



UNIVERSITY OF LEEDS

This is a repository copy of *Drivers, outcomes, and moderators of consumer intention to buy organic goods: Meta-analysis, implications, and future agenda*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/188117/>

Version: Accepted Version

Article:

Leonidou, LC, Eteokleous, P, Christofi, A-M et al. (1 more author) (2022) Drivers, outcomes, and moderators of consumer intention to buy organic goods: Meta-analysis, implications, and future agenda. *Journal of Business Research*, 151. pp. 339-354. ISSN 0148-2963

<https://doi.org/10.1016/j.jbusres.2022.06.027>

© 2022 Elsevier Inc. This manuscript version is made available under the CC-BY-NC-ND 4.0 license <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

Reuse

This article is distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND) licence. This licence only allows you to download this work and share it with others as long as you credit the authors, but you can't change the article in any way or use it commercially. More information and the full terms of the licence here: <https://creativecommons.org/licenses/>

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Drivers, outcomes, and moderators of consumer intention to buy organic goods:

Meta-analysis, implications, and future agenda

Abstract

We develop an integrated conceptual model of the drivers and outcomes of consumers' intentions to buy organic goods, anchored on the Theory of Planned Behavior. Our meta-analysis uses data extracted from 149 studies reported in 135 articles. The results indicate that, as opposed to consumers who are price-conscious, individuals who are environmentally, health, and safety conscious are more likely to develop a favorable attitude toward organic goods, have a higher level of subjective norms, and maintain stronger personal behavioral control. These constructs positively affect consumer intention to buy organic goods, which ultimately leads to their actual purchase. Hofstede's cultural dimensions (i.e., individualism, masculinity, power distance, uncertainty avoidance, long-term orientation, indulgence) were also found to play a pivotal role in moderating most causal relationships between constructs of the model. It was also revealed that studies focusing on organic food exhibited stronger effects on construct associations compared to studies examining non-food products.

Keywords: *Theory of Planned Behavior; organic goods; consumer behavior; culture.*

Introduction

Demand for organic goods has grown significantly during the last few decades as a result of rising concerns by individual consumers and households about preserving the environment, protecting their health, and safeguarding their safety (Molinillo et al., 2020). This is reflected in the steady growth of the global organic product market, reaching more than 210 billion US dollars in 2021, with North America and the European Union representing the lion's share (Globe Newswire, 2021). This market has also gradually been transformed from one that is niche-based to another that is more conventionally oriented, as indicated by the plethora of organic products sold in many retail outlets in various parts of the world (van Doorn & Verhoef, 2015; Hemmerling, 2015).

Academic interest has closely followed this growth pattern in the organic goods market, with most research focusing on the behavior demonstrated by consumers with regard to these products (Nguyen et al., 2019). However, despite the useful insights provided by this growing area of research, it has been described as: (a) *fragmented*, investigating a great variety of dimensions of the organic goods buying process, such as subjective norms, consumer attitudes, and purchasing intentions; (b) *isolated*, examining associations between variables in separation from other important factors, thus only partially capturing the overall organic goods purchasing process; and (c) *confusing*, providing results that are sometimes contradictory, thus creating a blurred picture of consumer buying behavior with regard to organic goods (Scalco et al., 2017).

Several attempts have been made in the past to provide a meta-analysis of this new body of research. For example, Scalco et al. (2017) meta-analyzed 17 empirical studies focusing on organic food and revealed the primacy of attitudes to drive intention, followed by subjective norms and perceived behavioral control. They also confirmed the effect of intentions on behavior, noting that only a few studies examined this relationship. Massey et

al.'s (2018) meta-analysis covered 150 empirical studies, which also dealt with organic food, confirming that credence, search, and experience attributes play an important role in the purchasing behavior of these products, though in a varying degree. Recently, Nardi et al. (2019) meta-analyzed 155 studies focusing on consumer attitudes, subjective norms, and perceived behavioral control effects on intention and behavior concerning the purchase of food products (including organic and genetically modified ones). Their findings indicated that some of the direct relationships between these constructs are significantly moderated by sample characteristics, situational factors, and cultural dimensions.

Despite the useful insights provided by these meta-analytical efforts, they are limited in that: (a) they solely focused on organic food, while studies dealing with other types of organic products, such as clothing and personal care, were excluded from their analysis; (b) they examined only certain dimensions of organic goods buying behavior, thus neglecting the influential role of several other important constructs, such as perceived behavioral control and subjective norms; (c) they did not take into consideration the role of various key factors (e.g., consumer sensitivity to environmental, health, and safety issues) as antecedents of organic goods behavior; and (d) they provided only a brief description of causal relationships between the constructs examined, without developing detailed hypotheses integrating prior knowledge on the subject.

In view of the above gaps, the purpose of this article is to conceptualize and test an integrated model of the drivers and outcomes of consumer intentions to buy organic goods, based on a meta-analysis of relevant empirical studies. Specifically, we have the following four objectives to accomplish: (a) to put together a conceptual model that comprises the key factors involved in organic goods purchasing behavior, anchored on the Theory of Planned Behavior (TPB); (b) to augment this model with some key consumer attributes relating to

organic products, namely environmental, health, safety, and price consciousness, acting as antecedent factors; (c) to test this integrated model by meta-analyzing the input derived from pertinent empirical studies on the subject; and (d) to identify potential moderating effects on associations between constructs of the model caused by national cultural dimensions.

Our meta-analytical study makes three important contributions. *First*, in view of discrepancies in the findings of prior research on the organic goods buying process, it consolidates extant empirical results on associations between key parameters involved in this process. This will help to achieve a more holistic picture and a better understanding of the recurrent values/beliefs that serve as antecedent factors to forming attitudes, subjective norms, and perceived behavioral control with regard to organic goods, and their subsequent impact on consumer buying intentions. This is in line with increasing calls to take serious measures aiming to alter current consumer behavior toward a more sustainable buying pattern, in order to improve both individual people's well-being and society's welfare at large (Jones et al., 2011; Mondelaers et al., 2009).

Second, there is a notable debate in both academic and practitioner circles as to whether consumers' reported preferences regarding the purchase of organic products are indeed converted into an actual behavior (van Doorn & Verhoef, 2015). Hence, the challenge is to trace those factors that drive this behavior, as well as identify key values and beliefs that provide their foundational elements (Baker et al., 2004; Honkanen et al., 2006). Previous research (e.g., Hauser et al., 2013; Honkanen et al., 2006) suggests that to achieve a better understanding of the dynamics of the organic market, it is crucial to examine first the consumer's value system with regard to organic goods, which can be a step forward to better predict actual purchasing behavior for these products.

Third, since the values and beliefs of people are important in influencing consumer behavior with regard to organic goods, and since these are greatly affected by national culture, our study provides insights into the moderating role played by Hofstede's (2010) cultural dimensions (i.e., individualism, masculinity, power distance, uncertainty avoidance, long-term orientation, indulgence) on the organic goods behavior process. Although there were some sporadic investigations in the past of cultural effects (especially collectivism and power distance) on organic goods behavior, our study offers a detailed examination of the full range of cultural dimensions and sheds light on how organic goods' consumer behavior varies across different cultural settings.

In the remaining parts, we first explain the theoretical base of our meta-analysis and its relevance to organic goods consumption. An integrated conceptual model of the drivers and outcomes of consumer intention to buy organic products is then presented, along with a development of the hypothesized associations between constructs contained in the model. The methodology adopted in identifying and content analyzing relevant empirical studies on the subject is subsequently explained. This is followed by an explanation of the data analysis undertaken to test the hypotheses and a presentation of the results. In the final sections, we draw conclusions, offer theoretical, managerial, and public policy implications, and suggest directions for future research.

Theoretical foundation

Our study is anchored on the Theory of Planned Behavior (TPB) (Ajzen, 1991), which is the most common theory used to explain the consumer purchasing process for organic goods (e.g., Tarkiainen & Sundqvist, 2009; Yadav & Pathak, 2016). The underlying premise of this theory is that buying intentions are predicted by attitudes, subjective norms, and perceived behavioral control, and that such intentions are very substantial in determining future buying

behavior (Han, 2012; Ajzen, 2015). TPB is considered to be probably the most significant theory to predict and explain human behavior by rational information processing in a wide range of fields (Armitage & Conner, 2001).

Attitudes reflect beliefs related to a specific behavior. However, while forming positive (or negative) attitudes is not sufficient in itself to predict intentions, subjective norms complement these attitudes and reflect all normative beliefs consumers have concerning other people's (e.g., friends, family, society members) expectations and support for a particular behavior. Another important construct in this theory is perceived behavioral control, which reflects how much a person has control over the likelihood of the existence of internal and external variables that might prevent the performance of a behavior (Ajzen, 1991).

Although beliefs might remain the same over time, be forgotten, or be replaced by new beliefs, in the case of attitudes, subjective norms, and perceived behavioral control, these are spontaneously activated to influence consumer intention (Fishbein & Ajzen, 2009). Within the context of the organic goods literature, some scholars (e.g., Hughner et al., 2007; Thøgersen & Zhou, 2012) also included in the TPB model some additional variables relating to the environment, health, safety, and price issues, in order to examine their possible impact on attitudes, subjective norms, and perceived behavioral control.

A number of studies (e.g., Asif et al., 2018; Yadav & Pathak, 2016; Ghazali et al., 2017) employed the TPB model to understand the process of organic product buying in different country settings. Although this model, if properly applied, can be used to predict consumer behavior for organic goods across countries (Fishbein, 2000), the degree of the various factors impacting the buying decision-making process for these goods was found to differ among consumers from dissimilar cultural backgrounds (Kalafatis et al., 1999; Khare & Varshneya, 2017; Nardi et al., 2019), which necessitates a more systematic exploration.

Model and hypotheses

Based on the TPB, we present a conceptual model that integrates the most commonly used constructs by previous empirical research focusing on consumer buyer behavior with regard to organic goods (see **Figure 1**). Specifically, the model has as a starting point four constructs relating to environmental, health, safety, and price consciousness that can influence an individual's attitudes, subjective norms, and perceived behavioral control. These are hypothesized to be responsible for shaping a consumer's buying intention for organic products, which is expected to subsequently materialize into an actual purchase for these products.

...insert Figure 1 about here...

Environmental, health, safety, and price consciousness

Environmentally concerned individuals are those that acknowledge that their consumption behavior has an impact on the environment, and believe that through this eco-friendly position they can reduce damage to the environment (Basha et al., 2015; Smith & Paladino, 2010). These individuals are more favorably predisposed toward purchasing organic products, because in this way they contribute to protecting the biosphere through less harmful production and consumption (van Doorn & Verhoef, 2015). In fact, the current state of the environment calls for altering both production processes and consumption patterns to save the planet (Rana & Paul, 2017). Extant empirical studies support the overall positive influence of people's environmental concerns in shaping favorable *attitudes* toward organic goods, because in this way they can protect the environment (Fifita et al., 2019; Tarkiainen & Sundqvist, 2009). Indeed, there is evidence showing an increase in consumer purchases of organic goods owing to the growing recognition that these have a harmless impact on the environment (Paul & Rana, 2017).

Consumer sensitivity toward green issues is also likely to enhance positive *subjective norms* toward organic goods, while the opposite is true with regard to individuals characterized by apathy toward preserving the environment (Soyez, 2012). Nowadays, more and more people behave in a more environmentally friendly way and, because of this, they are even willing to develop positive norms toward a wide range of organic products, from food and drinks to clothes and furniture (Anisimova, 2016; Gkargkavouzi et al., 2019). Since being sensitive to ecological issues denotes social responsibility, it also increases the possibility of others exerting influence on an individual's consumption behavior (e.g., Soyez et al., 2012; Yadav & Pathak, 2016). For example, by joining a community with a shared vision concerning environmentally-friendly consumption, it is possible for consumers to educate each other regarding sources of finding organic goods and the ecological nature of the specific production methods used (Cavite et al., 2021).

A consumer's environmental consciousness can also be a driver of *perceived behavioral control*, which is defined as "the perception of the ease or difficulty of performing the behavior of interest" (Ajzen, 1991: 183). Environmentally conscious individuals have strong values, are able to overcome any perceived limiting factors (e.g., higher prices), and, as a result, have greater control over their choice of products. Consumers having these values tend to make sacrifices about the products they buy, rather than seeking to enhance their own personal convenience, pay lower prices, and exploit discount sales (Ghazali et al., 2017; Smith & Paladino, 2010). Based on the previous argumentation, we may posit that:

H₁: With regard to organic goods, environmentally conscious consumers are more likely to exhibit: (a) a favorable attitude; (b) positive subjective norms; and (c) a high perceived behavioral control.

Consumers today are more than ever concerned with consuming and/or using natural products that do not contain artificial substances and/or have a high nutritional value, which is consistent with a trend toward adopting a healthier lifestyle (Molinnilo et al., 2020; van Doorn & Verhoef, 2011). Overall, the pertinent literature reports a positive relationship between people's sensitivity to health issues and favorable *attitudes* toward organic goods, such as food, drinks, and clothes (e.g., Thøgersen et al., 2015; van Doorn & Verhoef, 2011), although there are indications that the strength of this relationship depends on the specific product category (Tarkiainen & Sundqvist, 2005). Health considerations are acknowledged as an important driver of organic buying, because they reflect the concern of individuals to reduce health risks for both themselves and their close family members (Chakrabarti, 2010; Magnusson et al., 2003; Padel & Foster, 2005; Yadav & Pathak, 2016).

