Exploring the Antecedents of Organic Food Purchase Intention: An Extension of the Theory of Planned Behavior

Sandrina Francisca Teixeira 1,*, Belem Barbosa 2, Hugo Cunha 3 and Zaila Oliveira 4

1 CEOS.PP, ISCAP, Polytechnic of Porto, 4465-004 Porto, Portugal
2 CEFUP, School of Economics and Management, University of Porto, 4200-464 Porto, Portugal; marketing.belem@gmail.com
3 ISCAP, Polytechnic of Porto, 4465-004 Porto, Portugal; hugocunhalpm@gmail.com
4 CEOS.PP, Centro Universitário Christus—UniChristus, Fortaleza 60160-230, Brazil; zailaoliveira@gmail.com
* Correspondence: sandrina@iscap.ipp.pt

Abstract: Worldwide organic food consumption has registered a consistent rise in recent years. Despite the relevant body of literature on the topic, it is necessary to further understand the antecedents of purchase intention. This article aims to identify the factors that influence the consumer’s intention to purchase organic food. It extends the theory of planned behavior model by including environmental concerns, health concerns, and perceived quality as determinants of attitude toward organic food products. Additionally, it considers the effect of product availability on consumers’ perceived behavioral control. This article includes a quantitative study that was conducted in Portugal in 2020 (n = 206). Structural equation modeling was used to test the proposed set of research hypotheses. In line with extant literature, this study confirmed that attitude toward organic food is the main determinant of purchase intention. Additionally, it demonstrates that health concerns and perceived quality have a significant impact on attitude toward organic food. The impact of environmental concerns on attitude was not confirmed by this study. Based on these findings, it is recommended that managers stress health benefits and quality of organic food in order to foster positive attitudes and consequently leverage purchase intention.

Keywords: organic food; consumer behavior; theory of planned behavior; Portugal

1. Introduction

The last decades witnessed a worldwide increase in consumers’ preference for organic food [1]. Worldwide sales of organic food have steadily increased, moving from a global market of USD 15.2 billion in 1999 to an impressive USD 106 billion in 2019 [2]. Although India is the leading country in number of producers [3], the eight countries with the highest consumption per capita of organic food are European, followed by the USA and Canada [4]. With consumers converting to this new food reality and with producers realizing this trend and wanting to respond to the growing demand trend, we are witnessing a growth in this market not only in developed countries including those in Europe and North America, but also in countries such as China and India [5,6].

This trend is often associated with concerns regarding the impacts that intensive agriculture has on the environment. The mass production of food associated with the intensive use of chemicals and pesticides [1] led to environmental deterioration. Furthermore, the nutritional value of mass-produced food is lower than that of food produced by less industrialized means [7]; consequently, possible negative impacts on people’s health were suggested [1]. Organic food is free of artificial chemicals and therefore considered healthier [1].

In the production of organic food, producers have to comply with several rules so that their products are considered organic, and hence providing additional health benefits. These rules are guided by sustainability, seeking to promote environmental protection;
preserve biodiversity; and, through tight regulation, increase consumer confidence in this type of product [8]. Therefore, organic production is a sustainable agricultural management and food production system that combines the best environmental practices, a high level of biodiversity, the preservation of natural resources, and the application of high standards of well-being [9]. Thus, organic food appears on the market as a healthier alternative both for the environment and for human beings, offering an answer to the problems that the consumer has become more aware of [6]. This ideological position of consumers presents itself as a great motivator to break down barriers and to drive the market toward more sustainable practices and preferences.

Given the characteristics of sustainable products such as organic food, it is essential to further understand consumer behavior, including the factors that explain purchase intention. The market value of organic food and beverages worldwide is expected to increase from a sales volume of USD 165 billion in 2018 to USD 679 billion by 2027 [10]. The increase in cultivated hectares in Europe is particularly evident, as the growth was 18.7%, from around 10 million hectares to almost 12 million [11]. In Portugal, 6.8% of the total cultivated area is organically cultivated [11]. With the growth expected in the coming years, studies must be carried out to help brands create and communicate the best offers of organic products to consumers, namely to increase the purchase intention, which has been shown as the main determinant of future purchase behavior [1,12–19].

This study thus intends to identify the factors that influence the consumer’s intention to purchase organic food. Following Yadav and Pathak [20] and Ahmed et al. [21], it particularly focuses on young consumers, considering their importance as a consumer segment for this type of product. The methodology used was quantitative, supported by the theory of planned behavior (TPB). The TPB model focuses on the relationship between behavioral intentions and attitudes, subjective norm, and perceived behavioral control. This model has been shown as particularly suitable in predicting green and eco-friendly consumer behaviors [20,22]. Indeed, several authors have demonstrated the strength of the factors of the TPB model in predicting purchase intention. Additionally, several studies have extended this model by suggesting additional independent variables [20], emphasizing the overall robustness and relevance of TPB to the present day.

This article extends the TPB model by adding four independent variables that are suggested as having an important role in determining consumer behavior regarding sustainable products, and particularly regarding organic food: environmental concerns, health concerns, perceived quality, and product availability. These inclusions are explained in detail in the next section.

