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Understanding the motives behind the consumption of organic products in North Portugal: a focus group study

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Introduction: The soil is a non-renewable and essential resource for life on our planet. Considering the widespread fast pace of soil degradation and erosion, it is urgent to protect it by enacting pro-environmental behaviors. Consumers' massive purchase and consumption of organic products is a powerful way to encourage farmers to apply sustainable soil practices. Unfortunately, there is a lack of studies in Portugal explaining the increased interest but low consumption of organic products.

Methods: Here, the relationship between (a) intrinsic motivations, extrinsic motivations, knowledge, and self-perception of control regarding pro-environmental behaviors, and (b) consumption of organic products and other related pro-environmental behaviors was explored. To do so, two semi-structured interview focus groups ($n = 15$ participants) were conducted.

Results: Organic product purchase and consumption seem to be driven by intrinsic motivations such as health or environmental concerns. External aspects such as labels and price as well, as personal, and psychological elements like knowledge and self-control, may be attenuating or strengthening the behavior. These findings should be validated in quantitative studies.

KEYWORDS

pro-environmental behavior, consumer behavior, healthy soils, organic food, perceived control, motivation, environmental concerns

1 Introduction

Considering the environmental problems caused by production and consumption, it is increasingly apprehended that our consumption patterns are not sustainable for an extended period (Bonan and Doney, 2018; Udall et al., 2021). Therefore, an essential step to achieving a more sustainable society is changing individual consumption patterns and other related behaviors among consumers. Pro-environmental behaviors (PEB) are defined as the effort made by an individual or group that benefits or affects natural resources (Boeve-de Pauw and Van Petegem, 2013; Rosa and Collado, 2020). Organic food consumption is an example of PEB associated with the soil's protection (Reeve et al., 2016).

Soil erosion and degradation are becoming severe problems worldwide. Within the European Union, where a direct result of unsustainable management practices is the degradation of 70% of its soils, Portugal is a country suffering hugely from soil erosion and degradation (Ferreira et al., 2022). Some studies reported that the Portuguese are generally aware and concerned about the environment. However, this preoccupation does not always translate into an increase of PEB (LeAnh and Nguyen, 2020). The reasons behind this fact are yet to be explored. In addition, individuals from different countries and regions are driven by distinct motivations when purchasing products. Hence, gaining insight into the drivers behind Portuguese consumers' behaviors is needed to guide marketers' and farmers' practices. It is believed that understanding the consumer's motivations and behaviors would help implementing better marketing and farmer's practices, which would increase organic products consumption. Consequently, more organic consumption would increase PEB in farmers and marketers.

Until the moment, many models used to understand the consumer's behavior in different countries involve the path between intrinsic or core motivations (e.g., healthy and soils concerns) and the outcome "frequency of consuming organic," but this relationship might be attenuated by the intention—behavior gap (IBG), which means that the intention to change a behavior does not necessarily conduct to an action (Sultan et al., 2020). Many authors suggested that the change in the purchase or consumption behavior is mediated by contextual elements such as price, labels, or busy lifestyles (Guagnano et al., 1995; Aral and López-Sintas, 2020). Another aspect that has started being investigated, especially during the last decade, and needs further exploration, is the impact of "internal environmental locus of control" or "self-empowerment" on PEB (Cleveland et al., 2020). Specifically, how the belief on one's responsibility and ability to impact the environmental outcomes is associated with an increase in PEB, e.g., consuming organic products or not buying coffees in disposable cups. This concept deserves especial attention because it has been described by seminal research to be the only consistent predictor of behaviors (Allen and Ferrand, 1999).

To sum up, several elements are influencing the consumption of organic products, although different moderators may be strengthening the relationship between these elements and might help explain the actual behavior. These moderators are not clear yet; additionally, there is a lack of studies exploring PEB in the North of Portugal. In the following paragraphs of this introduction, we conducted a thorough literature review on the factors associated with consuming organic products worldwide and in Portugal. Then, the identified factors were included in a protocol to be explored by means of two semi-structured interview focus groups in North Portugal. One could postulate that this study is the foundation for conducting future quantitative studies on consumer behavior in this region and developing tools to enhance conscious decision-making when consuming.