Consumer health consciousness also leads to positive *subjective norms* toward organic products, which they usually encounter through the influence of: (a) parents and other relatives, who frequently use their own health awareness beliefs as a way to guide younger family members to look after their health, taking care of their own well-being, as well as that of their immediate family (Carey et al., 2008; Fifita et al., 2019); (b) the exchange of information relating to health issues among consumers in various forums, blogs, and specialized internet sites, as well as discussions taking place in social media (where 'influencers' play a particularly important role) (Zahaf, 2009); and (c) recommendations made by various convincing 'expert sources', such as doctors, nutritionists, and scientists, that help to strengthen beliefs about adopting a healthy life-style (Zahaf, 2009).

Health-related issues have often been conceptualized as egoistic motives for taking care of oneself, part of "self-oriented consumer characteristics", or an "individualistic value" (Tarkiainen & Sundqvist, 2009; van Doorn & Verhoef, 2015). With regard to *perceived*

behavioral control, people who share such health-related values tend to have greater control over performing a particular behavior, as in the case of purchasing organic goods (Ghazali et al., 2017). In fact, buyers of organic products are willing to pay a price premium to ensure that the products they buy are healthy, thus overcoming the high price obstacle characterizing their purchase (Krystallis & Chrysosoidis, 2005). Health consciousness was also found to be an important buying motive for incidental buyers, especially nowadays where there is an increasing tendency toward a healthier lifestyle, through more physical exercise and a better diet (Chekima et al., 2019; Huang et al., 2019). Hence, we can hypothesize that:

H₂: With regard to organic goods, health-conscious consumers are more likely to exhibit: (a) a favorable attitude; (b) positive subjective norms; and (c) a high perceived behavioral control.

Safety consciousness refers to the value that consumers ascribe to the absence of harmful substances, preservatives, and other chemicals, and/or reduction of the potential negative effects on people using a product (Aungatichart et al., 2020; Hsu et al., 2018). It is related to consumers' need to minimize exposure to risk, with organic goods usually perceived as less risky compared to their traditional counterparts (Michaelidou & Hassan, 2008; Tang & Lu, 2016). This positive *attitude* toward organic products is supported by the findings of several studies (e.g., Hsu et al., 2015; 2018; Le-Ahn et al., 2020; Pham et al., 2018), which reflects increasing consumer concerns about safety issues as a result of multiple product-related scandals (e.g., Europe's 'horse meat scandal', Jonhson and Jonhson's 'skin care scandal', China's 'melamine milk scandal') (Bloomberg, 2016; Ghazali et al., 2017; Smith, 2019). These concerns are further accentuated by the fact that many products are now supplied in the market using a large number of supply nodes and dispersed supply partners, which creates a great deal of ambiguity regarding product safety claims (Fleseriu et al., 2020; Le-Ahn & Nguyen-To, 2020). The increasingly strict criteria on labeling or certifying a

product as organic now placed upon producers have enhanced consumers' positive attitudes and resulted in a gradual shift of a large market segment toward having a greater preference for organic goods (Cabuk et al., 2014; Chen et al., 2014; Molinillo et al., 2020; Prentice et al., 2019).

Safety consciousness has also been considered to positively affect *subjective norms* because of its relationship to risk perceptions. A growing number of people put more emphasis on reducing risk when buying goods, especially when these may affect their own safety, as well as that of others (e.g., Guido et al., 2010; Ishaq et al., 2018). Several studies (e.g., Krystallis & Chrysochoidis, 2005; Williams & Hammitt, 2000) have shown that consumers who buy conventional products have different risk perceptions compared to their counterparts who purchase organic goods, with the latter being more willing to pay the extra price to ensure greater safety in their consumption. Indeed, multiple consumer studies (e.g., Cabuk et al., 2014; Paul & Rana, 2020) revealed that safety is among the main reasons for purchasing organic goods.

There are also indications that safety consciousness is related to higher levels of *perceived behavioral control* with regard to organic goods. Safety-conscious individuals tend to have a strong self-based value and, as such, seek to acquire more information regarding the products they buy, as well as evidence certifying that they are safe (Liu & Ma, 2016). They are also willing to pay more for a safer product, as is the case with organic goods, thus allowing them to feel they have control over the specific buying situation. Based on the above, we can hypothesize that:

H₃: With regard to organic goods, safety-conscious consumers are more likely to exhibit: (a) a favorable attitude; (b) positive subjective norms; and (c) a high perceived behavioral control.

Price consciousness is defined as the willingness of consumers to devote time, effort, and energy to finding and purchasing products at the lowest possible price (Lichtenstein et al., 1993; van Doorn & Verhoef, 2015). Although organic goods have even entered the discount market, their majority is characterized by higher prices than their conventional counterparts (von Meyer-Höfer et al., 2015). Organic products have a price premium (mainly attributed to higher production costs), which has often been reported as one of the key barriers to their purchase (Aertsens et al., 2009; Nandi et al., 2016; Thøgersen & Zhou, 2012; Thøgersen et al., 2015). This implies that price-conscious individuals are less likely to have a positive *attitude* toward organic products because they are strongly discouraged by their high purchasing cost (van Doorn & Verhoef, 2015). Despite the fact that many consumers claim to abide by organic-related attributes, empirical evidence suggests that they are not willing to pay the extra price or may even perceive that this extra price does not justify the purchase of an organic product (van Doorn & Verhoef, 2011, 2015).

Consumer price consciousness can also negatively influence their *subjective norms* toward organic products, since their purchase decision-making will primarily depend on their own price-conscious beliefs and only secondarily on other people's opinions (Han & Hansen, 2012). Consumers are influenced by the various social groups with whom they interact, and they therefore make decisions based on the choices made by their peers (Salazar et al., 2013). Price considerations are important in social group discussions and the high prices of organic products do play a substantial part in the consumer's influential social environment, thus creating negative subjective norms, which inhibit the purchase of these goods. Economic recession and/or personal financial problems may also affect subjective norms, since these negatively impact a willingness to pay an extra premium for organic products, especially among consumers in lower income groups (Kim & Chung, 2011; Tsakiridou et al., 2008; Rao et al., 2013).

Price-conscious consumers are also expected to exhibit low levels of *perceived behavioral control*, because they are more vulnerable to barriers when evaluating the value of organic goods purchases. The reason for this is the trade-off between the ability to buy organic goods and that of saving or spending money on products that offer greater personal utility. This trade-off implies a conflict between collective and personal utility in the consumption of organic goods. Hence, the higher the price of organic products, the more it negatively influences consumers' perceived control over their behavior to buy these goods (Uusitalo, 1990; Hughner et al., 2007; Smith & Paladino, 2010; Andreyeva et al., 2010). The following hypothesis can be made:

H₄: With regard to organic goods, price-conscious consumers are more likely to exhibit: (a) an unfavorable attitude; (b) negative subjective norms; and (c) low perceived behavioral control.

Attitudes, subjective norms, and perceived behavioral control

An *attitude* refers to the degree of a favorable or unfavorable evaluation of a specific behavior, which results from the weighing of an individual's behavioral beliefs with the outcomes or attributes of this behavior (Ajzen, 2001). When individuals have strong beliefs that a specific kind of behavior will result in an economically favorable outcome, they are characterized by a positive attitude, and *vice versa* (Glanz et al., 2008). Thus, attitudes are subject to both the probability that a certain behavior will produce a given outcome (behavioral beliefs) and the evaluation of its consequences (Rojas-Méndez et al., 2015). When an individual's attitude toward a particular behavior is favorable, it is more likely to engage in that behavior, such as the intention to buy a specific product (Ajzen & Fishbein, 1980). With regard to consumers' attitudes toward buying organic products, these were found to be more important than their beliefs concerning costs or risks (Thøgersen, 2009). In fact, consumers' positive attitudes toward these products are greatly influenced by environmental,

health, and safety values, which subsequently have a positive impact on their purchasing intentions (Magistris & Gracia, 2008; Thøgersen et al., 2015). This is because the production of organic goods usually involves processes that are harmless for the environment, contain natural materials, and avoid the use of dangerous substances (Khare & Varshneya, 2017; Lin, 2010; Magistris & Gracia, 2008). In fact, organic production provides high quality products (characterized by superior eco-friendliness, healthiness, and safety) that conform to a growing consumer demand for goods produced in a socially responsible way (Magistris & Gracia, 2008). Earlier studies (e.g., Dowd & Burke, 2013; Arvola et al., 2008; Smith & Paladino, 2010; Zagata, 2012) repeatedly indicated that attitudes can successfully provide a significant prediction concerning the purchase of organic products. This underscores the importance of developing positive consumer attitudes as a prerequisite to promoting organic product buying (Yadav & Pathak, 2016). Overall, when consumer attitudes toward organic products are favorable, their buying intention is greater. This was empirically supported in different geographic regions, including Europe (e.g., Kalafatis et al., 1999; Chan & Lau, 2001; Tarkiainen & Sundqvist, 2005), North America (e.g., Magistris & Gracia, 2008; Hustvedt & Dickson, 2009; Kim & Chung, 2011; Zagata, 2012), and Asia (e.g., Yadav & Pathak, 2016; Ghazali et al., 2017). Thus, we may postulate the following:

H₅: Consumers' favorable attitude toward organic goods will positively affect their buying intention for these goods.

Subjective norms are an individual's perception of social pressure on the way s/he should or should not demonstrate a specific behavior (Fishbein & Ajzen, 2009). An individual's motivation to comply with such pressure takes place only with important referent individuals or groups, since the behavior of certain referents has a greater impact on their behavior than does that of others. When perceived social pressure is strong, the intention to engage in a particular behavior is also strong (Ajzen & Fishbein, 1980; Fishbein & Ajzen,

2009). Subjective norms can be positive or negative, depending on a consumer's normative beliefs. These beliefs are the consumer's perception of whether referents that are important to him/her approve or disapprove a particular behavior and are weighted by the individual's motivation to comply (Glanz et al., 2008). Consumers are likely to comply with social norms when they fear that their referents expect them to act in a certain way (Bamberg et al., 2007). This is because individuals belong to groups (e.g., family, friends, neighbors), which have their own rules, norms, and beliefs concerning appropriate buying and consumption behavior (Kalafatis et al., 1999). There are indications that buyers tend to form a positive buying intention for products if they perceive that their referents (particularly those considered important) have positive attitudes and opinions concerning such products (Teng & Wang, 2015; Ghazali et al., 2017). Notably, the degree of visibility of a specific behavior impacts subjective norms and subsequently influences consumers' intentions to buy (Pedersen, 2000). Subjective norms function as strong motivating forces behind decisions in morally charged situations, as in the case of organic goods (Schwartz & Howard, 1981). Earlier empirical research confirms that consumers who are under high social pressure tend to have a higher intention to buy these goods (Vermeir & Verbeke, 2008). For example, subjective norms were found to have a significant positive effect on the purchase of different types of organic food (Gockeritz et al., 2010; Smith & Paladino, 2010; Ruiz de Maya et al., 2011; Al-Swidi et al., 2014), organic cotton apparel (Han & Chung, 2014; Khare & Varshneya, 2017), and organic personal care products (Kim & Chung, 2011). Notably, consumers are more likely to buy organic products when their social identification with ethical, eco-friendly, and socially responsible behavior is stronger (Hustvedt & Dickson, 2009; Khare & Varshneya, 2017). The following hypothesis can therefore be made:

H₆: Consumers' favorable subjective norms toward organic goods positively affect their intention to buy these goods.

Perceived behavioral control is the degree of control that an individual perceives s/he has over his/her capability to perform a particular behavior (Fishbein & Ajzen, 2009). This takes into consideration an individual's perceived possession of resources, abilities, and opportunities that are intended to be used to perform such a behavior (Ajzen & Fishbein, 1980). Thus, perceived behavioral control refers to the individual's perception of how easy or difficult it is to carry out this behavior (Ajzen, 1991). Previous research (e.g., Kim & Chung, 2011; Ajzen, 2015) empirically proved that perceived behavioral control is a significant predictor of behavioral intention. In fact, when individuals' perceived control over the performance of a behavior is not strong, their intention to perform that behavior is more likely to be weak, even when they have positive attitudes and subjective norms toward performing it (Fishbein & Ajzen, 2009). Previous research (e.g., Kim & Chung, 2011; Soyezy, 2012; Vassallo et al., 2016; Ghazali et al., 2017) has shown that perceived behavioral control is also a significant predictor of consumers' intention to buy organic products. In fact, this was found to have the highest predicting power of buying intention among all other fundamental TPB antecedents (Yadav & Pathak, 2016; Zagata, 2012). Perceived behavioral control is higher when consumers perceive that they have sufficient time, money, and skills at their disposal to buy these goods (Kim & Chung, 2011). Moreover, when consumers perceive that organic products are expensive and/or suffer from supply availability problems, they may reduce their intention to proceed with their purchase (Vermeir & Verbeke, 2006). Even when individuals have favorable attitudes and strong subjective norms toward performing a particular behavior, when their perceived control over the performance of the behavior is not strong, it is less likely to form strong behavioral intentions (Fishbein & Ajzen, 2009). The magnitude of the relationship between perceived behavioral control and intention depends on the type of behavior and the nature of the purchasing situation. In general, individuals are

more inclined to engage in behaviors which they believe are positively achievable (Ajzen, 1991; Armitage & Conner, 2001). Based on the above argumentation, we can state that:

H7: Consumers' highly perceived behavioral control toward organic goods positively affects their buying intention for these goods.