2. Theoretical Background

This article adopts the well-established theory of planned behavior (TPB) as the basic framework to explain the purchase intention for organic food. TPB is a good tool for predicting and understanding behavior in this specific area. This theory has proven itself useful in predicting consumer intent across a broad spectrum of areas [23], particularly organic food [1]. Indeed, extant literature which aimed to study and explain consumers’ organic food purchase intention used this model successfully [16–19,21,23–28]. Still, it also highlights that it is necessary to have a closer look at the role of purchase intention, particularly of the factors that influence it, to better understand consumer behavior regarding organic food [7,29].

Literature defines intention as a person’s plan, commitment, or decision to perform an action [30]. Intention is the direct antecedent and main determinant of one’s future behavior [13]. Consumption intention is the action of someone in relation to a certain product or brand, which occurs due to the decision to act. Ajzen [15] clarified that intention can predict behavior with significant accuracy [13]. Thus, behavior is more probable if the intention to perform it is strong.

In this article, the main explained variable is purchase intention, which can be defined as the strength of mind to operate in a particular manner as a means to purchase [15]. It is
characterized by the readiness of an individual to complete a specific behavior, where the intention is the immediate antecedent of the actual purchase behavior [13,15].

2.1. The Role of Attitude on Purchase Intention

Attitude depicts the likes or dislikes of a consumer through an evaluation process that can be either positive or negative [31,32]. Attitudes are the most significant determinant of behavioral intentions regarding green products [29]. Attitude reflects individual preferences to perform or not a behavior regarding general consumption or of a specific product; the more positive the attitude, the stronger the intention to express the behavior [33]. Overall, the literature shows that consumer attitude is the most important predictor of intention to buy organic food [1,12,16–18,21,25,27,28,34]. Therefore, the first research hypothesis (H) of this article is as follows:

Hypothesis 1 (H1). Consumers’ attitude toward organic food has a positive impact on intention to purchase organic food.

2.2. Expected Effects of Subjective Norm and Perceived Behavioral Control

Subjective norms refer to the perception that others would approve of the decision to consume or not. Thus, an individual’s perception of social pressure convinces the person to perform a certain behavior [35]. For instance, subjective norms act when someone communicates beliefs, values, and thoughts to others, and peer pressure arises when compliance to others is not met, affecting an individual’s state of mind [25,36]. Consequently, individuals have beliefs about how their reference groups would see them if they were involved in a particular behavior. These perceptions could influence consumers in their decision processes, namely their intentions to purchase organic food [7,12,16–18,21,25,26,28,37], as they deal with the opinion of other people, who may have the power to significantly influence the individual on a particular product [25].

Perceived behavioral control (PBC) is defined as the perception of the ease or difficulty of performing a particular behavior, i.e., the degree to which an individual feel that performance or nonperformance of the behavior in question is under their voluntary control [14,38]. Thus, it is the degree of control that one perceives over the performance of the behavior [35]. Hence, consumer behavior depends on perceived limitations and ability, which affect consumers’ buying intention [39] namely due to external factors such as availability and recognition [12].

Evidence from extant literature points out the positive impact of perceived behavioral control on intention to purchase organic food [12,16–19,21,25,28]. Hence, based on what is postulated by the theory of planned behavior, and in accordance with extant literature, the following research hypotheses are defined:

Hypothesis 2 (H2). Subjective norm has a positive impact on intention to purchase organic food.

Hypothesis 3 (H3). Perceived behavioral control has a positive impact on intention to purchase organic food.

2.3. Consumers’ Environmental Concerns

Consumers’ environmental concerns were found to be one of the main factors that influence consumers’ purchase attitudes in numerous studies. Singh and Verma [7] suggest that their importance to explain attitudes and intentions is only surpassed by health and product quality. Awareness of health effects [40], consumer environmental concerns, and positive environmental behavior provide a more positive environment in order to act in an environmentally conscious way [21]. Wojciechowska-Solis and Barska [41] conclude that consumers who feel that human behavior is significantly impacting the environment and destroying it appear to be more willing to purchase organic food. Ahmed et al. [21] stress the importance of environmental concern to explain organic food purchase intention particularly among young consumers, who are particularly eco-friendly conscious.
In short, environmental concern is shown as positively impact on attitude toward organic food \[7,16,21,26,37,41\]. As a result, the following research hypothesis is proposed for this study:

**Hypothesis 4 (H4).** Consumers’ environmental concern has a positive impact on attitude toward organic food.

### 2.4. Health Concerns

The awareness of the importance of a healthy lifestyle and health consciousness are considered the main factors that motivate people to give preference to organic food \[1,7,37,40–44\]. In fact, the literature points out health consciousness as the best predictor of consumer attitude toward organic food \[1\]. Since organic food is widely perceived as a healthier option compared to the current conventional food \[1,34\], people who show greater concern for their health are more likely to buy this class of food products because of its perceived benefits \[45\]. In fact, people who are more health-conscious need a healthy lifestyle and a healthy diet, with good nutrition.

Consequently, various studies link health consciousness and perceptions with the intention to purchase organic food, suggesting that consumers who are more concerned about their health have a more favorable attitude towards organic food \[1,7,16,19,37,44\]. In line with this, the fifth research hypothesis is defined as follows:

**Hypothesis 5 (H5).** Consumers’ health concerns have a positive impact on attitude toward organic food.

### 2.5. Perceived Quality

Perceived quality is an influencing factor that is considered in numerous studies. Janska et al. \[46\] claim that the perceived quality of organic food, including taste, freshness, and health aspects, influences consumers’ attitudes toward purchasing this type of product. Singh and Verma \[7\] note that organic food quality is one of the main reasons for choosing this type of product. Almost half of the respondents in the study conducted by Jánská et al. \[46\] emphasize organic food’s intrinsic qualities. Consumers also consider food safety as a factor to contemplate when choosing which food to purchase. Indeed, several studies pointed out that food safety influences purchase intention, and since consumers perceive organic food as being safer than the alternatives, the propensity for purchasing organic food rises \[7,19,46–48\].