1.1 Psychological theories to explain attitudes

Researchers have revealed a current tendency to consume organic products (Soroka and Wojciechowska-Solis, 2019; Tandon et al., 2020). However, despite this increased interest, the actual demand on the market is lower than one might expect.

Several studies have attempted to explain this increased interest in organic food and its relationship with consumption behavior using psychological theories or models (see Table 1 displayed after the reference list). Theory of Reasoned Action (TRA; Sarver, 1983); the Theory of Planned Behavior (TPB; Sarver, 1983; Ajzen, 1985, 1991, 2020; Scalco et al., 2017); the Value Belief Norm (VBN; Stern and Oskamp, 1987; Ghazali et al., 2019); the Environmental Value-Attitude System Model (Dembkowski and Hanmer-Lloyd, 1994); the Attitude Behaviors Context Theory (ABC; Bentler and Speckart, 1979; Dhir et al., 2021); or the Knowledge Attitude Behaviors Model (KAB; Bettinghaus, 1986). Conversely, other studies merged traditional psychological theories (Zepeda and Deal, 2009) or included supplementary constructs to the TPB, such as values (Aertsens et al., 2009), information, environmental concerns, product-related

TABLE 1 Psychological theories to explain behavior.

Theory	Description
Theory of reasoned action (TRA; Sarver, 1983)	Explains volitional behaviors. It postulates that conscientious behaviors depend on the behavioral intention, which is formed by the attitude toward the behavior and subjective norms.
Theory of planned behaviors (TPB; Ajzen, 1985)	Individual attitude, subjective norms, and perceived ability (control) toward a behavior determine our intentions and behaviors. Assumes a direct relationship between intentions and behavior.
Self-determination theory (SDT; Tandon et al., 2020)	High levels of internalized motivation and intrinsic enjoyment generate a "green identity" that is associated with the consumption of organic products.
Value belief norm (VBN; Stern and Oskamp, 1987)	This theory adds to TPB—Ajzen's theory, that environmental beliefs are preceded by personal values (e.g., altruism, generosity, and individualism). It underlines the influence of moral elements in pro-environmental behaviors.
Environmental value attitude system model (EVASM; Dembkowski and Hanmer-Lloyd, 1994)	This theory is adjusted from the value-attitude-system model of Vinson et al. in 1977 and it was built to better understand the drivers of environmental conscious purchase behavior. The EVASM gives especial relevance to how cultural and contextual elements impact purchasing choices.
Attitude-behaviors-context (ABC; Stern and Oskamp, 1987)	This theory was built to understand the connection between sociopsychological motivations and contextual drivers and its relationship with behavior. Guagnano et al. (1995) used this model to study environmental behavior.
Knowledge attitude behaviors model (KAB; Bettinghaus, 1986).	This model postulates that knowledge on a topic shapes the attitude toward it and consequently impacts one's behavior.

attitudes, and product accessibility (Bentler and Speckart, 1979; Cerri et al., 2018).