Buying intention and actual behavior

Intention refers to the willingness of an individual to perform a specific behavior (Ajzen, 1991), with a strong intention expected to lead to the actual materialization of this behavior (Cavite et al., 2021). The influence of consumer intention on actual behavior takes place only when there is volitional control, that is, the individual should not only have the motivation and means to buy the product, but also the ability to decide on his/her own whether s/he wants to carry out the purchasing act (Ajzen, 1991). In other words, it is the combined effect of both motivation and ability that is responsible for the fulfilment of the actual behavior. In fact, the stronger the intention to buy a product, the more likely it is that the actual performance of the behavior will follow (Singh & Verma, 2017). With regard to organic goods, it is essential to have favorable intentions in order for the actual purchase of these products to take place (Singh & Verma, 2017; Sultan et al., 2020). Many studies (e.g., Fleseriu et al., 2020; Han et al., 2018; Singh & Verma, 2017; Smith & Paladino, 2010; Soyezy, 2012) examined this direct relationship between intention to buy organic products and actual purchase, although some researchers (e.g., Krystallis & Chryssohoidis, 2005) used different terms for intention, such as “willingness to pay more for organic products”, “willingness to pay for organic products”, and “commitment to the purchase of organic goods”. The findings of these studies indicate that a favorable intention usually has a significant direct positive effect on the actual purchase of organic products. Notably, in some cases there is a gap between consumers' thinking and real actions, with consumers' positive intentions not always translated into actions (Singh & Verma, 2017). Thus, a particular behavior may suffer from

serious problems of control or have incomplete volitional control, which creates problems in accurately defining the relationship between intention and behavior (Ajzen, 1991). In general, one would expect that when individuals have strong attitudes, subjective norms, and perceived behavioral control toward organic product buying, their intention to buy organic goods would be strongly associated with the actual purchasing of these goods (Canova et al. 2020). We can therefore hypothesize the following:

H₈: Consumers' favorable intention to buy organic goods positively influences their actual purchase of these goods.

Culture as a moderator of organic goods buying behavior

According to Hofstede et al. (2010, p.6), *national culture* “is the collective programming of the mind that distinguishes the members of one group or category of people from others”. This comprises six key dimensions, namely individualism/collectivism, masculinity/femininity, power distance, uncertainty avoidance, long-term orientation, and indulgence/restraint, which create a framework of beliefs and values that guide specific human behavior (Hofstede, 2010).

The *individualistic/collectivistic* dimension refers to the degree to which people are integrated into groups (Hofstede et al., 2010). In individualistic societies, people tend to be more self-centric and they prioritize their individual goals (e.g., showing greater concern for their health and their families' health) versus group goals (First & Brozina, 2009). They also show care about the planet through their enhanced biospheric values (as opposed to people living in collectivistic societies whose care about green issues is due to anthropocentric/altruistic values which indicate concern for other human beings) (Milfont et al., 2006; Soyez et al., 2012). Since the independent self often dominates in individualistic cultures, safety is considered a self-benefiting factor that is expected to have a greater

positive impact on consumer attitudes toward organic goods (Soyez et al., 2012). In addition, people in these societies tend to fulfil their own desires and preferences and are more eager to materialize their intentions (Hassan et al., 2016). They also tend to be more confident and have greater autonomy during their decision-making process, leading in this way to a higher perceived behavioral control (Wang et al., 2019). Hence, we may posit the following:

H₉: In an individualistic (as opposed to a collectivistic) culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

The *masculinity* dimension refers to the extent to which the emphasis of a society is on material success, as opposed to the quality of life (Hofstede et al., 2010). While individuals living in a masculine society tend to associate themselves with achievement, competitiveness, and material success, people in feminine cultures tend to emphasize helpfulness, cooperation, and caring of others (Hofstede et al., 2010). Societies with low masculinity scores are also characterized by tenderness and modesty, while at the same time are emotional, aiming to improve the well-being of the society, which is at the core of organic goods consumption (Basabe et al., 2002). Since the consumption of organic goods contributes to people's quality of life by safeguarding personal health and safety, as well as protecting the environment, one would expect that in feminine societies these will have a stronger effect on attitudes, subjective norms, and perceived behavioral control. Based on the above, we can hypothesize that:

H₁₀: In a feminine (as opposed to a masculine) culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

People in *power distance* cultures tend to ascribe more importance to wealth, power, privileges, and status (Hofstede, 1991). As opposed to countries with low power distance, consumers living in cultures with high power distance have subjective norms that more positively influence their intention to buy organic goods (Al-Swidi et al., 2018; Liobikiene et al., 2016). This is because individuals in high power distance countries will not initiate any action (even if they feel they have the control to do so), since power and determination lies within the control of "others" who have the status (Hassan et al., 2016). The fact that for many people organic products represent something which is new and unfamiliar, implies that individuals living in power distance cultures will be willing to try and consume organic products only when other important people (e.g., experts) support such behavior (Al-Swidi et al., 2018). We can hypothesize that:

H₁₁: In a high (as opposed to a low) power distance culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

Uncertainty avoidance refers to the degree to which people in a culture feel uncomfortable by unstructured, unclear, or unpredictable situations (Hofstede et al., 2010). Individuals in cultures scoring highly in uncertainty avoidance usually attempt to reduce uncertainty and stress in such situations by adapting to social norms and group values (First & Brozina, 2009; Hofstede, 1991). For example, they may seek to have more security by choosing products that are safe for them and protect society in general and their lives in particular (First & Brozina, 2009; Houghton et al., 2006). The fact that organic goods are characterized by elements of eco-friendliness, healthiness, and safety enables high uncertainty people to have strong attitudes, subjective norms, and perceived behavioral control with regard to these products, which becomes even stronger when these are accompanied by related labels and certifications by independent bodies that reduce possible

ambiguity fears (Pavlou & Chai, 2002). They are also characterized by norms that enhance social responsibility and promote ideas for conservation, thus strengthening the impact of consumer intention to buy organic goods (First & Brozina, 2009; Liobikiene et al., 2016). Hence, the following hypothesis can be made:

H₁₂: In a high (as opposed to low) uncertainty culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

Long-term orientation measures the time orientation of a society and emphasizes the importance of the future in values and attitudes (Hofstede et al., 2010). People in long-term oriented cultures are not eager to experience direct results, but wait instead for future rewards and exhibit determination toward specific causes (Hofstede, 1991). They are characterized by high levels of pragmatism, which acknowledges that the actions of today will determine the state of the future (Ruiz de Maya et al., 2011). As opposed to cultures emphasizing short-term results, in long-term oriented societies the effect of environmental, health, and safety beliefs (which are inherent in the case of organic goods) on consumer attitudes, subjective norms, and perceived behavioral control is more profound (Fifita et al., 2019; Liobikiene et al., 2016). Long-term-oriented individuals, even if they face some inconvenience (i.e., higher prices), will still choose the option that has the greatest future benefit for themselves and the society at large (Sreen et al., 2018). They will also be more inclined to turn their intention to buy organic products into real action (Minton et al., 2018). Based on these argumentations, we can assert that:

H₁₃: In a long-term (as opposed to a short-term) oriented culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

Indulgence/restraint measures the degree to which a society allows its people to have free emotional expression, happiness, and enjoyment of life (Hofstede et al., 2010). In indulgent societies, these emotions are more evident and help to promote prosocial and altruistic behaviors, such as the need to care about others and improve the society's welfare (Guo et al., 2018; Wiepking & Breeze, 2012). People living in indulgent societies tend to show greater sensitivity concerning health, safety, and environmental issues, and thus are more positively predisposed toward products that bear such characteristics, which is the case regarding organic goods (Ruiz de Maya et al., 2011). The eminent freedom of expression characterizing indulgent societies also leads to a higher degree of autonomy and greater perceived control regarding these products (Hassan et al., 2016). It also facilitates turning the intention to buy organic goods into actual purchasing. We can hypothesize the following:

H₁₄: In an indulgence (as opposed to restraint) culture, the influence of factors affecting consumer intention to buy organic goods, as well as the impact of this intention on the actual purchase of these goods, becomes stronger.

Method

Our meta-analysis covers empirical articles conducted on organic goods published in business-related academic journals, from the inception of this body of research up to the end of 2021. However, for an article to be included in our meta-analysis, it had to fulfil the following eligibility criteria: (a) to focus on consumer behavior with regard to organic products (e.g., food, beverages, clothes, etc.); (b) to be of an empirical nature, with the data collected using primary research methods, rather than being extracted from secondary databases; (c) to provide sufficient methodological input regarding the study conducted, particularly as regards the fieldwork year, country focus, and sample size; and (d) to report the correlation coefficients (or other effect statistics, such as path coefficients, *t*-statistics, and

p-values) regarding the associations between constructs contained in the integrated model, which are necessary to provide input for the meta-analysis.

Eligible articles were initially identified using a combination of various electronic databases (i.e., Google Scholar, Web of Science, Scopus, ABI Global/ProQuest, Science Direct, and EBSCO) based on the following keywords: “organic”, “organic products/goods”, “organic buying”, “organic consumption”, “environmental consciousness”, “health consciousness”, “price consciousness”, “safety consciousness”, “attitudes”, “subjective norms”, “perceived behavioral control”, “purchase/buying intention”, and “purchase/buying behavior”. We also manually checked the table of contents of relevant journals to identify other possible articles that could not be traced electronically due to misleading titles, inadequate abstracts, or incorrect keywords. For each of the articles identified, we carefully examined their content to verify whether it could provide material to comply with the eligibility criteria set earlier.

This searching process resulted in obtaining 149 eligible empirical studies that were extracted from 135 academic articles. These were published in 60 journals, with the major contributors being food-related journals, namely *British Food Journal* (16.0%), *Journal of Food Products Marketing* (8.1%), and *Food Quality and Preference* (8.1%). More than two-thirds (69.6%) of these articles were published after 2015, with the number of publications on the subject showing a tendency to increase steadily over time.¹ Most of the studies were conducted in Asia (46.3%) and Europe (25.5%), while in terms of individual countries, India has attracted most of the attention, followed by the USA and China. The product focus of the vast majority of studies was on organic food, while other types of organic products (e.g., personal care, clothing/fabrics, cosmetics) received limited emphasis.

All studies eligible for our meta-analysis were content analyzed by two independent coders under the supervision of a senior academic with extensive experience in content analysis. Prior to the commencement of the coding process, the two coders underwent rigorous training, during which it was fully explained to them how to extract and code the required information from each article. For this purpose, a special coding protocol was designed, which sought information about methodological (i.e., fieldwork year, focal country, sample size, nature of organic product) and empirical (i.e., reliability scores, effect size estimates, direction of construct association, sign of construct association) issues. The two coders worked independently of each other and a comparison of their coding revealed an inter-coder reliability rate ranging from 95% to 100%. Any inconsistencies between the two coders were resolved with the intervention of the supervisor, while the finalized set of clean data was used as input for the meta-analysis.

To eliminate the likelihood of publication bias in our meta-analysis, we followed Borenstein et al.'s (2009) recommendations: (a) We obtained an understanding of the available data, ensuring that our meta-analysis would not be influenced by bias based on statistical significance; (b) we used the funnel plot method in association with Egger's test to inspect for any signals of bias, showing that the rank correlation test did not produce a significant p -value; and (c) we employed Rosenthal's Fail-Safe N test to examine whether we have to enhance the analysis with a considerably larger number of studies to create a statistically non-significant overall effect, indicating the lack of artifacts of bias in the observed associations between our constructs.

Analysis and results

To carry out our meta-analysis, we used R (version 4.0) in conjunction with the metafor (Viechtbauer, 2010) and Lavaan packages (Rosseel, 2012).² This makes it possible to

compute the Fischer r -to- z transformation and apply the Hunter and Schmidt (2004) method to estimate the corrected correlation (cr), by using the reliability coefficients of each construct to correct for attenuation error to estimate pooled effects, as well as the constraints of the path model. It also enables computation of the heterogeneity Q statistic and Rosenthal's N test.³ Our analysis comprises three phases: the calculation of the descriptive statistics (including the preparation of the meta-correlation matrix), the testing of the main hypothesized paths of the conceptual model, and the examination of the moderating effect of cultural dimensions on the associations between constructs of the model.