In line with these contributions, one research hypothesis was defined as follows:

**Hypothesis 6 (H6).** Perceived quality has a positive impact on attitude toward organic food.

### 2.6. Product Availability

Product availability is pointed out by extant literature as a relevant determinant of attitude \[44\] and purchase intention regarding organic food \[7\]. If consumers believe that a specific product is hard to find and purchase, the chances are that they will lose interest, as they may not be willing to make the required effort to acquire the product. It is also known that the demand for organic food is directly correlated to its supply: as the supply decreases, so does the demand \[49\]. Thus, an ineffective distribution and promotion system affects the availability of organic food on the market \[50\]. As such, store locations are important aspects to consider, as they impact purchase intentions \[7\], especially in the case of consumers belonging to the younger generations, who tend to be impatient and unwilling to exert an extra effort for searching and preparing food \[46\].

Perceived behavioral control (PBC) relates to the individual perception of those factors that might foster or hinder the expression of a behavior \[49\]. Ajzen mentions two aspects: the control which people have over one behavior and the way a person feels confident about performing that behavior \[15\]. Perceived behavioral control is linked to the level of control that a person perceives over one’s behavior. A person who has a higher perceived control will have a stronger behavioral intention to buy a product \[15\]. Different factors
such as time, money, and skills [15] and organic food availability influence the perceived behavioral control.

Thus, the final research hypothesis of this study is as follows:

**Hypothesis 7 (H7).** Organic food product availability has a positive impact on perceived behavioral control.

3. Materials and Methods

In order to test the proposed set of hypotheses that are synthesized in Figure 1, a quantitative study was conducted for this study.

![Conceptual model proposed for this article.](image)

**Figure 1.** Conceptual model proposed for this article.

According to Bryman [51], quantitative methods intend to explain a specific phenomenon by adopting objective measures and statistical analyses of data collected by different methods, including questionnaires. Questionnaires enable gathering information from a sample of individuals and are particularly useful to describe and explore human behavior [51].

3.1. Measurement Scales

The questionnaire comprised measurement scales for each variable on the conceptual model. Priority was given to scales previously developed and validated by other authors that presented a good fit for the study. As such, the preference was given to scales that were applied in the context of organic food. Adaptations included translation to Portuguese language and consideration of the topic under study, organic food, whenever necessary.

All variables were measured on a five-point Likert scale, ranging from 1, completely disagree, to 5, completely agree. These measurement scales were adapted from extant literature, as follows:

Perceived quality (PQ) was adapted from Magistris and Gracia [50], comprising three items (PQ1: Organic products have superior quality; PQ2: Organic products are healthier; PQ3: Organic products are tastier).

The scale to measure environmental concern (EC) was adapted from Roberts and Bacon [52] and also included three items (EC1: Humans must maintain the balance with nature in order to survive; EC2: Human interferences with nature often produce disastrous consequences; EC3: Human beings are severely abusing the environment).
Health consciousness (HC) was measured following Tarkianien and Sundqvist [53], comprising three items (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).

Attitude towards organic food (ATT) was adapted from Yadav and Pathak [20] and included four items (Att1: Buying organic food is a good idea; Att2: Buying organic food is a wise choice; Att3: I like the idea of buying organic food; Att4: Buying organic food would be pleasant).

Subjective norms (SN) measurement scale was adapted from Han, Hsu, and Sheu [54] and included three items (SN1: Most people, important to me, think that I should buy organic food; SN2: Most people, important to me, would want me to purchase organic food; SN3: People whose opinion I value would prefer that I shouldn’t buy organic food).

Perceived behavioral control (PBC) was adapted from Han et al. [54] and was also composed of three items (PBC1: To buy or not to buy organic food is entirely up to me; PBC2: I am confident that if I want, I can buy organic food; PBC3: I didn’t have resources and time to buy organic food).

In order to measure perceived product availability (AVAIL), this study used measurements previously developed by Singh and Verma [7] comprising three items (Avail1: Organic products are easily obtained in the market; Avail2: It is easy to find organic foods; Avail3: It is easy to have access to organic foods).

Finally, the dependent variable purchase intention (PI) was adapted from Lee et al. [55] and included three items (PI1: I am willing to buy organic food while shopping; PI2: I will make an effort to buy organic food in the near future; PI3: I intend to buy organic products in the near future).

The questionnaire also included questions on the participants’ socio-demographics to enable sample characterization. It was created using Google Forms online features and was subjected to a pretest with 10 Portuguese consumers, who confirmed that all questions and items were clear and that no adjustments were necessary.

3.2. Sampling

Respondents of this study were Portuguese consumers aged 18 or older. Researchers used their personal contacts and networks to disseminate a link to the online survey. Data were collected between 26 August and 10 September 2020. A total of 206 individuals agreed to participate in this study. Their characteristics are presented in Table 1.