The TPB (Ajzen, 1985) has been the most applied theory in studies that explore consumption and purchasing behavior. It considers that three aspects determine an intention and its associated action: individual attitude, subjective norms, and perceived control or perceived ability toward a behavior. A meta-analysis assessing the studies that applied TPB to investigate pro-environmental behaviors (Scalco et al., 2017) revealed that the element that best determines purchasing and consuming organic products is the attitude toward a product, followed by subjective norms, and last, the perceived control, i.e., subjective norms are believed to be moderating attitudes and intentions. In this sense, marketers should be aware of the relevance of subjective norms in shaping consumers' attitudes, and they could, for instance, promote organic products by means of influential leaders. Finally, the third element of the TPB, i.e., perceived control, refers to one's perception of ability to impact on the outcomes of the environment. However, Scalco et al. (2017) explained that perceived control seems to be the less influential factor in one's behavior. Conversely, seminal research points out that perceived control is the most relevant factor to predict PEB (Cleveland et al., 2020). This incongruency in the literature could arise due to the inconsistency between indicators or items used to explore this concept. For instance, some authors might consider "availability of the product" and "price" as barriers. In other words, like a lack of perceived control, some individuals might think that they do not have enough time to go to an organic shop as it is far and unavailable, or they might perceive that they cannot buy the product because it is expensive (Guido et al., 2010; Al-Swidi et al., 2014). In contrast, other authors include these items within the "attitude" factor, e.g., believing that the time and money spent in an organic shop are not worth it (Zagata, 2012). Unless explicitly reported, these methodological specificities across studies may make results not generalizable and comparable as a supposedly same construct might have different meanings across studies. Additionally, other studies exploring perceived "internal locus of control" in the context of PEB, described this element as the most relevant of the TPB to predict behavior.

Despite the TPB's reported relevance, evidence suggests that there is a gap between an intention and its subsequent behavior (LeAnh and Nguyen, 2020). In other words, an intention seems not to be causally and directly linked to its corresponding behavior. Some additional elements might be mediating or moderating the intention and the action of consuming organic food. For this reason, other researchers have used newer approaches to expand their understanding of consumer behavior. An academic framework applied to understand consumers' motivation and the related behavior is the Self-Determination Theory (SDT), which postulates that high levels of internalized motivation and intrinsic enjoyment generate a "green identity" that is associated with the consumption of organic products (Tandon et al., 2020). Additionally, Zepeda and Deal (2009) designed the VBN-ABC-D-K-IS-H or "Alphabet Theory." This theory is based on the VBN model, which underlines the influence of moral elements in pro-environmental behaviors (Sterm and Oskamp, 1987), and the ABC theory, which focuses on the combination of attitudes and external contextual factors. Apart from these elements, the authors revealed that including people's knowledge, habits, and whether they are information seekers in the statistical model is essential to

understand pro-environmental consumption fully. Similarly, some researchers based their studies on the knowledge-behavior model and found that "knowledge of environmental topics" is a relevant factor mediating the relationship between attitudes and consumers' behavior (Testa et al., 2019; Teo et al., 2022).

1.2 Intrinsic factors, motivations, and personal factors associated with consumption of organic products

While several investigators have based their studies on theories and models, other researchers have explicitly focused on the drivers that influence consumption behavior without using any theoretical model. However, regardless of the type of approach used by the authors, i.e., following or not a theory or model, there is consensus regarding the drives that motivate individuals to consume organic products. The most relevant ones are related to internal or personal aspects such as health and environmental concerns, lifestyle, and knowledge (Soroka and Wojciechowska-Solis, 2019; Tandon et al., 2020; Dhir et al., 2021).

The literature shows that health issues and aiming for a healthy lifestyle represent the main motivations when consuming organic products (Soroka and Wojciechowska-Solis, 2019; Dangi et al., 2020). In addition, seminal research suggests that organic food, compared to conventional, is often considered cleaner, safer, and more nutritious (Soroka and Wojciechowska-Solis, 2019). Scientists revealed how specific rules for organic livestock farming (such as feeding the animals with grass and alfalfa) generate higher omega-3 fatty acids levels. These can be found in meat, eggs, and dairy, proven to be healthier for the heart and the brain (Ellis et al., 2006). Furthermore, the consumption of non-organic food is the most common way of exposure to pesticides, and it has been associated with breast, testis, prostate, and ovary cancer (Pontelli et al., 2016), infertility and congenital defects (Cassal et al., 2014) and neurological, neuropsychiatric, and neurodevelopment disorders such as Parkinson's disease, depression (Cassal et al., 2014), autism, dyslexia, and attention deficit and hyperactivity disorder (ADHD; Andersen et al., 2015). Given these findings, it is logical to understand that some people's interest in buying organic food is driven by a willingness to maintain and enhance health.