Table 1 presents the descriptive statistics of our meta-analysis. We have also calculated the meta-analytical correlations using the incomplete data method, which permits the inclusion of studies that contain at least one pair-wise correlation between constructs (Colquitt et al., 2000). The random-effect model was employed to calculate mean correlations, since it allows for variation of the population parameters (ρ) across studies (Raudenbush, 2009). We computed weighted mean correlations (r), correlations corrected for attenuating artifacts (cr), confidence intervals (at 95% level), z -values (using the Fisher's r to z transformation), and the Q statistic (Hunter and Schmidt, 2004).

...insert Table 1 about here...

Direct effects

To test our hypotheses for direct effects, the meta-correlation matrix was provided as an input to the structural equation model. For the actual sample size, the harmonic mean of the total number of samples was used (Viswesvaran & Ones, 1995). This allowed for correcting the correlation matrix for attenuation by setting the paths between the variables to the square root of the reliability coefficient and the error terms to one minus the reliability coefficient (James et al., 1982). This is in line with the recommendations of Viswesvaran and Ones (1995) and

Grewal et al. (2018), where corrected correlation matrices can be used as covariance matrices for the purpose of meta-analysis.

The resulting correlation coefficients were subsequently inputted for SEM analysis to test the causal relationships in our conceptual model. Actual buying of organic goods represents the endogenous variable in the structural model, with all remaining predicting constructs being of an exogenous nature. The standardized path coefficients, along with the corresponding z -values for each of the hypothesized pathways, are presented in **Table 2**. The proposed meta-analytical model offers an acceptable fit with the data, as indicated by the values of the various fit indices: NFI (Normed Fit Index)= .93, CFI (Comparative Fit Index)= .93, RMSEA (Root Mean Square Error of Approximation)= .12, and SRMSR (Standardized Root Mean Square Residual)= .08.

...insert Table 2 about here...

Environmental consciousness was found to have a significant positive effect on consumer attitude ($\beta = .693$, $z = 11.703$, $p = .000$), subjective norms ($\beta = .677$, $z = 4.099$, $p = .000$), and perceived behavioral control ($\beta = .642$, $z = 8.925$, $p = .000$), confirming hypotheses H_{1a}, H_{1b}, and H_{1c} respectively. H_{2a} and H_{2c} are also supported, since our results revealed a significant influence of health consciousness on attitudes ($\beta = .261$, $z = 2.325$, $p = .004$) and perceived behavioral control ($\beta = .339$, $z = 3.264$, $p = .001$). However, hypothesis H_{2b}, which connects health consciousness with subjective norms, is rejected ($\beta = .046$, $z = .467$, $p = .640$). Safety consciousness was found to have a positive impact on attitude ($\beta = .326$, $z = 4.099$, $p = .000$), subjective norms ($\beta = .230$, $z = 2.325$, $p = .020$), and perceived behavioral control ($\beta = .237$, $z = 2.318$, $p = .000$), thus providing support to H_{3a}, H_{3b} and H_{3c} respectively. H_{4b} and H_{4c} are also accepted, because our results showed a negative statistically significant effect of price consciousness on subjective norms ($\beta = -.335$, $z = -4.523$, $p = .000$) and perceived behavioral control ($\beta = -.592$, $z = -6.899$, $p = .000$). However, there was no support for H_{4a},

which links price consciousness with attitude ($\beta = -.030$, $z = -.433$, $p = .665$). The results provide support for H₅, because there was a significant positive impact of a favorable attitude on organic buying intention ($\beta = .649$, $z = 7.971$, $p = .001$). H₆ is also confirmed, because subjective norms had a positive effect on intention to buy organic products ($\beta = .297$, $z = 3.376$, $p = .000$). Perceived behavioral control also exhibited a positive influence on organic goods buying intention ($\beta = .205$, $z = 2.430$, $p = .015$), thus accepting H₇. Finally, H₈ is accepted because a strong association was observed between a consumer's intention to buy organic goods and proceeding with the actual purchase ($\beta = .569$, $z = 17.491$, $p = .000$).

Moderation effects

In testing the moderating role of culture, we used Hofstede's (2010) aggregate scores for individualism, femininity, power distance, uncertainty avoidance, long-term orientation, and indulgence with regard to the focal country reported in each of the studies included in our meta-analysis. For each cultural dimension, we used the median to split the sample of studies into two groups (high= 1 and low= 0). The group variable was subsequently inserted in the initial estimation of the random effects model for the pooled effect of each path coefficient by suppressing the constant in order to allow for a standardized comparison (Palmatier, 2006). **Table 3** presents the results of the moderation analysis undertaken, where for each dimension and path relationship, we report the sign and size of the group coefficient (γ) together with Cochran's Q statistic for heterogeneity between the two groups (high *versus* low).

...insert Table 3 about here...

With regard to *individualism*, this was found to strengthen the associations: between environmental consciousness and attitude ($\beta = .472$, $Q = 113.42$, $p = .000$) and subjective norms ($\beta = .412$, $Q = 26.25$, $p = .000$); between health consciousness and attitude ($\beta = .412$, $Q = 56.72$, $p = .000$), subjective norms ($\beta = .205$, $Q = 25.52$, $p = .000$) and perceived behavioral control ($\beta = .271$, $Q = 9.68$, $p = .008$); between safety consciousness and attitude ($\beta = .387$, $Q =$

83.33, $p = .000$) and subjective norms ($\beta = .402$, $Q = 179.37$, $p = .000$). Individualism also moderated the effect of price consciousness on attitude ($\beta = .185$, $Q = 68.28$, $p = .000$) and subjective norms ($\beta = -.218$, $Q = 20.09$, $p = .000$). Similarly, there was a significant moderating effect of this cultural dimension on the link between attitude and intention ($\beta = .696$, $Q = 234.4$, $p = .000$), between subjective norms and intention ($\beta = .577$, $Q = 152.81$, $p = .000$), and between perceived behavioral control and intention ($\beta = .362$, $Q = 19.43$, $p = .000$). The effect of intention on the actual buying of organic goods was also found to be stronger in studies conducted in individualistic than in collectivistic societies ($\beta = .674$, $Q = 45.79$, $p = .000$).

The moderation analysis also revealed that most of the relationships between constructs of our model were stronger in the case of societies scoring high on *femininity* rather than masculinity. Specifically, femininity was responsible for strengthening the impact of environmental consciousness on attitude ($\beta = .473$, $Q = 102.44$, $p = .000$) and subjective norms ($\beta = .300$, $Q = 12.01$, $p = .002$), and the same was also true with regard to the effect of health consciousness on attitude ($\beta = .425$, $Q = 54.83$, $p = .000$), subjective norms ($\beta = .241$, $Q = 9.68$, $p = .008$), and perceived behavioral control ($\beta = .271$, $Q = 9.68$, $p = .008$). Femininity also strengthened the effect of safety consciousness on attitude ($\beta = .436$, $Q = 72.64$, $p = .000$), as well as the impact of price consciousness on attitude ($\beta = .185$, $Q = 68.28$, $p = .000$).

Studies conducted in femininity societies also exhibited a stronger impact on the relationship between attitude and intention ($\beta = .724$, $Q = 255.45$, $p = .000$), between subjective norms and intention ($\beta = .587$, $Q = 146.4$, $p = .000$), and between perceived behavioral control and intention ($\beta = .345$, $Q = 20.08$, $p = .000$). The effect of intention and on actual behavior was also stronger in feminine cultures ($\beta = .672$, $Q = 43.10$, $p = .000$).

With regard to *power distance*, this was found to strengthen the impact of: environmental consciousness on attitude ($\beta = .464$, $Q = 113.14$, $p = .000$) and subjective norms ($\beta = .412$; $Q = 26.25$, $p = .00$); health consciousness on attitude ($\beta = .306$, $Q = 31.76$, $p = .000$), subjective norms ($\beta = .278$, $Q = 28.88$, $p = .000$), and perceived behavioral control ($\beta = .356$, $Q = 10.20$, $p = .006$); safety consciousness on attitude ($\beta = .462$, $Q = 63.34$, $p = .000$); and price consciousness on perceived behavioral control ($\beta = .059$, $Q = 6.34$, $p = .042$). This cultural dimension was also responsible for strengthening the association between attitude and intention ($\beta = .675$, $Q = 226.56$, $p = .000$), between subjective norms and intention ($\beta = .567$, $Q = 152.98$, $p = .000$), and between perceived behavioral control and intention ($\beta = .388$, $Q = 19.74$, $p = .000$). There was also a strong moderating effect of power distance on the link between consumer intention and actual buying ($\beta = .643$, $Q = 39.08$, $p = .000$).

Uncertainty avoidance was also found to positively strengthen associations between constructs of our model. Analytically, in cultures characterized by high uncertainty avoidance our findings show a stronger effect of: environmental consciousness on attitude ($\beta = .472$, $Q = 109.79$, $p = .000$) and subjective norms ($\beta = .347$, $Q = 20.77$, $p = .000$); health consciousness on attitude ($\beta = .430$, $Q = 56.05$, $p = .000$), subjective norms ($\beta = .240$, $Q = 28.57$, $p = .000$), and perceived behavioral control ($\beta = .372$, $Q = 10.71$, $p = .005$); safety consciousness on attitude ($\beta = .436$, $Q = 72.64$, $p = .000$); and price consciousness on subjective norms ($\beta = .185$, $Q = 68.28$, $p = .000$). In similar vein, the association between attitude and intention ($\beta = .681$, $Q = 213.07$, $p = .000$), between subjective norms and intention ($\beta = .577$, $Q = 145.33$, $p = .000$), and between perceived behavioral control and intention ($\beta = .398$, $Q = 17.90$, $p = .000$) was stronger in uncertainty avoidance cultures. Significant moderating effects of this cultural dimension were also observed regarding the effect of intention on the actual purchasing of organic goods ($\beta = .547$, $Q = 34.04$, $p = .000$).

Our results indicate that in cultures scoring high on *long-term orientation*, there is a stronger effect of: environmental consciousness on attitude ($\beta = .471$, $Q = 103.84$, $p = .000$) and subjective norms ($\beta = .347$, $Q = 20.77$, $p = .000$); health consciousness on attitude ($\beta = .406$, $Q = 56.78$, $p = .000$), subjective norms ($\beta = .180$, $Q = 27.69$, $p = .000$), and perceived behavioral control ($\beta = .287$, $Q = 63.76$, $p = .000$); safety consciousness on attitude ($\beta = .478$, $Q = 69.23$, $p = .000$) and subjective norms ($\beta = .402$, $Q = 179.37$, $p = .000$); and price consciousness on perceived behavioral control ($\beta = .059$, $Q = 6.34$, $p = .042$). It was also revealed that in long-term oriented cultures the effect of attitude ($\beta = .694$, $Q = 217.06$, $p = .000$), subjective norms ($\beta = .573$; $Q = 139.00$, $p = .000$), and perceived behavioral control ($\beta = .382$, $Q = 18.08$, $p = .000$) on consumer intention was stronger. This cultural dimension also exhibited a strong moderating impact on the association between intention to buy organic products and actual purchasing ($\beta = .650$, $Q = 40.63$, $p = .000$).

Finally, in the case of studies conducted in indulgent societies there was a stronger effect of: environmental consciousness on attitude ($\beta = .442$, $Q = 141.57$, $p = .000$) and subjective norms ($\beta = .435$, $Q = 15.44$, $p = .000$); health consciousness on attitude ($\beta = .391$, $Q = 53.46$, $p = .000$), subjective norms ($\beta = .350$, $Q = 22.81$, $p = .000$), and perceived behavioral control ($\beta = .391$, $Q = 53.461$, $p = .000$); safety consciousness on attitude ($\beta = .476$, $Q = 294.40$, $p = .000$); and price consciousness on subjective norms ($\beta = -.218$, $Q = 20.09$, $p = .000$). The impact of attitude ($\beta = .694$, $Q = 213.55$, $p = .000$), subjective norms ($\beta = .588$, $Q = 138.60$, $p = .000$), and perceived behavioral control ($\beta = .402$, $Q = 15.18$, $p = .001$) on intention to buy organic products was also found stronger in societies with high indulgence. It was also revealed that this cultural dimension strengthens the association between intention and actual purchase ($\beta = .584$, $Q = 33.52$, $p = .000$).

Product type effects

We also examined the effect of the type of organic product on all construct associations of the integrated model, revealing overall stronger effects in the case of studies focusing on organic food, as opposed to organic non-food products. Specifically, a stronger effect was observed in the case of: (a) environmental consciousness influencing attitudes ($\beta = .373$, $Q = 46.42$, $p = .000$), subjective norms ($\beta = .339$, $Q = 9.29$, $p = .010$), and perceived behavioral control ($\beta = .345$, $Q = 39.16$, $p = .000$); (b) health consciousness affecting attitude ($\beta = .406$, $Q = 18.44$, $p = .000$), subjective norms ($\beta = .313$, $Q = 35.14$, $p = .000$), and perceived behavioral control ($\beta = .336$, $Q = 83.19$, $p = .000$); (c) price consciousness impacting attitude ($\beta = .393$, $Q = 23.64$, $p = .000$), subjective norms ($\beta = .545$, $Q = 140.91$, $p = .000$) and perceived behavioral control ($\beta = .526$, $Q = 85.13$, $p = .000$); and (d) attitude ($\beta = .383$, $Q = 15.87$, $p = .000$) and subjective norms ($\beta = .239$, $Q = 8.48$, $p = .000$) influencing buying intention.