In order to test the set of hypotheses in the conceptual model and hence identify the determinants of organic food purchase intention, collected data were subjected to structural equation modeling (SEM). Following the recommendations by Hair et al. [56], this was done in two steps. First, the reliability and validity of the measurement model were assessed. Both average variances extracted (AVE) and composite reliability (CR) were computed, considering that there is an indication of construct reliability when their values are higher than 0.50 and 0.70, respectively, and standardized factor loadings are also higher than 0.50. A set of goodness of fit indicators, namely CFI, TLI, and RMSEA, were also considered to further demonstrate the validity of the measurement model. After confirming the reliability and validity of the measurement, the structural model was finally estimated. Those results are presented in the next section.
Table 1. Participants’ characteristics.

| Variables       | Categories       | Frequency | Percent |
|-----------------|------------------|-----------|---------|
| Age             | 18–30            | 158       | 76.7    |
|                 | 31–40            | 30        | 14.6    |
|                 | 41–50            | 14        | 6.8     |
|                 | 51–60            | 4         | 1.9     |
| Gender          | Male             | 105       | 51.0    |
|                 | Female           | 101       | 49.0    |
| Monthly income  | EUR < 1000       | 137       | 66.5    |
|                 | EUR 1001–1500    | 44        | 21.4    |
|                 | EUR 1501–2000    | 12        | 5.8     |
|                 | EUR > 2000       | 13        | 6.3     |
| Level of Education | Did not complete | 9        | 4.4     |
|                  | high school      |           |         |
|                  | Completed high school (12 years) | 53     | 25.7    |
|                  | Bachelor’s degree | 83       | 40.3    |
|                  | Post-graduation  | 61        | 29.6    |

Note: total number of participants equals 206.

4. Results and Discussion

As mentioned in the previous section, the analysis started with the estimation of the measurement model, enabling the assessment of constructs’ validity and reliability. In this stage, two adjustments were made to the constructs by removing one of their items. Due to the standardized factor loadings being below 0.50, one of the items of perceived behavioral control (PBC1) and one item of environmental concern (EC1) were removed from the model. After these actions, the measurement model presented adequate validity and reliability indicators, as presented in Table 2. Hence, all constructs present values of Cronbach’s alpha, CR, and AVE that indicate adequate validity and reliability of the constructs considered in the model. One exception would be PBC which has an alpha slightly below the minimum recommended value of 0.70. Still, as CR is higher than 0.70 and AVE is also higher than 0.50, the construct was considered adequate and was retained in the model.

Additionally, and in order to test discriminant validity, it was confirmed that the squared root of the AVE of each construct was higher than any correlation with the other constructs in the model. Finally, goodness of fit indicators had adequate levels ($\chi^2 = 310.21$, df = 202, $\chi^2$/df = 1.54, CFI = 0.96, GFI = 0.89, TLI = 0.95, RMSEA = 0.05), indicating the overall validity of the measurement model.

After confirming the validity and reliability of the measurement model, it was possible to estimate the structural model and to test the research hypotheses proposed in this article to explain organic food purchase intention. The results are presented in Table 3. The goodness of fit of the structural model was considered adequate ($\chi^2 = 364.13$, df = 213, $\chi^2$/df = 1.71, CFI = 0.95, GFI = 0.87, TLI = 0.94, RMSEA = 0.06). The squared coefficient for multiple correlation of the independent variable PI is equal to 0.83, indicating the power of the model to explain purchase intention. It is also worth mentioning that the squared coefficient for multiple correlation of the mediator variable Attitude towards organic food is 0.81, indicating that this variable is strongly predicted by the model.
Table 2. Validity and reliability assessment.

| Constructs                     | Standardized Factor Loading | Cronbach's Alpha | CR | AVE |
|-------------------------------|-----------------------------|------------------|----|-----|
| Perceived quality (PQ)        |                             |                  |    |     |
| PQ1                           | 0.694                       |                  |    |     |
| PQ2                           | 0.777                       |                  |    |     |
| PQ3                           | 0.667                       |                  |    |     |
| Attitude (ATT)                |                             |                  |    |     |
| Att1                          | 0.848                       |                  |    |     |
| Att2                          | 0.842                       |                  |    |     |
| Att3                          | 0.804                       |                  |    |     |
| Att4                          | 0.851                       |                  |    |     |
| Environmental concern (EC)    |                             |                  |    |     |
| EC2                           | 0.851                       |                  |    |     |
| EC3                           | 0.61                        |                  |    |     |
| Health consciousness (HC)     |                             |                  |    |     |
| HC1                           | 0.777                       |                  |    |     |
| HC2                           | 0.906                       |                  |    |     |
| HC3                           | 0.648                       |                  |    |     |
| Subjective norm (SN)          |                             |                  |    |     |
| SN1                           | 0.961                       |                  |    |     |
| SN2                           | 0.916                       |                  |    |     |
| SN3                           | 0.833                       |                  |    |     |
| Perceived behavioral control (PBC) |                     |                  |    |     |
| PBC2                          | 0.711                       |                  |    |     |
| PBC3_n                        | 0.786                       |                  |    |     |
| Product availability (AVAIL)  |                             |                  |    |     |
| Avail1                        | 0.808                       |                  |    |     |
| Avail2                        | 0.845                       |                  |    |     |
| Avail3                        | 0.912                       |                  |    |     |
| Purchase intention (PI)       |                             |                  |    |     |
| PI1                           | 0.654                       |                  |    |     |
| PI2                           | 0.855                       |                  |    |     |
| PI3                           | 0.882                       |                  |    |     |