Environmental concerns are among the relevant factors that explain organic food consumption. Studies showed that several individuals, especially young adults, are less concerned about health but intensely preoccupied with the planet. They are moved by intrinsic ecological values and try to act in coherence with them. The enactment of many of their pro-environmental practices influences individuals and groups like politicians and farmers (Padel and Foster, 2005; Baudry et al., 2017).

Alongside health and environmental concerns, a lack of knowledge and low interest in information seeking have been considered an obstacle to organic product consumption. Providing information on the topic is critical to increasing awareness of environmental issues such as soil erosion and degradation and their link with food low in nutritional elements as well as food scarcity and danger of life extinction. This awareness will likely influence and guide the individual's purchasing and consumption decision-making process (Zepeda and Deal, 2009; Cerri et al., 2018).

Although intrinsic motivations and personal aspects such as the willingness to have a healthy lifestyle, a high environmental awareness, and an interest in protecting the soils are linked to pro-environmental attitudes and intentions, the actual behavior of purchasing and consuming organic products is more complex to understand. Some external elements seem crucial for an attitude to be converted into action. Among these elements, the most relevant ones are income, price of the products (Padel and Foster, 2005; Chiciudean et al., 2019; Fleşeriu et al., 2020), product quality, convenient distribution, brand familiarity, and trust (Nguyen et al., 2019).

Given all these findings, researchers in this field must consider several intrinsic and extrinsic aspects. This topic has already been studied in the United States (Boobalan and Nachimuthu, 2020), in emerging economies like India, and several European countries, especially in Norway (Vittersø and Tangeland, 2015), Denmark (Juhl et al., 2017), and Germany (Hempel and Hamm, 2016) as well as in the United Kingdom (Tait et al., 2016) and worldwide (Hughner et al., 2007). Concerning Portugal, research on this topic is still scarce, especially in the North of Portugal. The studies conducted until the moment in North Portugal are focused on behavior toward (1) organic meat consumption generally in Portugal, although they also included some participants from other countries (Paiva et al., 2022), (2) the influence of income and education on the consumption of organic food in Portugal and Spain (Flores et al., 2020), and (3) the interest toward organic food but exclusively in Lisbon (Ventura-Lucas and Marreiros, 2013). In fact, there is a gap in the literature exploring consumption behavior in North of Portugal. Since pro-environmental behaviors vary across contexts (Boeve-de Pauw and Van Petegem, 2013), studies in this region are required. Moreover, apart from the elements influencing the purchasing and consumption behavior widely explored in different countries, only a few studies have investigated people's knowledge of the current state of the soil, especially among the Portuguese population. This gap needs to be covered considering that Portugal is a country that has been severely affected by soil degradation, whose effects are evident mainly in the Northern region (Benassi et al., 2020). Additionally, there is a lack of studies exploring "self-perception of control," i.e., the way people perceive that they could impact their natural environment and influence several groups in society such as politicians, farmers, and producers. These data will enable researchers and other professionals to design policies, disseminate content, and develop tools that help citizens make better decisions. We believe that consumers' awareness of the topic and their pro-environmental practices will generate a positive impact on the development of new production and management systems contributing both to biodiversity and to sustainable food production.

The overall objective of the study was to explore pro-environmental behaviors in the Northern Portuguese people by using a semi-structured interview focus group approach. The specific objectives of using focus groups were to: (1) deeply investigate consumers' behavior patterns; (2) understand the motives that influence people to consume organic products and verify whether these are the same as the ones previously reported in studies conducted worldwide; (3) explore their knowledge on some topics such as soil degradation and erosion; (4) learn about their self-perception of empowerment, i.e., their self-perception of control and their beliefs about future actions that could be implemented to protect the soils; and (5) propose guidelines for

future studies and for the design of tools to enhance pro-environmental behaviors.