Discussion and conclusions

One central conclusion that can be drawn from this meta-analysis is that the TPB provides fertile ground in which to understand the drivers and outcomes of consumers' intentions to buy organic goods, since we found support for almost all hypothesized associations in our integrated conceptual model. Specifically, we have confirmed that consumers who are more sensitive to environmental, health, and safety issues, but less price conscious, are more likely to have more favorable attitudes, higher levels of subjective norms, and stronger perceived behavioral control toward organic goods, which in turn enhance their intentions to buy these goods and ultimately lead to an actual purchase (Carfoora et al., 2019; Fleseriu et al., 2020; Li & Jaharuddin, 2020).

The positive and significant effect of environmental consciousness on attitudes, subjective norms, and perceived behavioral control is in line with a tendency by an increasing

number of consumers to positively see organic goods as a way to preserve nature and protect the planet. It reveals an altruistic value that plays a pivotal role in consumers having a favorable disposition toward organic products, perceiving social pressures from and expectations of others to consume organic goods, and control over the expected positive outcomes when buying organic products.

With regard to health consciousness, the findings underscore the important role of health issues in motivating consumer buying of organic goods, because: (a) the “purer” methods of producing organic goods are conducive to generating favorable attitudes toward these products; (b) the positive opinion of doctors, scientists, and other experts concerning organic goods is responsible for cultivating approved subjective norms among consumers; and (c) the superior quality of organic goods versus their conventional counterparts helps to reduce negative attitudes and enhance perceived behavioral control.

Our results also confirm a tendency by consumers to view organic products as abiding by their safety concerns (Aungatichart et al., 2020; Molinillo et al., 2020; Prentice et al., 2019). This might be the outcome of stricter regulations on what can be named after an organic product, along with requirements for relevant certifications by well-recognized bodies (Chen et al., 2014; Prentice et al., 2019). Individuals that value the safety of organic products are influenced by their reference groups, such as relatives, friends, and neighbors, to initiate such behavior (Guido et al., 2010). This, coupled with the fact that safety is perceived as a more self-centered value, helps to reduce risk perceptions associated with the purchase of organic goods (Liu & Ma, 2016).

In the case of price consciousness, our results reaffirm the prevailing view that price is a strong barrier that leads people to perceive a loss of control over a specific behavior when prices are higher than “normal” or “expected” ones (Mughal et al., 2021). Although there are

some changing views on how price can be perceived as an indicator of higher quality for organic goods, our findings show that this still forms negative attitudes toward them (Smith & Paladino, 2010).

The positive influence of attitude on organic goods buying intention underscores the importance of marketing efforts made by sellers of organic products (particularly those focusing on superior eco-friendliness, healthiness, and safety) to transform consumers' attitudes into serious reasons for purchasing them. This indicates that in modern societies issues relating to quality of life are particularly important for consumers in having favorable intentions toward buying and consuming organic goods (Rana & Plaza, 2017).

The supportive nature of the impact of subjective norms on intention indicates that buyers feeling social pressure to comply with social norms tend to be more inclined to buy organic goods. This is in harmony with the general trend observed globally, whereby various influence groups (e.g., scientists, environmentalists, activists) press for the need for a more natural way of producing goods.

Our findings also show that the higher the perceived control consumers have on the organic buying decision process, the higher their intention to buy organic goods. This is because when consumers feel that they are in control of a specific situation, such as easily finding the organic product they want (and in the place and time they want it), they are more likely to develop positive intentions toward its purchase.

The strong impact of consumer intention toward the actual purchase of organic products supports the applicability of the TPB in predicting consumers' willingness to buy organic goods. This is in line with previous studies in the context of sustainable consumption (e.g., Han & Hansen, 2012), green behavior (e.g., Taufique & Vaithianathan, 2018), and

ethical consumption (e.g., Zollo et al., 2018), which also indicate that the stronger the effect of intention, the higher the likelihood of the consumer proceeding with the actual purchase.

Our study has also shown that the explanatory power of TPB, when applied in the case of organic products, can be influenced by national culture. The results of the moderation analysis indicate that the country's cultural orientation does indeed play a pivotal role in influencing the associations between constructs in our conceptual model. This indicates that despite globalization, convergence of consumer incomes, and similarity of product offerings, cultural differences among countries worldwide still have a notable effect on the consumer's decision-making process regarding organic goods (de Mooij & Hofstede, 2010).

Despite the useful insights provided by this meta-analysis, these have to be seen within the context of two key limitations: (a) although there were some additional empirical studies focusing on various parts of consumer behavior regarding organic goods, these were excluded from the analysis because the data necessary for meta-analysis were not available, and (b) although our study covers the key constructs of the TPB to explain consumer behavior with regard to organic products, other constructs (e.g., product quality concerns) that could have enriched our conceptual model were omitted because of insufficient empirical data.

Implications

Theoretical

Our meta-analysis supports the main ideas put forward by the TPB within the context of organic products, namely, that attitudes, subjective norms, and perceived behavioral control shape consumers' buying intentions, which, in turn, influence actual buying behavior. We have also extended this theory to take into consideration key background dimensions, namely

consumer consciousness with regard to environmental, health, safety, and price issues, which act as predictors of attitudes, subjective norms, and perceived behavioral control (Aertsens et al., 2009). This opens up new avenues for further enriching the integrated conceptual model on organic goods purchasing proposed in our study with additional constructs, such as those pertaining to consumers' value orientation and motivational forces (e.g., Aertsens et al., 2009; van Doorn & Verhoef, 2015).

Incorporating Hofstede et al's (2010) cultural dimensions to better understand organic goods buying behavior is another theoretical addition to our study. Although cross-cultural consumer behavior differences have been widely studied in the past, their specific application to purchasing organic goods has been only tangential (Soyez, 2012; Thøgersen et al., 2015). Using data at the country level, we confirm that cultural differences across countries are indeed responsible for influencing the associations between constructs involved in the consumer buying decision process for organic products. This implies that other important variables could also be used to better understand organic goods buying behavior, such as the role of individuals' personality traits (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness).

Managerial

To convince consumers to buy organic products, managers need to devise strategies that will reduce the inhibiting role of certain factors and boost the facilitating role of others, such as increasing awareness of the benefits offered by organic goods. Given that price-conscious individuals are not influenced positively by other referent groups and bear negative feelings concerning their control of this specific behavior toward organic products (leading thus to low purchase intention or even apathy toward purchasing), companies should try to reduce their premium prices (van Doorn & Verhoef, 2015). Although mostly this can be the result of

decreasing production costs, price reduction can also be achieved by narrowing profit margins, which are usually greater than in the case of conventional products (Bezawada & Pauwels, 2010). Notably, prior research has shown that an average of 12% premium on organic products is an acceptable level that does not impede the decision of consumers to proceed with their purchase (Smith & Paladino, 2010).

Beyond reducing price levels, managers should also reduce perceived consumer uncertainty regarding the genuine character of their organic products by using a rigorous certification process set up by independent bodies (Thøgersen, 2009). Organic product availability in retail stores also needs to be increased by offering various incentives, such as discount prices, sales promotions, and advertising support. Communication campaigns also need to be developed focusing on the various benefits derived from organic goods (e.g., safety), helping in this way to increase perceived control over the buying process. The fact that referent groups (e.g., ‘influencers’ in social media) play an instrumental role in influencing consumer attitudes toward organic goods makes it essential for firms to capitalize on them. Marketing strategies in international markets also need to be adjusted, due to the different effects of cultural factors on organic goods buying behavior.

Public policymaking

Public policymakers should create schemes to financially support or provide tax incentives in order to induce firms to engage in organic goods production and selling. Encouraging more firms to engage in organic goods business will result in greater organic goods availability and lower prices due to scale economies, thus allowing more consumers to materialize their purchase. In addition, when producers switch from conventional to organic/sustainable ways of producing goods, this will contribute to substantial benefits for the environment (e.g.,

reducing harmful chemicals in soil/water/air), people's health (e.g., dropping obesity rates), and society at large (e.g., improving citizens' well-being).

To promote the idea of consuming organic products, public policymakers should also embark on special educational programs to inform their citizens on the benefits gained from organic goods consumption. This is expected to increase consumers' perceived control over their buying intention by understanding the benefits derived from these products. Governments should also make it easier to cultivate consumer trust of organic products by encouraging the certification of these goods by approved bodies. This would diminish suspicion among consumers as to whether organic products are genuinely produced, using methods that do not harm the environment and/or people's health and safety, thus improving perceived behavioral control. Consumer distrust of organic goods could also be reduced by performing periodic unannounced inspections at both production and distribution points by government officials to ensure the genuine nature of these products.

Future research

Future research should take a number of different directions. *First*, our integrated conceptual model included constructs that were the most commonly used in extant empirical research on the drivers and outcomes of consumers' intentions to buy organic goods. Certainly, several other relevant constructs could also play either an antecedent (e.g., emotions) or outcome (e.g., satisfaction) role with regard to consumers' organic buying. However, it would only be possible to examine their meta-analytical impact if a critical mass of empirical studies were conducted on these aspects in future.

Second, since prior research indicates that most consumers buy organic goods on a sporadic basis (Tarkianen & Sundqvist, 2009), it would be illuminating to obtain evidence on how the underlying consciousness dimensions (i.e., environmental, health, safety, price)

driving this cognitive process would sustain the repeated purchasing of organic goods. This would also help to better understand how the various components of the TPB (i.e., attitude, subjective norms, perceived behavioral control, intention, actual behavior) operate under a repurchase situation, particularly after the feedback gained from the initial purchasing of organic products (Ghazali et al., 2017).

Third, the widespread use of self-reported measures by consumers with regard to purchasing organic products has come under increasing criticism in the pertinent literature, because this may deviate from their actual behavior (Bishop & Barber, 2015). Hence, the credibility of the TPB needs to be enhanced by collecting data related to the actual buying behavior of consumers regarding organic goods. This could be achieved, for example, by augmenting primary data with those obtained from mechanical devices (e.g., scanner data) and/or consumer panels (van Doorn & Verhoef, 2015).

Fourth, the extant literature on organic goods using the TPB focuses exclusively on the actual purchaser, without taking into consideration the ‘spill over effect’ of this purchasing process on other household members, such as the children who are the potential future buyers of these goods (Carey et al., 2008). It is also important to extend the analysis and see the process through which buyers of organic products transfer their knowledge and experience to other members in their social network, especially nowadays with the explosive use of the internet and social media.

Fifth, beyond cultural dimensions, other external factors can also be used to understand differences in organic goods buying behavior among consumers across countries. For example, there are indications that government certification controls, verifying the genuine nature of organic products, can increase consumer trust levels and the tendency to proceed with their purchase (Cuadros-Rodríguez et al., 2008). Moreover, the improvement in

a country's living standards, due to better economic conditions, may alleviate the price prohibition from buying organic goods, considered expensive by many consumers (Aertsens et al., 2009).

Finally, many studies have stressed the role of consumer demographics as control variables in the organic goods purchasing process, which also warrant further attention. For example, with regard to gender, evidence indicates that females (particularly mothers) take a more positive stance toward organic buying than do males (Carey et al., 2008). Moreover, age was found to play an important discriminating role, with younger consumers showing a higher tendency to buy organic goods than their older counterparts (Smith & Paladino, 2010). Furthermore, with regard to education, it has been hinted that highly educated consumers tend to engage more in organic goods purchasing than those with less education, because they are more knowledgeable about the benefits offered (Thøgersen & Zhou, 2012).

Notes

1. Although scanning the various electronic databases produced hundreds of articles referring to organic products, the vast majority could not be used for meta-analytical purposes for the following reasons: (a) they are not empirical in nature, but have a conceptual approach (e.g., Loera et al., 2022), rely on secondary databases (e.g., von Doorn and Verhoef, 2017), or provide results of an exploratory nature (e.g., Han et al., 2018; Nguyen, 2011); (b) they do not examine organic goods from a consumer perspective, but from the point of view of supply/demand market conditions (Drejerska et al., 2021), producers (e.g., Andow et al., 2017), or retailers/restaurants (e.g., Arpita et al., 2017); (c) they do not focus on the constructs included in our integrated conceptual model or they do not report any association between constructs of the model; and (d) they do not provide input on key methodological issues (e.g., sample size) and/or the effect statistics referring to construct associations.

2. Although Cheung's MASEM is a robust method for meta-analysis that does not rely on the assumption of the correlation matrix input as a direct substitute of a covariance matrix, it works mainly with models of complete information which are routinely tested in several fields (e.g., the technology acceptance model).