Table 3. Structural model estimates.

| Research Hypotheses | Hypothesized Effects | Standardized Regression Weight | p-Value | Conclusion   |
|---------------------|----------------------|--------------------------------|---------|--------------|
| H1                  | PI <— ATT            | 0.87                           | <0.01   | supported    |
| H2                  | PI <— SN             | 0.08                           | 0.13    | not supported|
| H3                  | PI <— PBC            | 0.03                           | 0.61    | not supported|
| H4                  | ATT <— EC            | 0.09                           | 0.18    | not supported|
| H5                  | ATT <— HC            | 0.14                           | 0.01    | supported    |
| H6                  | ATT <— PQ            | 0.80                           | <0.01   | supported    |
| H7                  | PBC <— AVAIL         | 0.65                           | <0.01   | supported    |

This study found a positive effect of attitude toward organic food on purchase intention ($b = 0.87$, $p < 0.001$), providing support to research hypothesis H1 at a 99% confidence level. These findings are in line with extant literature, which frequently identifies attitude as the most important determinant of intention to buy organic food [1,12,16–18,21,25,27,28,34].
Still, the study did not confirm the expected impacts of subjective norm and perceived behavioral control on purchase intention ($b = 0.08, p = 0.13; b = 0.03, p = 0.61$), and consequently research hypotheses H2 and H3 were not supported. This was a surprising result, in contradiction with many previous studies that tested the variables of the TPB to explain organic food purchase intention. It should be noted, however, that some studies have reported similar conclusions. Yazdanpanah and Forouzani [27] concluded that attitude may be the only variable of the TPB model that significantly impacts on intention to purchase organic food, as their study concluded that both perceived behavioral control and subjective norm were not statistically significant. Johe and Bhullar [12] also concluded that perceived behavioral control and subjective norms were unrelated to consumer intentions. In fact, extant literature has questioned the lack of predictive power of one or more variables from the TPB model [27], including in the case of organic food, demonstrating that in many instances, consumers may not be subject to attitudinal and normative control [27].

Hence, other studies have found that the impact of subjective norms on intention to purchase organic food was not significant [12,27]. Qi and Ploeger [22] argue that subjective norms may be unstable across different contexts and have poor predictive power especially in the case of organic food. They note that previous studies have replaced this variable with, for instance, group conformity, resulting in a clear increase in the ability of the models to explain purchase intention. Zagata [17] stresses that high social norm implies that consumers rely on others’ judgments due to lack of information and that purchase decision is a socially shared activity, namely with family members. Consequently, the willingness to purchase organic food would be affected by the urge to comply with others’ expectations. On the contrary, our results evidence a more individualistic decision, whereas social influence does not significantly impact intentions, which is compatible with a savvy consumer who has sufficient knowledge about organic food to be indifferent to social norms. As a point of fact, this study shows that social pressure will not change individuals’ intention to purchase organic food.

Similarly, perceived behavioral control has shown inconsistent impacts on intention to purchase [12], and the lack of effect on intention to purchase organic food has been pointed out by previous studies [12,25,27]. Johe and Bhullar [12] suggest that there may be conflicting motivations during the decision process. Additionally, in the case of a collectivism-dominant cultural logic, consumers may have less autonomy and self-confidence in the purchase decision, neutralizing the expected effect of perceived behavioral control on intentions. Irianto et al. [37] did not include perceived behavioral control in their adaptation of the TPB model to explain intention to purchase organic food, considering that this variable refers to the limited resources for performing a behavior, which can be alternatively represented by price perceptions and purchasing power enabled by income. Still, in their study, the product price perceptions did not significantly impact attitude. Zagata [17] concluded that consumers apparently cope well with disabling factors. Our results seem to suggest a consistent favorable attitude toward organic food, which is not affected by easiness or difficulty of access to these products or perceived limitations and ability. One possible explanation is the fact that the study focuses on young consumers, who tend to be more involved in sustainable consumption [21].

As for the three determinants of attitude towards organic food, not all of them have a significant effect on attitude. Both health concerns and perceived quality have a positive impact on attitudes ($b = 0.14, p = 0.01; b = 0.80, p < 0.001$), hence providing support to H5 and H6 at a 99% confidence level. These results are in line with the literature that points out health concerns as an essential variable to explain consumer attitudes toward this type of product [1,7,16,19,37,44]. It also provides additional support to the evidence regarding the importance of the perceived quality of organic food in determining consumer attitudes [7,19,46-48].

Still, this study did not confirm the effect of environmental concern on attitudes toward organic food ($b = 0.09, p = 0.18$); thus, research hypothesis H4 was not supported. Despite contradicting what one would expect, it is important to note that the absence of effect
of environmental concerns was also found by Zagata [17] and Fleşeriu and Cosma [19]. Zagata [17] stresses that European consumers often show “egocentric” behaviors regarding organic food, considering the prevailing importance of individual aspects such as health and product quality.

Finally, a positive impact of product availability on perceived behavioral control was found by this study \( (b = 0.65, p < 0.001) \), providing support to research hypothesis H7 at a 99% confidence level, providing additional empirical support to the literature [15], and further demonstrating that availability conveniently facilitates consumer ease of use and performance.