Since this research area is still much unexplored in North Portugal, conducting focus groups enabled us to deeply understand people's perceptions, feelings, and opinions on PEB. The semi structured focus group approach allowed us to collect a great amount of qualitative data from which more precise quantitative tools, such as questionnaires, can be built in future studies.

The article is structured as follows: section II presents the proposed methodology, in this section the participants, data collection and data analysis are described; section III displays the results organized by group of participants and themes and finally, section IV offers a discussion of the results by contrasting them with past research, and points out theoretical implications for future investigations on PEB as well as managerial implications to increment the consumption of organic products.

2 Methods

A qualitative research design was used. Two semi-structured interviews focus groups were conducted to analyze consumers' behavior and motivations in the Northern Portuguese population. Due to the vast amount of literature on consumer's behavior and PEB, a deductive data analysis approach was used. The four constructs identified in the literature review that have shown to have a greater impact in the consumer's behavior in other European countries were chosen to catalog participants' responses, i.e., external motives (price, label, time, and trust), chore motives (health concerns and soils concerns), impact of knowledge, and self-perception of empowerment.

2.1 Participants

Qualitative data from a total of 15 participants in different neighborhoods of Porto and Braga were collected through two online semi-structured focus groups. "In this study, participant recruitment was conducted by convenience sampling method. Recruitment materials, such as flyers detailing the study, were distributed to potential participants in various local markets, as well as to neighbors, professors, and students with the university. This approach was chosen due to its practicality and ease of implementation, although it is acknowledged that such a method might yield a partially representative sample. Interested individuals were directed to sign up for the study through a Qualtrics questionnaire. This questionnaire collected demographic information, including age, gender, and educational background. Additionally, participants were asked to specify their usually consumption patterns, distinguishing between organic and non-organic products. A clear definition of "organic" vs. "non-organic" products was provided before this question to aid in this differentiation. This step was crucial to ensure participants had a common understanding of these categories, allowing for more accurate data collection regarding their consumption preferences. Finally, they were distributed into two groups depending on their self-reported pattern of consumption. A total of nine participants (mean age = 36.37, SD = 9.25; years of education = 14.91, SD = 2.83) reported consuming mainly organic products or were more prone to buy more

organic and were allocated in the “organic group.” On the other hand, six participants (mean age = 31.2, SD = 9.98; years of education = 12.81, SD = 2.44) reported consuming mostly non-organic products and were allocated to the “non-organic group.” It is worth noting that although most respondents were sure about their consumption pattern, four participants reported consuming half organic products and half non-organic. These participants were distributed into the two groups in a balanced manner [i.e., three were added to the organic group (as there were 5) and one to the non-organic group (as there were 4)]. It is important to note that the gender distribution of the final participant group did not reflect a deliberate choice but rather the composition of the group of individuals who responded to our recruitment efforts and met the study criteria” (as there were 4; in [Supplementary material 1](#), the list of participants with their aliases and demographic information is displayed).

The sample composition and size are elements that require a special consideration when conducting qualitative research. In the present focus group study, to enable a case-oriented analysis, a small yet significant sample size was chosen ($n = 15$). This size enabled participants to feel confident to express their opinions and allowed us to perform an in-depth exploration of the topic without surpassing the saturation level ([Vasileiou et al., 2018](#)). An analysis of the saturation level was conducted to ensure that no further samples were needed. This consisted of counting the total of interventions per theme per each focus group. The saturation level was set at 15 interventions per theme was set, similar as in [Hancock et al. \(2016\)](#). Sentences such as “I agree with her/him” or silences also indicated that we had surpassed the maximum level (See [Figure 1](#) in the results section).