3. N represents the failsafe statistic introduced by Rosenthal (1979) and is one form of accounting for publication bias providing the interpretation of the number of studies with null results to be published for the effect to not be valid. This, however, is very sensitive to the effect size itself and not necessarily an indication of the absence of publication bias (Higgins et al., 2020).

References

- Aertsens J., Verbeke W., Mondelaers K. & Van Huylenbroeck G. (2009). Personal determinants of organic food consumption: A review. *British Food Journal*, 111(10), 1140-67.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 179-211.
- Ajzen I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52, 27-58.
- Ajzen I. (2015). Consumer attitudes and behavior: The theory of planned behavior applied to food consumption decisions. *Rivista di Economia Agraria*, 70(2), 121-138.
- Ajzen I. & Fishbein M. (1980). *Understanding attitudes and predicting social behavior*. Englewoods Cliffs, NJ: Prentice-Hall.
- Al-Swidi A., Rafiul Huque S.M., Haroon Hafeez M., & Mohd Shariff M.N. (2014). The role of subjective norms in theory of planned behavior in the context of organic food consumption. *British Food Journal*, 116(10), 1561–1580.
- Anisimova, T. (2016). Integrating multiple factors affecting consumer behavior toward organic foods: the role of healthism, hedonism, and trust in consumer purchase intentions of organic foods. *Journal of Foods Product Marketing*, 22(7), 809-823.
- Andreyeva T., Long M.W., & Brownell K.D. (2010). The impact of food prices on consumption: A systematic review of research on the price elasticity of demand for food. *American Journal of Public Health*, 100, 216–222.
- Armitage C.J. & Conner M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471-499.
- Arvola A., Vassallo M., Dean M., Lampila P., Saba A., Lähteenmäkia L., & Shepherd R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behavior. *Appetite*, 50(2–3), 443-454.
- Asif, M., Xuhui,W., Nasiri, A., & Ayyub, S. (2018). Determinant factors influencing organic food purchase intention and the moderating role of awareness: A comparative analysis. *Food Quality and Preference*, 63(January), 144-150.
- Aungatichart, N., Fukushige, A., & Aryupong, M. (2020). Mediating role of consumer identify between factors influencing purchase intention and actual behavior in organic food consumption in Thailand. *Pakistan Journal of Commerce and Social Sciences*, 14(2), 424-449.
- Baker, S., Thompson, K.E., & Engelken, J. (2004). Mapping the values driving organic food choice: Germany vs the UK. *European Journal of Marketing*, 38(8), 995-1012.
- Bamberg S. & Moser G. (2007). Twenty years after Homera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology*, 27(1), 14-25.
- Basabe, N., Paez, D., Valencia, J., Gonzalez, J. L., Rimé, B., & Diener, E. (2002). Cultural dimensions, socioeconomic development, climate, and emotional hedonic level. *Cognition & Emotion*, 16(1), 103–125.
- Basha M.B., Mason, C, Shamsudin, M.F., Hussain, H.M, & Salem, A.S. (2015). Consumers' attitude toward organic food. *Procedia Economics and Finance*, 31, 444–452.
- Bezawada R. & Pauwels K. (2013). What is special about marketing organic products? How organic assortment, price, and promotions drive retailer performance? *Journal of Marketing*, 77(1), 31–51.
- Bishop M.M. & Barber N.A. (2015). Beliefs and willingness-to-pay for organic and local products. *Journal of Marketing Theory and Practice*, 23(1), 94-106.
- Borenstein M., Hedges L.V., Higgins J. P.T., & Rothstein H.R. (2009). *Introduction to meta-analysis*, New York, NY: Wiley.

- Çabuk, S., Tanrikulu, C., & Gelibolu, L. (2014). Understanding organic food consumption: attitude as a mediator. *International Journal of Consumer Studies*, 38, 337-345.
- Canova, L., Bobbio, A., & Manganelli, A.M. (2020). Buying organic food products: the role of trust in the theory of planned behavior. *Frontiers in Psychology*, 11, 575820.
- Carey L., Shaw D., & Shiu E. (2008). The impact of ethical concerns on family consumer decision-making. *International Journal of Consumer Studies*, 32, 553–560.
- Cavite, H.J., Mankeb, P., & Suwanmaneepong, S. (2021). Community enterprise consumers' intention to purchase organic rice in Thailand: the moderating role of product traceability knowledge. *British Food Journal*, 124(4), 1124-1148.
- Chan R.Y.K. & Lau L.B.Y. (2001). Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. *Journal of International Consumer Marketing*, 14(2/3), 9-40.
- Chekima, B., Chekima, K., & Chekima, K. (2019). Understanding factors underlying actual consumption of organic food: The moderating effect of future orientation. *Food Quality and Preference*, 74, 49-58.
- Chen, J., Lobo, A., & Rajendran, N. (2014). Drivers of organic food purchase intentions in mainland China – evaluating potential customers' attitudes, demographics and segmentation. *International Journal of Consumer Studies*, 38, 346-356.
- Colquitt J.A., LePine J.A., & Noe, R.A. (2000). Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal of Applied Psychology*, 85(5), 678-707.
- Cuadros-Rodríguez L., Bosque-Sendra J.M., de la Mata-Espinosa A.P., González-Casado A., & Rodríguez-García, F.P. (2008). Elaboration of four olive oil certified reference materials: InterOleo-CRM 2006 certification study. *Food Analytical Methods*, 1(4), 259–269.
- De Mooij, M. & Hofstede, G. (2011). The Hofstede model: applications to global branding and advertising strategy and research. *International Journal of Advertising*, 29(1), 85-110.
- Dowd K. & Burke K. (2013). Research report: The influence of ethical values and food choice motivations on intentions to purchase sustainably sourced food. *Appetite*, 69, 137-144.
- Fern, E.F. & Monroe, K.B. (1996). Effect-size estimates: Issues and problems in interpretation. *Journal of Consumer Research*, 23, 89-105.
- Fifita I.M.E., Seo, Y., Ko E., Conroy, D., & Hong, D. (2019). Fashioning organics: Wellbeing, sustainability, and status consumption practices. *Journal of Business Research*, 117, 664-671.
- First, I. & Brozina, S. (2009). Cultural influences on motives for organic food consumption, *EuroMed Journal of Business*, 4(2), 185-199.
- Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12(3), 273-278.
- Fishbein M. & Ajzen I. (2009). *Predicting and changing behavior (electronic source): The reasoned action approach*. New York; Hove: Psychology Press.
- Garcia-Ruiz, P. & Rodriguez-Lluesma, C. (2014). Consumption practices: A virtue ethics approach. *Business Ethics Quarterly*, 24(4), 509-531.
- Ghazali E., P.C. Soonb, Mutumc, D.S., & Nguyen B. (2017). Health and cosmetics: Investigating consumers' values for buying organic personal care products. *Journal of Retailing and Consumer Services*, 39, 154-163.
- Glanz K., Rimer B.K., & Viswanath, K. (2008). *Health behavior and health education: Theory, research, and practice*, John Wiley and Sons.
- GlobeNewswire (2021). Global organic food and beverage market report 2021: market is expected to reach \$519 billion by 2027 from \$232 billion in 2021 (Research and Markets report). Retrieved from: <https://www.globenewswire.com/news-release/2021/11/16/2335102/28124/en/Global-Organic-Food-and-Beverage-Market-Report-2021-Market-is-Expected-to-Reach-519-Billion-by-2027-from-232-Billion-in-2021.html>. Accessed May 30, 2022.
- Gkargkavouzi, A., Halkos, G. & Matsiori, S. (2019). Environmental behavior in a private-sphere context: Integrating theories of planned behavior and value belief norm, self-identity and habit. *Resources Conservation and Recycling*, 148, 145-156.
- Gockeritz S., Schultz P., Rendon T., Cialdini R.B., Goldstein N.J., & Griskevicius V. (2010). Descriptive normative beliefs and conservation behavior: The moderating roles of personal involvement and injunctive normative beliefs. *European Journal of Social Psychology*, 40(3), 514-523.

- Guido, G., Prete, M.I., Peluso, A.M., Maloumy-Baka, R.C., & Buffa, C. (2010). The role of ethics and product personality in the intention to purchase organic food products: A structural equation modeling approach. *International Review Economics*, 57, 79-102.
- Fleseriu, C., Cosma, S.A., & Bocanet, V. (2020). Values and planned behavior of the Romanian organic food consumer. *Sustainability*, 12, 1722-1743.
- Guo, Q., Liu, Z., Li, X., & Qiao, X. (2018). Indulgence and long-term orientation influence prosocial behavior at national level. *Frontiers in Psychology*, 9, 1798.
- Han, Y. & Hansen, H. (2012). Determinants of sustainable food consumption: A meta-analysis using a traditional and a structural equation modeling approach. *International Journal of Psychological Studies*, 4(1), 22-45.
- Hansen T., Sorensen M.I., & Eriksen R.M-L. (2018). How the interplay between consumer motivations and values influences organic food identity and behavior. *Food Policy*, 74, 39-52.
- Hassan, L.M., Shiu, E., & Parry, S. (2016). Addressing the cross-country applicability of the theory of planned behavior (TPB): A structured review of multi-country TPB studies. *Journal of Consumer Behavior*, 15, 72-86.
- Hauser M., Nussbeck F.W., & Jonas K. (2013). The impact of food-related values on food purchase behavior and the mediating role of attitudes: a Swiss Study. *Psychology & Marketing*, 30(9), 765-778.
- Hemmerling S, Hamm U., & Spiller, A. (2015). Consumption behavior regarding organic food from a marketing perspective—a literature review. *Organic Agriculture*, 5, 277-313.
- Higgins J.P.T., Thomas J., Chandler J., Cumpston M. Li T., Page M.J., & Welch V.A. (2020). *Cochrane Handbook for Systematic Reviews of Interventions version 6.1* (updated September 2020). Cochrane, 2020. Retrieved from www.training.cochrane.org/handbook . Accessed on May 30, 2022.
- Hofstede G. (1991). *Cultures and Organizations: Software of the Mind*. McGraw-Hill: London.
- Hofstede G., Hofstede G.J., & Minkov M. (2010). *Cultures and organizations: Software of the mind*. McGraw Hill Professional, New York, U.S.A.
- Honkanen P., Verplanken B., & Olsen, S.O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behavior*, 5(5), 420-430.
- Houghton, J.R., Van Kleef, E., and Rowe, G. (2006). Health consumer perceptions of the effectiveness of food risk management practices: a cross-cultural study. *Risk & Society*, 8(2), 165-83.
- Hsu, S-Y., Chang, C-C., & Lin, T.T. (2015). An analysis of purchase intentions toward organic food on health consciousness and food safety with/under structural equation modeling. *British Food Journal*, 118(1), 200-216.
- Hsu, S.Y., Chang, C-C., & Lin, T.T. (2018). Triple bottom line model and food safety in organic food and conventional food in affecting perceived value and purchase intentions. *British Food Journal*, 121(2), 333-346.
- Hughner R.S., McDonagh P., Prothero A., Shultz C., & Stanton J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behavior*, 6, 94–110.
- Hunter J.E. & Schmidt F.L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings*, Thousand Oaks, CA: Sage Publications.
- Hustvedt G. & Dickson M.A. (2009). Consumer likelihood of purchasing organic cotton apparel: influences of attitudes and self-identity. *Journal of Fashion Marketing and Management: An International Journal*, 13(1), 49-65.
- Ishaq, M.I. (2018). Testing sustainable consumption behavior in Italy and Pakistan. *European Journal of Business Science and Technology*, 4(1), 93-95.
- James, L.R., Mulaik, S.A., & Brett, J.M. (1982). *Causal Analysis: Assumptions Models and Data*, Sage, Beverly Hills, CA.
- Jones, P., Hillier, D., & Comfort, D. (2011). Shopping for tomorrow: Promoting sustainable consumption within food stores. *British Food Journal*, 113(7), 935-948.
- Kalafatis, S.P., Pollard, M., East, R., & Tsogas, M.H. (1999). Green marketing and Ajzen's theory of planned behavior: A cross-market examination. *Journal of Consumer Marketing*, 16(5), 441-460.
- Khare, A. & Varshneya, G. (2017). Antecedents to organic cotton clothing purchase behavior: Study on Indian youth. *Journal of Fashion Marketing and Management: An International Journal*, 21(1), 51-69.