5. Conclusions

This article builds on the theory of planned behavior with the main objective of identifying the factors that influence the consumer’s intention to purchase organic food. According to this study, attitude is the main determinant of purchase intention, which has been commonly highlighted by the literature [1,12,16–18,21,25,27,28,34]. As for the main determinants of consumer attitude, perceived product quality and health concerns stood out, while environmental concerns were found nonsignificant. These facts alone provide important implications for researchers and managers.

Considering the theoretical implications, this study shows that, although the power of the theory of planned behavior to explain organic food purchase intention is unquestionable [16–19,21,23–28], the addition of other behavioral variables, particularly health concerns, product quality, and product availability, foster our understanding of consumer behavior.

Moreover, the fact that perceived behavioral control and subjective norm, the other central constructs of TPB besides attitude, were not found significant in determining purchase intention requires further attention from researchers. It is clear that most extant literature points out attitude as the main determinant of purchase intention, namely regarding organic food [1,12,16–18,21,25,27,28,34]. However, considering the theoretical indications of the importance of subjective norms and perceived behavioral control, their lack of importance should be further explored. As noted in the previous section, other studies have questioned the predictive power of both subjective norms [12,22,27] and perceived behavioral control [12,25,27]. Apparently, consumers are more individualistic in relation to organic food purchase decisions. They might be more egocentric [17], and results might be dependent on cultural environments such as collectivist societies [12]. As such, although confirming the adequacy and pertinence of adopting TPB to explain consumers’ perspectives on organic food, this study demonstrates the importance of extending the basic model and considering independent variables that are essential to understanding intention to purchase organic food.

For managers, two results of this study stand out. The first is the importance of perceived product quality on consumer attitudes. Hence, product attributes should be carefully developed and communicated in order to positively impact consumer attitudes and, consequently, foster purchase intentions. In addition, health concerns also stand out for their impact on consumer attitude toward organic food. As such, this should be an essential topic to be explored in product communication and to be clearly associated with product attributes. In particular, aspects that determine purchase intentions are essential for understanding consumer behavior and forming successful marketing and communication strategies. Hence, the findings of this study are expected to be a contribution to organic food products’ success.

Overall, this study has implications not only for organic food brand management but also for policymakers, namely in the European Union. Governments should create relevant laws to protect and support the production and distribution of organic food, as well as to promote a more effective use of terms, labels, and certifications. These actions are essential to foster the availability of organic food products as well as to clearly communicate and demonstrate their benefits for the individual health and the collective environment.
Communication that educates consumers on the benefits of choosing organic food, such as marketing initiatives and advertising campaigns, is also recommended to foster the growth of this market. Obviously, health benefits and product quality should be emphasized.

Regarding organic food brands, psychographic segmentation would be particularly useful to effectively communicate the advantages of opting for organic food products, associated with healthier lifestyles and reflecting on health and environment concerns. Clearly, individual benefits—and individualization decision processes—should be stressed. Overall, in branding, packaging, and content marketing strategies, to name but a few, brands should state the benefits associated with the organic products.

Despite the interesting findings, this article is not without limitations. Considering that the study was conducted with a limited sample of Portuguese consumers, it is recommended that the proposed conceptual model be further validated in future studies and different populations. Other variables that could further explain the original variables of TPB (attitudes, behavioral control, and subjective norms) should also be considered. Another limitation of the study is that the actual purchase behavior was not considered. This variable was beyond the scope of the study, which intended to study the perspective of any consumer, independently of the consumer’s actual behavior regarding this type of product. In accordance with Singh and Verma [7], it is essential to further understand the determinants of attitude and purchase intention, considering their essential role in explaining actual behavior. Still, future research could focus on regular, irregular, and casual buyers of organic food segments proposed by Rana and Paul [1], in order to explain the level of adoption of this class of food products and compare eventual differences in the model among these segments.

Author Contributions: Conceptualization, S.F.T. and H.C.; methodology, S.F.T. and H.C.; formal analysis, B.B.; investigation, S.F.T. and H.C.; writing—original draft preparation, S.F.T.; B.B. and H.C.; writing—review and editing, S.F.T.; B.B. and Z.O.; project administration, S.F.T. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

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.