2.2 Data collection

Participants gave written consent and answered a demographic questionnaire through the Qualtrics Software. The focus groups were performed in 2 consecutive days and dynamized online by the following agents: (1) a facilitator trained in performing focus groups, who managed the relationships in the group, created a comfortable

environment and guided the discussion, (2) a supervisor that had the role in observing non-verbal aspects of the discussions, and (3) a technical assistant to ensure that the Google meet sessions were properly recorded and saved. The agents are experts in the fields of psychology, nutrition, and biology. The same guidelines developed by the principal investigators (PIs) of the study were followed in both groups (contact authors for further details). Semi-structured, open ended interview methods were used in the focus groups, i.e., open questions based on a review of the literature on the area were asked to the participants. This approach captures PEB content in relation to the context of the participants and allows to access richer expressions ([McLafferty, 2004](#)). Additionally, while maintaining a balanced level of structure, topics already assessed in other contexts and countries can be explored and other subtopics emerge. Acquiring this type of information is challenging with other techniques such as individual interviews or questionnaires. Each focus group had a total duration of 1 h.

2.3 Data analysis

Two research assistants transcribed the data with the supervision of two senior researchers. The transcripts were then coded line by line paying special attention to the type of consumption, motives that drive participants to consume organic or non-organic products, knowledge regarding the topic “sustainability and soil degradation,” and self-perception of control and contributions for the future. From these topics, themes were identified, and a content analysis was performed (See [Figure 2](#) for a graphical overview of the methods section).

3 Results

[Tables 2, 3](#) display the themes, subthemes, and the most important quotes identified in the two focus-groups. Results of the organic group are first reported below, followed by the results of the non-organic group. [Figure 1](#) shows the analysis of saturation level performed.

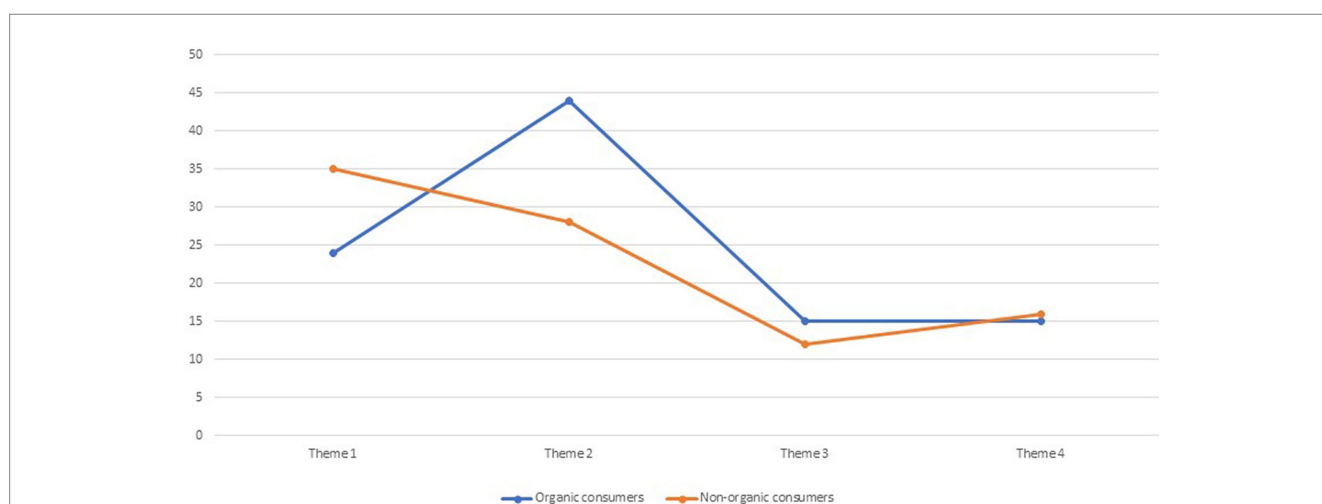


FIGURE 1
Total of interventions per theme. The plot shows the number of items that each theme emerged in the organic and non-organic group.