- Kim H.Y. & Chung J.E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40-47.
- Krystallis, A. & Chrysosoidis, G. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *British Food Journal*, 107(5), 320-343.
- Le-Ahn, T. & Nguyen-To, T. (2019). Consumer purchasing behaviour of organic food in an emerging market. *International Journal of Consumer Studies*, 44(6), 1-11.
- Lichtenstein D.R., Ridgway N.M., & Netemeyer R.G. (1993). Price perceptions and consumer shopping behavior: a field study. *Journal of Marketing Research*, 30(2), 234-45.
- Lin, S.-H. (2010). A case study in Hawaii: Who will pay more for organic cotton? *International Journal of Consumer Studies*, 34, 481-489.
- Liobikiene, G., Mandravickaite, J., & Bernatoniene, J. (2016). Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study. *Ecological Economics*, 125, 38-46.
- Liu, P. & Ma, L. (2016). Food scandals, media exposure, and citizens' safety concerns: A multilevel analysis across Chinese cities. *Food Policy*, 63, 102-11.
- Magistris T. & Gracia A. (2008). The decision to buy organic food products in Southern Italy. *British Food Journal*, 110, 929-947.
- Magnusson M.K., Arvola A., Hursti U.K., Aberg L., & Sjoden P.O. (2003). Choice of organic food is related to perceived consequences for human health and to the environmentally friendly behavior. *Appetite*, 40(2), 109-117.
- Massey, M., O' Cass, A., & Otahal, P. (2018). A meta-analytic study of the factors driving the purchase of organic food. *Appetite*, 125, 418-427.
- Michaelidou, N. & Hassan, L.M. (2008). The role of health consciousness, food safety concern and ethical identity on attitudes and intentions towards organic food. *International Journal of Consumer Studies*, 32(2), 163-170.
- Milfont, T.L., Duckitt, J., & Cameron, L.D. (2006). A cross-cultural study of environmental motive concerns and their implications for pro-environmental behavior. *Environment and Behavior*, 38(6), 745-67.
- Minton, E.A., Spielmann, N., Kahle, L.R., & Km, C-H. (2018). The subjective norms of sustainable consumption: A cross-cultural exploration. *Journal of Business Research*, 82, 400-408.
- Molinillo S., Vidal-Branco, M., & Japutra A. (2020). Understanding the drivers of organic foods purchasing of millennials: Evidence from Brazil and Spain. *Journal of Retailing and Consumer Studies*, 52, 101926-101935.
- Mondelaers K., Aertsens J., & Van Huylenbroeck G. (2009). A meta-analysis of the differences in environmental impacts between organic and conventional farming. *British Food Journal*, 111(10), 1098-1119.
- Mughal, H.A., Thogersen, J., & Faisal, F. (2021). Purchase intentions of non-certified organic food in a non-regulated market: an application of the theory of planned behavior. *Journal of International Food & Agribusiness Marketing*, 1-24.
- Nandi R., Bokelmann W., Gowdru N.V., & Dias G. (2016). Consumer motives and purchase preferences for organic food products: Empirical evidence from a consumer survey in Bangalore, South India. *Journal of International Food & Agribusiness Marketing*, 28(1), 74-99.
- Nardi, V-A-M, Jardim, W-C, Ladeira, W., & Santini, F. (2019). Predicting food choice: A meta-analysis based on the theory of planned behavior. *British Food Journal*, 121(10), 2250-2264.
- Nguyen, H.V., Nguyen, N., Nguyen, B-K, Lobo, A., and Vu, P-A. (2019). Organic food purchases in an emerging market: the influence of consumers' personal factors and green marketing practices of food stores. *International Journal of Environmental Research and Public Health*, 16, 1037-1054.
- Padel, S. & Foster, C. (2005). Exploring the gap between attitudes and behavior: Understanding why consumers buy or do not buy organic food. *British Food Journal*, 107(8), 606-625.
- Pedersen, L.H. (2000). The dynamics of green consumption: A matter of visibility? *Journal of Environmental Policy and Planning*, 2(3), 193-210.
- Pham, T.H., Nguyen T.N., Phan, T.T.H., & Nguyen, N.T. (2018). Evaluating the purchase behavior of organic food by young consumers in an emerging market economy. *Journal of Strategic Marketing*, 27(6), 540-556.

- Prentice, C., Chen, J., & Wang, X. (2019). The influence of product and personal attributes on organic food marketing. *Journal of Retailing and Consumer Services*, 46, 70-78.
- Rana, J. & Paul, J. (2017). Consumer behavior and purchase intention for organic food: A review and research agenda. *Journal of Retailing and Consumer Services*, 38, 157-165.
- Rana, J. & Paul, J. (2020). Health motive and the purchase of organic food: A meta-analytic review. *International Journal of Consumer Studies*, 44, 162-171.
- Rao, M., Afshin, A., Singh, G., & Mozaffarian, D. (2013). Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis. *BMJ Open*, 3, 12.
- Raudenbush, S.W. (2009). Random effects models, in H. Cooper, L.V. Hedges, & J. Valentine (Eds.). *The handbook of research synthesis and meta-analysis*, 2nd Ed (pp. 295–316). New York: Russell Sage Foundation.
- Rojas-Méndez, J.I., Le Nestour M., & Rod, M. (2015), Understanding attitude and behavior of Canadian consumers toward organic wine, *Journal of Food Products Marketing*, 21(4), 375-396.
- Rosenthal, R. (1994). Parametric measures of effect size. In H. Cooper & L. V. Hedges (Eds.), *The handbook of research synthesis* (pp. 231–244). New York: Russell Sage Foundation.
- Rosseel, Y. (2012). lavaan: An R package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1-36.
- Ruiz de Maya, S.R., Lopez-Lopez, I., & Munuera, J.L. (2011). Organic food consumption in Europe: International segmentation based on value system differences. *Ecological Economics*, 70(10), 1767-1775.
- Smith, R. & McElwee, G. (2019). The 'horse-meat' scandal. *Supply Chain Management: An International Journal*, 26(5), 1-29.
- Schifferstein, H.N.J. & Oude Ophuis, P.A.M. (1998). Health-related determinants of organic food consumption in The Netherlands. *Food Quality and Preference*, 9, 119-33.
- Schwartz, S.H. & Howard, J.A. (1981). *A normative decision-making model of altruism*. in Rushton, J.P. & Sorrentino, R.M. (Eds), *Altruism and helping behavior*, Lawrence Erlbaum, Hillsdale, NJ, 89-211.
- Scalco, A., Noventa, S., Sartori, R., & Ceschi, A (2017). Predicting organic food consumption: A meta-analytic structural equation model based on the theory of planned behavior. *Appetite*, 112, 235-248.
- Singh, A. & Verma, P. (2017). Factors influencing Indian consumers' actual buying behavior toward organic food products. *Journal of Cleaner Production*, 167, 473-483.
- Smith, S. & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18(2), 93-104.
- Soyez, K. (2012). How national cultural values affect pro-environmental consumer behavior. *International Marketing Review*, 29(6), 623-646.
- Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, 177–189.
- Tang, C.C. & Lu, CH. (2016). Organic food consumption in Taiwan: Motives, involvement, and purchase intention under the moderating role of uncertainty. *Appetite*, 105(1), 95-105.
- Tarkiainen, A. & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808-822.
- Tarkiainen, A. & Sundqvist, S. (2009). Product involvement in organic consumption: Does ideology meet practice? *Psychology & Marketing*, 26(9), 844-863.
- Taufique, K. M. & Vaithianathan, S. (2018). A fresh look at understanding green consumer behavior among young urban Indian consumers through the lens of the theory of planned behavior. *Journal of Cleaner Production*, 183, 46-55.
- Teng, C.-C. & Wang, Y.-M. (2015). Decisional factors driving organic food consumption: Generation of consumer purchase intentions. *British Food Journal*, 117(3), 1066–1081.
- Thøgersen, J. (2009). *Consumer decision-making with regard to organic food products* in: Vaz, M.T.d.N., Nijkamp, P., & Rastoin, J.L. (Eds.), *Traditional food production facing sustainability: A European challenge*. Ashgate, Farnham, UK, 173-194.
- Thøgersen, J., Dutra de Barcellos, M., Perin, M.G., & Zhou, Y. (2015). Consumer buying motives and attitudes towards organic food in two emerging markets: China and Brazil. *International Marketing Review*, 32(3/4), 389-413.

- Thøgersen, J. & Zhou, Y. (2012). Chinese consumers' adoption of a 'green' innovation – The case of organic food. *Journal of Marketing Management*, 28(3-4), 313-333.
- Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behavior toward organic products: an exploratory study. *International Journal of Retail & Distribution Management*, 36(2), 158-175.
- Uusitalo, L. (1990). Consumer preferences for environmental quality and other social goals. *Journal of Consumer Policy*, 13(3), 231-51.
- Van Doorn, J. & Verhoef, P.C. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing*, 28, 167-180.
- Van Doorn, J. & Verhoef, P.C. (2015). Drivers of and barriers to organic purchase behavior. *Journal of Retailing*, 91(3), 436-450.
- Vassallo, M., Scalvedi, M.L., & Saba, A. (2016). Investigating psychosocial determinants in influencing sustainable food consumption in Italy. *International Journal of Consumer Studies*, 40(4), 422–434.
- Vermeir, I. & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behavior and the role of confidence and values. *Ecological Economics*, 64, 542-55.
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*. 36(3), 1–48.
- Viswesvaran, C., & Ones, D.S. (1995). Theory testing: Combining psychometric meta-analysis and structural equations modelling. *Personnel Psychology*, 48(4), 865-885.
- Von Meyer-Höfer, M., Olea-Jaik E., Padilla Bravo C.A., & Achim Spiller C.E. (2015). Mature and emerging organic markets: Modeling consumer attitude and behavior with partial least square approach. *Journal of Food Products Marketing*, 21(6), 626-653.
- Wang, X., Pacho, F., Liu, J., & Kajungiro, R. (2019). Factors influencing organic food purchase intention in developing countries and the moderating role of knowledge. *Sustainability*, 11(209), 2-18.
- Williams, P.R.D & Hammit, J.K. (2000). A comparison of organic and conventional fresh produce buyers in the Boston area. *Risk Analysis*, 20(5), 735- 746.
- Yadav, R. & Pathak, G. (2016). Intention to purchase organic food among young consumers: Evidence from a developing nation. *Appetite*, 96, 122-128.
- Zagata, L. (2012). Consumers' beliefs and behavioral intentions towards organic food. Evidence from the Czech Republic. *Appetite*, 59(1), 81–89.
- Zollo, L., Yoon, S., Rialti, R. & Ciappei, C. (2018). Ethical consumption and consumers' decision making: the role of moral intuition. *Management Decision*, 56(3), 692-710.

