Item developed by the authors and added to the adapted scale. ³ Reverse coded item. Source: The Authors.

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