References
1. Rana, J.; Paul, J. Consumer behavior and purchase intention for organic food: A review and research agenda. J. Retail. Consum. Serv. 2017, 38, 157–165. [CrossRef]
2. Statista. Worldwide Sales of Organic Food from 1999 to 2019. 2021. Available online: https://www.statista.com/statistics/273090/worldwide-sales-of-organic-foods-since-1999/ (accessed on 30 November 2021).
3. Statista. Leading 10 Global Organic Food Producing Countries 2019, by Number of Producers 2021. Available online: https://www.statista.com/statistics/244522/leading-global-organic-food-producing-countries-by-number-of-producers/ (accessed on 30 November 2021).
4. Statista. The Leading 10 Countries with the Highest Organic Food Per Capita Consumption in 2019. 2021. Available online: https://www.statista.com/statistics/263077/per-capita-revenue-of-organic-foods-worldwide-since-2007/ (accessed on 30 November 2021).
5. Paul, J.; Modi, A.; Patel, J. Predicting green product consumption using theory of planned behavior and reasoned action. J. Retail. Consum. Serv. 2016, 29, 123–134. [CrossRef]
6. Patel, J.; Modi, A.; Paul, J. Pro-environmental behavior and socio-demographic factors in an emerging market. Asian J. Bus. Ethics 2017, 6, 189–214. [CrossRef]
7. Singh, A.; Verma, P. Factors influencing Indian consumers’ actual buying behaviour towards organic food products. J. Clean. Prod. 2017, 167, 473–483. [CrossRef]
8. European Court of Auditors. The Control System for Organic Products Has Improved, But Some Challenges Remain 2019. Available online: https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=49353 (accessed on 30 November 2021).
9. Wang, J.M.; Pham, T.L.; Dang, V.T. Environmental Consciousness and Organic Food Purchase Intention: A Moderated Mediation Model of Perceived Food Quality and Price Sensitivity. *Int. J. Environ. Res. Public Health* 2020, 17, 850. [CrossRef]
10. Statista. Organic Food and Beverages: Market Value Forecast Worldwide 2018–2027. 2020. Available online: https://www.statista.com/statistics/869052/global-organic-food-and-beverage-market-value/ (accessed on 30 November 2021).
11. European Parliament. The EU’s Organic Food Market: Facts and Rules 2018. Available online: https://www.europarl.europa.eu/news/en/headlines/society/20180405T000909/the-eu-s-organic-food-market-facts-and-rules-infographic (accessed on 30 November 2021).
12. Johe, M.H.; Bhullar, N. To buy or not to buy: The roles of self-identity, attitudes, perceived behavioral control and norms in organic consumerism. *Ecol. Econ.* 2016, 128, 99–105. [CrossRef]
13. Fishbein, M.; Ajzen, I. Understanding Attitudes and Predicting Social Behavior; Prentice-Hall: Upper Saddle River, NJ, USA, 1980.
14. Azjen, I. From intentions to actions: A theory of planned behavior. In *Action Control*; Springer: Berlin, Heidelberg, 1985; pp. 11–39.
15. Azjen, I. The theory of planned behavior. *Organ. Behav. Hum. Decis. Processes* 1991, 50, 179–211. [CrossRef]
16. Dorce, L.C.; da Silva, M.C.; Mauad, J.R.C.; Domingues, C.H.D.; Borges, J.A.R. Extending the theory of planned behavior to understand consumer purchase behavior for organic vegetables in Brazil: The role of perceived health benefits, perceived sustainability benefits and perceived price. *Food Qual. Prefer.* 2021, 91, 104191. [CrossRef]
17. Zagata, L. Consumers’ beliefs and behavioural intentions towards organic food. Evidence from the Czech Republic. *Appetite* 2012, 59, 81–89. [CrossRef]
18. Boobalan, K.; Nawaz, N.; Harindranath, R.M.; Gajenderan, V. Influence of Altruistic Motives on Organic Food Purchase: Theory of Planned Behavior. *Sustainability* 2021, 13, 6023. [CrossRef]
19. Fleseriu, C.; Cosma, S.A.; Bocânet, V. Values and planned behaviour of the romanian organic food consumer. *Sustainability* 2020, 12, 1722. [CrossRef]
20. Yadav, R.; Pathak, G.S. Young consumers’ intention towards buying green products in a developing nation: Extending the theory of planned behavior. *J. Clin. Prod.* 2016, 135, 732–739. [CrossRef]
21. Ahmed, N.; Li, C.; Khan, A.; Qalati, S.A.; Naz, S.; Rana, F. Purchase intention toward organic food among young consumers using theory of planned behavior: Role of environmental concerns and environmental awareness. *J. Environ. Plan. Manag.* 2021, 64, 796–822. [CrossRef]
22. Qi, X.; Ploeger, A. Explaining Chinese consumers’ green food purchase intentions during the COVID-19 pandemic: An extended Theory of Planned Behaviour. *Foods* 2021, 10, 1200. [CrossRef]
23. Yang, S.; Li, L.; Zhang, J.M. Understanding Consumers’ Sustainable Consumption Intention at China’s Double-11 Online Shopping Festival: An Extended Theory of Planned Behavior Model. *Sustainability* 2018, 10, 1801. [CrossRef]
24. Van Tran, A.T.; Nguyen, N.T. Organic Food Consumption among Households in Hanoi: Importance of Situational Factors. *Sustainability* 2021, 13, 12496. [CrossRef]
25. Al-Swidi, A.; Huque, S.M.R.; Hafeez, M.H.; Shariff, M.N.M. The role of subjective norms in theory of planned behavior in the context of organic food consumption. *Br. Food J.* 2014, 116, 1561–1580. [CrossRef]
26. Nguyen, H.V.; Nguyen, N.; Nguyen, B.K.; Greenland, S. Sustainable food consumption: Investigating organic meat purchase intention by Vietnamese consumers. *Sustainability* 2021, 13, 953. [CrossRef]
27. Yazdanpanah, M.; Forouzani, M. Application of the Theory of Planned Behaviour to predict Iranian students’ intention to purchase organic food. *J. Clin. Prod.* 2015, 107, 342–352. [CrossRef]
28. Sultan, P.; Tafarodi, T.; Pearson, D.; Henryks, J. Intention-behaviour gap and perceived behavioural control-behaviour gap in theory of planned behaviour: Moderating roles of communication, satisfaction and trust in organic food consumption. *Food Qual. Prefer.* 2020, 81, 103838. [CrossRef]
29. Yadav, R.; Pathak, G.S. Determinants of Consumers’ Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior. *Ecol. Econ.* 2017, 134, 114–122. [CrossRef]
30. Eagly, A.H.; Chaikenm, S. *The Psychology of Attitudes*; Harcourt Brace Jovanovich College Publishers: San Diego, CA, USA, 1993.
31. Sentot, S.A.; Hung, W.-S.; Ho, S.-H.; Posmaria, S.S. Influence of green marketing toward purchase intention of green products through attitude: Survey on Indonesian and Taiwanese students. *Int. J. Humanit. Manag. Sci.* 2015, 3, 198–202. [CrossRef]
32. Maichum, K.; Parichatnon, S.; Peng, K.-C. Factors affecting on purchase intention towards green products: A case study of young consumers in Thailand. *Int. J. Soc. Sci. Humanit.* 2017, 7, 330–335.
33. Armitage, C.J.; Conner, M. Efficacy of the theory of planned behaviour: A meta-analytic review. *Br. J. Soc. Psychol.* 2001, 40, 471–499. [CrossRef]
34. Leyva-Hernandez, S.N.; Toledo-Lopez, A.; Hernandez-Lara, A.B. Purchase Intention for Organic Food Products in Mexico: The Mediation of Consumer Desire. *Foods* 2021, 10, 245. [CrossRef]
35. Azjen, I. The theory of planned behaviour is alive and well, and not ready to retire: A commentary on Sniehotta, Presseau, and Araujo-Soares. *Health Psychol. Rev.* 2015, 9, 131–137. [CrossRef] [PubMed]
36. Lavuri, R. Extending the theory of planned behavior: Factors fostering millennials’ intention to purchase eco-sustainable products in an emerging market. *J. Environ. Plan. Manag.* 2021, 1–23. [CrossRef]
37. Irianto, H. Consumers’ attitude and intention towards organic food purchase: An extension of theory of planned behavior in gender perspective. *Int. J. Manag. Econ. Soc. Sci.* 2015, 4, 17–31.
38. Ajzen, I. Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *J. Appl. Soc. Psychol.* 2002, 32, 665–683. [CrossRef]