Table 4 shows a comparison of the results of both groups and, finally Figure 3 shows a bivariate plot of frequencies of the subthemes emerged.

3.1 Organic group

3.1.1 Theme 1: places to purchase and frequency of consumption of organic products

Participants allocated in the “organic group” expressed their desire to consume organic products frequently. Still, some of them explained that it was not always possible and admitted consuming organic and

non-organic products to a similar extent. Some participants, however, added that buying organic food nowadays is very easy as most products can be found in big and conventional supermarkets. One respondent said:

A.P: “Nowadays, it is very easy to get organic food in X and Y” (referring to large grocery stores).

The same respondent added that there are some supermarkets specialized in organic products in most of the cities and claimed to buy there from time to time, especially to get certain goods:

TABLE 2 Themes and subthemes identified in the focus groups.

Organic group		
Theme	Subtheme	Quotations
Places to purchase and frequency of consumption of organic products	Frequency	P.B: "I try to consume. I do not always consume, but I try to consume."
	Type of product, establishment, and food	J.Ri: "Now it is easy because we can already find organic food in big supermarkets." A.P: "There is a supermarket in Porto, which is only dedicated to organic food, and it has everything."
	Local food whenever possible	M.C: "I take origin into account, buying national is almost mandatory." A.M: "I try to buy what is as national as possible."
Motives that make one decide to buy organic products or not	Products that are easy to get are also easy to buy: it is a matter of convenience	P.B: "I have the advantage of having a family with plots of land that grow some food, some vegetables."
	Organic is expensive but most of the time worth it: price vs. value	M.C: "I am aware that it is more expensive, but it was a decision I made some time ago and I try to pursue that."
	When consuming organic is not possible: unaffordable prices in the city	A.P: "...I am in the city and everything that is organic meat or fish is twice or triple the price." A.M: "I consider the origin..."
	How a lack of time impacts consumers' behaviors and patterns	R.C: "...when I go to the supermarket, especially in a hurry and with limited time, I buy basically what I can afford, mainly taking into account the prices." F.F: "...depending on whether I am in more of a hurry or less of a hurry." A.M: "I honestly think that a lot of times, with the rush of time, there is only time to go to the supermarket, in a place where a person can buy everything." P.B: "So, if I go with time, I really enjoy reading the labels and seeing what I'm buying."
	Organic food tastes better	F.F: "...And I think at the taste level it is much better."
	The importance of family transmission of values: inherited knowledge	F.F: "This is all a value transmission, my mother always preferred organic food that came straight from the soil and in a sustainable way, I also passed that on to my daughters and also tried to give everything as natural as possible..."
	Becoming a parent changed certain consumption patterns	R.C: "I already consumed organic products before, not only now, but I have to say that I am more careful with his diet. Financially speaking, if I have to choose, for his soup and his things, I buy organic, and for me and my husband, other more economical products. I do more of this with him, it's true! I am that careful! Especially at the beginning of the introduction to food..."
	Buying organic: important for the environment and one's health	P.B: "Not only on a taste level but on a climatic level as well." A.M: "...for a health issue but also for more of a sustainability issue, which I also think is important."
	Not all the food displayed as organic is organic, and not all the organic is healthy: a critical view	M.C: "It is not the first time I have seen for example a package of organic cookies, where only the sugarcane is organic, everything else is not. It is not just because it is organic that it is good."
Knowledge about the soils: erosion and degradation	Interest in learning about sustainability	M.C: "Yes, I am interested, I read and whenever there are documentaries or movies, I like to know other perspectives."
Self-perception of control, actions, and contributions for the future	Knowledge as an enhancer of organic consumption in the future	R.C: "...lack of knowledge that makes it so that, although in my consumption, I am very careful, in fact I am not 100% careful and maybe if I had more knowledge, I would be more careful."
	Little things for a great impact on the environment	F.F: "I can do lots of things like choose the products that I use and consume, prefer organic and the organic products, and then what I do with my garbage... all the leftovers from the food...go to enrich the soil and go to farms to enrich the soil." "...These are little things that we can do, and if we all do our part, we contribute to a better planet."