Figure 1: Integrated conceptual model

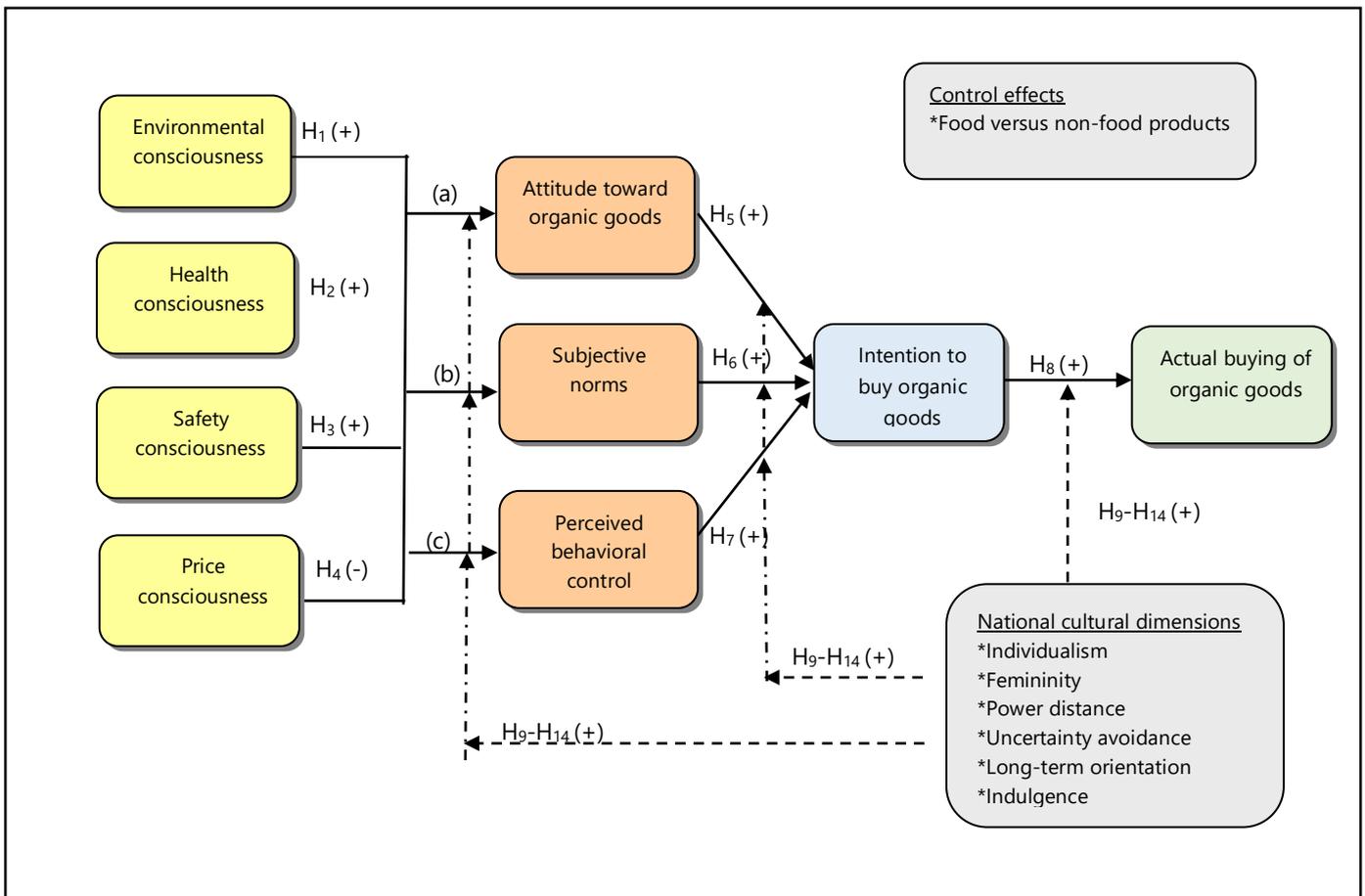


Table 1: Descriptive statistics and estimated effect sizes

Variable A	Variable B	All	+	-	Sample Size	Mean Correlation	Corrected Correlation	CI (lower)	CI (upper)	Z	Q	N
Environmental consciousness	Health consciousness	14	14	0	6983	.488	.615	.436	.794	6.736	372.954	7422
Environmental consciousness	Safety consciousness	7	7	0	2898	.433	.552	.369	.736	5.899	98.065	1410
Environmental consciousness	Price consciousness	8	8	0	5079	.286	.371	.109	.632	2.780	355.450	928
Environmental consciousness	Attitudes toward organic goods	14	14	0	6140	.471	.616	.495	.738	9.954	133.110	6066
Environmental consciousness	Subjective norms	5	5	0	2478	.492	.607	.231	.984	3.164	190.766	701
Environmental consciousness	Perceived behavioral control	6	6	0	2027	.282	.356	.141	.571	3.244	76.822	376
Environmental consciousness	Intention to buy organic goods	26	26	0	10874	.493	.636	.500	.771	9.209	584.071	21445
Environmental consciousness	Actual buying of organic goods	4	4	0	1419	.556	.721	.500	.941	6.397	25.620	419
Health Consciousness	Safety consciousness	8	8	0	3190	.490	.636	.486	.785	8.343	81.016	2215
Health Consciousness	Price consciousness	6	4	2	3640	.014	.024	-.310	.358	.141	278.817	23
Health Consciousness	Attitude toward organic goods	19	19	0	6876	.412	.532	.396	.668	7.667	287.711	7543
Health Consciousness	Subjective norms	12	11	1	4840	.278	.355	.233	.477	5.718	90.485	1246
Health consciousness	Perceived behavioral control	7	7	0	2074	.307	.404	.184	.624	3.595	94.918	530
Health consciousness	Intention to buy organic goods	19	19	0	7440	.470	.607	.444	.771	7.275	480.543	9939
Health consciousness	Actual buying of organic goods	3	3	0	1408	.271	.364	.045	.682	2.239	46.214	106
Safety consciousness	Price consciousness	2	0	2	831	-.337	-.438	-.785	-.090	-2.468	25.638	48
Safety consciousness	Attitude toward organic goods	7	7	0	2527	.461	.601	.460	.742	8.339	48.431	1342
Safety consciousness	Subjective norms	4	4	0	1368	.484	.626	.464	.788	7.590	21.465	469
Safety consciousness	Perceived behavioral control	3	3	0	968	.360	.470	.387	.552	11.145	0.186	135
Safety consciousness	Intention to buy organic goods	11	11	0	3812	.437	.555	.445	.664	9.928	73.775	2871
Safety consciousness	Actual buying of organic goods	4	4	0	1673	.340	.439	.296	.582	6.005	21.042	288
Price consciousness	Attitude toward organic goods	3	1	2	1212	-.025	-.030	-.474	.414	-.131	67.667	0
Price consciousness	Subjective norms	4	2	2	1741	-.404	-.539	-1.165	.086	-1.690	206.442	130
Price consciousness	Perceived behavioral control	4	2	2	1143	-.076	-.101	-.405	.203	-.651	57.385	3
Price consciousness	Intention to buy organic goods	10	5	5	4780	.367	.476	.033	.918	2.105	1082.353	1327
Price consciousness	Actual buying of organic goods	3	2	1	1414	.015	.017	-.331	.365	.095	59.823	3
Attitude toward organic goods	Subjective norms	32	30	2	12913	.485	.628	.488	.767	8.831	842.031	31369
Attitude toward organic goods	Perceived behavioral control	28	28	0	11872	.420	.543	.429	.657	9.347	484.477	18906
Attitude toward organic goods	Intention to buy organic goods	53	53	0	21359	.710	.924	.808	1.040	15.635	1243.216	176983
Attitude to buy organic goods	Actual buying of organic goods	14	14	0	6755	.443	.574	.455	.693	9.433	122.823	5840
Subjective norms	Perceived behavioral control	15	15	0	6796	.365	.466	.328	.605	6.604	258.578	4716
Subjective norms	Intention to buy organic goods	39	39	0	14942	.588	.760	.641	.879	12.538	794.517	61245
Subjective norms	Actual buying of organic goods	10	10	0	5120	.285	.377	.243	.512	5.497	86.429	1403
Perceived behavioral control	Intention to buy organic goods	57	54	3	23,567	.281	.369	.193	.546	4.102	3421.484	45158
Perceived behavioral control	Actual buying of organic goods	11	10	1	7961	-.039	-.069	-.585	.447	-.263	1433.824	365
Intention to buy organic goods	Actual buying of organic goods	15	15	0	9148	.615	.796	.455	1.136	4.576	1044.337	12914

Note: r corresponds to the pooled effect size, while cr for the effect size corrected for attenuation
N corresponds to the Rosenthal's fail-safe N test

Table 2: Meta-SEM Results

Hypothesis	Hypothesized association	Expected sign	Standardized path coefficients	Standard error	Z	p-value	Status
H _{1a}	Environmental consciousness → Attitude toward organic goods	+	.693	.059	11.703	.000	Supported
H _{1b}	Environmental consciousness → Subjective norms	+	.677	.687	4.099	.000	Supported
H _{1c}	Environmental consciousness → Perceived behavioral control	+	.642	.653	8.925	.000	Supported
H _{2a}	Health consciousness → Attitude toward organic goods	+	.261	.258	2.325	.004	Supported
H _{2b}	Health consciousness → Subjective norms	+	.046	.099	.467	.640	Not Supported
H _{2c}	Health consciousness → Perceived behavioral control	+	.339	.104	3.264	.001	Supported
H _{3a}	Safety consciousness → Attitude toward organic goods	+	.326	.090	4.099	.000	Supported
H _{3b}	Safety consciousness → Subjective norms	+	.230	.099	2.325	.020	Supported
H _{3c}	Safety consciousness → Perceived behavioral control	+	.237	.102	2.318	.000	Supported
H _{4a}	Price consciousness → Attitude toward organic goods	-	-.030	.069	-.433	.665	Not Supported
H _{4b}	Price consciousness → Subjective norms	-	-.335	.074	-4.523	.000	Supported
H _{4c}	Price consciousness → Perceived behavioral control	-	-.592	.086	-6.899	.000	Supported
H ₅	Attitude toward organic goods → Intention to buy organic goods	+	.649	.088	7.971	.001	Supported
H ₆	Subjective norms → Intention to buy organic goods	+	.297	.088	3.376	.000	Supported
H ₇	Perceived behavioral control → Intention to buy organic goods	+	.205	.084	2.430	.015	Supported
H ₈	Intention to buy organic goods → Actual buying of organic goods	+	.569	.033	17.491	.000	Supported

Fit statistics: NFI= .93; CFI= .93; SRMR= .08; RMSEA= .12; 90% confidence interval of RMSEA = (.11, .13)

Table 3: Moderation effects of cultural dimensions

Hypothesized association	Individualism	Femininity	Power distance	Uncertainty avoidance	Long-term orientation	Indulgence
Environmental consciousness → Attitude toward organic goods	$\beta = .472$ Q=113.42 $p = .000$	$\beta = .473$ Q=102.44 $p = .000$	$\beta = .464$ Q= 113.14 $p = .000$	$\beta = .472$ Q= 109.79 $p = .000$	$\beta = .471$ Q= 103.84 $p = .000$	$\beta = .442$ Q= 141.57 $p = .000$
Environmental consciousness → Subjective norms	$\beta = .412$ Q= 26.25 $p = .000$	$\beta = .300$ Q= 12.01 $p = .002$	$\beta = .412$ Q= 26.23 $p = .000$	$\beta = .347$ Q= 20.77 $p = .000$	$\beta = .347$ Q= 20.77 $p = .000$	$\beta = .435$ Q= 15.44 $p = .000$
Environmental consciousness → Perceived behavioral control	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Health consciousness → Attitude toward organic goods	$\beta = .412$ Q= 56.72 $p = .000$	$\beta = .425$ Q= 54.83 $p = .000$	$\beta = .306$ Q= 31.76 $p = .000$	$\beta = .430$ Q= 56.05 $p = .000$	$\beta = .406$ Q= 56.78 $p = .000$	$\beta = .391$ Q= 53.46 $p = .000$
Health consciousness → Subjective norms	$\beta = .205$ Q= 25.52 $p = .000$	$\beta = .241$ Q= 24.72 $p = .000$	$\beta = .278$ Q= 28.88 $p = .000$	$\beta = .240$ Q= 28.57 $p = .000$	$\beta = .180$ Q= 27.69 $p = .000$	$\beta = .350$ Q= 22.81 $p = .000$
Health consciousness → Perceived behavioral control	$\beta = .271$ Q= 9.68 $p = .008$	$\beta = .271$ Q= 9.68 $p = .008$	$\beta = .356$ Q= 10.02 $p = .006$	$\beta = .372$ Q= 10.71 $p = .005$	$\beta = .287$ Q= 63.76 $p = .000$	$\beta = .391$ Q= 53.46 $p = .000$
Safety consciousness → Attitude toward organic goods	$\beta = .387$ Q= 83.33 $p = .000$	$\beta = .436$ Q= 72.64 $p = .000$	$\beta = .462$ Q= 63.34 $p = .000$	$\beta = .436$ Q= 72.64 $p = .000$	$\beta = .478$ Q= 69.23 $p = .000$	$\beta = .476$ Q= 294.40 $p = .000$
Safety consciousness → Subjective norms	$\beta = .402$ Q= 179.37 $p = .000$	N.A.	N.A.	N.A.	$\beta = .402$ Q= 179.37 $p = .000$	N.A.
Safety consciousness → Perceived behavioral control	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Price consciousness → Attitude toward organic goods	$\beta = .185$ Q= 68.28 $p = .000$	$\beta = .185$ Q= 68.28 $p = .000$	N.A.	$\beta = .185$ Q= 68.28 $p = .000$	$\beta = .031$ Q= 2.41 $p = .300$	$\beta = .039$ Q= .52 $p = .770$
Price consciousness → Subjective norms	$\beta = -.218$ Q= 20.09 $p = .000$	$\beta = .263$ Q= 3.32 $p = .191$	N.A.	$\beta = -.218$ Q= 20.09 $p = .000$	N.A.	$\beta = -.218$ Q= 20.09 $p = .000$
Price consciousness → Perceived behavioral control	$\beta = .039$ Q= .52 $p = .770$	N.A.	$\beta = .059$ Q= 6.34 $p = .042$	$\beta = .039$ Q= .52 $p = .770$	$\beta = .059$ Q= 6.34 $p = .042$	$\beta = .039$ Q= .52 $p = .770$
Attitude toward organic goods → Intention to buy organic goods	$\beta = .696$ Q= 234.4 $p = .000$	$\beta = .724$ Q= 255.45 $p = .000$	$\beta = .675$ Q= 226.56 $p = .000$	$\beta = .681$ Q= 213.07 $p = .000$	$\beta = .694$ Q= 217.06 $p = .000$	$\beta = .694$ Q= 213.55 $p = .000$
Subjective norms → Intention to buy organic goods	$\beta = .577$ Q= 152.81 $p = .000$	$\beta = .587$ Q= 146.4 $p = .000$	$\beta = .567$ Q= 152.98 $p = .000$	$\beta = .577$ Q= 145.33 $p = .000$	$\beta = .573$ Q= 139.00 $p = .000$	$\beta = .588$ Q= 138.60 $p = .000$
Perceived behavioral control → Intention to buy organic goods	$\beta = .362$ Q= 19.43 $p = .000$	$\beta = .345$ Q= 20.08 $p = .000$	$\beta = .388$ Q= 19.74 $p = .000$	$\beta = .398$ Q= 17.90 $p = .000$	$\beta = .382$ Q= 18.08 $p = .000$	$\beta = .402$ Q= 15.18 $p = .001$
Intention to buy organic goods → Actual buying of organic goods	$\beta = .674$ Q= 45.79 $p = .000$	$\beta = .672$ Q= 43.10 $p = .000$	$\beta = .643$ Q= 39.08 $p = .000$	$\beta = .547$ Q= 34.04 $p = .000$	$\beta = .650$ Q= 40.63 $p = .000$	$\beta = .584$ Q= 33.52 $p = .000$

N.A.= Not available due to limited number of construct associations.