39. Cavite, H.J.; Mankeb, P.; Suwanmaneepong, S. Community enterprise consumers’ intention to purchase organic rice in Thailand: The moderating role of product traceability knowledge. *Br. Food J.* 2021. [CrossRef]

40. Nagaraj, S. Role of consumer health consciousness, food safety & attitude on organic food purchase in emerging market: A serial mediation model. *J. Retail. Consum. Serv.* 2021, 59, 102423.

41. Wojciechowska-Solis, J.; Barska, A. Exploring the Preferences of Consumers’ Organic Products in Aspects of Sustainable Consumption: The Case of the Polish Consumer. *Agriculture* 2021, 11, 138. [CrossRef]

42. Smiglak-Krajewska, M.; Wojciechowska-Solis, J.; Viti, D. Consumers’ Purchasing Intentions on the Legume Market as Evidence of Sustainable Behaviour. *Agriculture* 2020, 10, 424. [CrossRef]

43. Zámková, M.; Rojk, S.; Pilat, L.; Chalupová, M.; Prokop, M.; Stolín, R.; Dziekański, P.; Maitah, M. Customer preferences for organic agriculture produce in the Czech Republic: 2016 and 2019. *Agriculture* 2021, 11, 968. [CrossRef]

44. Paul, J.; Rana, J. Consumer behavior and purchase intention for organic food. *J. Consum. Mark.* 2012, 29, 412–422. [CrossRef]

45. Yogananda, A.P.Y.; Nair, P.B. Green Food Product Purchase Intention: Factors Influencing Malaysian Consumers. *Pertanika J. Soc. Sci. Humanit.* 2019, 27, 1131–1144.

46. Janska, M.; Kollar, P.; Celer, C. Factors Influencing Purchases of Organic Food. *Zagreb Int. Rev. Econ. Bus.* 2020, 23, 81–94. [CrossRef]

47. Thomas, T.; Gunden, C. Investigating consumer attitudes toward food produced via three production systems: Conventional, sustainable and organic. *J. Food Agric. Environ.* 2012, 10, 132–135.

48. Van Loo, E.J.; Diem, M.N.H.; Pieniak, Z.; Verbeke, W. Consumer attitudes, knowledge, and consumption of organic yogurt. *J. Dairy Sci.* 2013, 96, 2118–2129. [CrossRef]

49. Gil, J.M.; Gracia, A.; Sanchez, M. Market segmentation and willingness to pay for organic products in Spain. *Int. Food Agribus. Manag. Rev.* 2000, 3, 207–226. [CrossRef]

50. Magistris, T.; Gracia, A. The decision to buy organic food products in Southern Italy. *Br. Food J.* 2008, 110, 929–947. [CrossRef]

51. Bryman, A. *Social Research Methods*, 5th ed.; Oxford University Press: Oxford, UK, 2015.

52. Roberts, J.A.; Bacon, D.R. Exploring the subtle relationships between environmental concern and ecologically conscious consumer behavior. *J. Bus. Res.* 1997, 40, 79–89. [CrossRef]

53. Tarkiainen, A.; Sundqvist, S. Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *Br. Food J.* 2005, 107, 808–822. [CrossRef]

54. Han, H.; Hsu, L.T.; Sheu, C. Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tour. Manag.* 2010, 31, 325–334. [CrossRef]

55. Lee, W.J.; Lucey, J.A. Formation and Physical Properties of Yogurt. *Asian-Australas. J. Anim. Sci.* 2010, 23, 1127–1136. [CrossRef]

56. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 8th ed.; Cengage: Andover, MA, USA, 2018.