A.P: "There is a supermarket in downtown which is only dedicated to organic food and has everything from cosmetics to food, detergents for the house, for the bathroom and so on.

So, sometimes I go there and get it for the week. But it's sometimes and, other times, I go to the supermarket and get normal ones."

TABLE 3 Themes and subthemes identified in the non-organic focus group.

Non-organic group		
Theme	Subtheme	Quotations
Places to purchase and frequency of consumption of organic products	Frequency	J.R: "I rarely buy, but when I do buy organic, it is mostly apples, which is the fruit I like and eat the most."
	Type of product, establishments, and food	M.T: "In terms of vegetables, I buy any kind, organic and non-organic."
		J.G: "I purchase almost everything at the supermarket."
	Local products	J.G: "I tend to buy Portuguese products."
Motives that make one decide to buy organic products or not	A combination of good taste and good price is the winner when making consumption decisions	J.R: "For me it is more the price too and whatever tastes better."
		S.S: "I also go for the price; things are very overpriced these days."
	Convenience	J.R: "...Other than that, I have a lemon tree at home, which when it gives a lemon every 10 years, we use that lemon, since we do not have to go buy it."
	Organic food is not affordable	J.G: "I'm also going for the price; things are very expensive nowadays."
		S.S: "Organic foods have been more expensive."
	Paying attention to the small prints, one realizes that not all is that organic nor natural	J.R: "Or situations where it mentioned on the label that the product was 100% organic, 100% natural, but when you pick it up and there is the small print on the label, some names of some chemicals appear, and it is not so natural after all."
	No change of consumer behavior remains the same after being a parent	S.S: "Maintained the same pattern of eating as before, yes."
Knowledge about the soils: erosion and degradation	Knowledge learned from the family	J.G: "My parents have some land, and they fertilize the land from one side to the other. My parents are concerned that it is not always in the same place. I only have a sense of what my parents pass on to me."
	Soils erosion and degradation: unknown terms for people who do not work as farmers	J.O: "I have heard of it too, it is a situation that makes me wonder, honestly. I am not very familiar with these areas. It is those who work with the land who know about it. I trust that they know what they are doing."
Self-perception of control, actions, and contributions for the future	Individual consumption choices and its impact in the environment: feeling powerless	M.T: "But the truth is we all have to eat, and we all have to use the soil for that. To feed so many people, we are always going to have bad practices that are going to be further aggravating soil erosion. It is thought, but how am I going to avoid it? Or will my choice avoid it? No, I think about my actions. In this issue, I do not think it is going to have a significant impact."
		J.R: "By myself I cannot do anything, I am one in 7 or 8 billion people."
	All of us are main actors and designers of a promising or a disastrous future	M.T: "We are all guilty, each in his or her own way. Politics, business, maybe they have their share, a little bit different, but we can all do differently."
	A solution for the "individual powerless feeling": convincing the mass catering sector	J.G: "...our individual actions can make a difference, but I think that large retailers, everything that is collective catering, if these kinds of suppliers had more conscious consumption and demanded that from their suppliers, maybe we would be able to have a much greater impact and much faster, because we feed millions of children every day in our schools, at a super cheap cost and obviously the products have to be pretty cheap."

(Continued)

TABLE 3 (Continued)

Non-organic group		
Theme	Subtheme	Quotations
	The role of media, governments, and other institutions in disseminating information is part of the solution.	J.G: <i>“I think there should be better communication from our governors and from the other entities.”</i>
	Less chemicals for healthy soils and food quality.	J.O: <i>“...They produced faster because they used products that, maybe, are not very good for the environment. I think there is a lot of thinking about monetary issues, producing fast, without thinking much about the environment. I see a lot of chemicals that are harmful to the environment. This could be changed.”</i>
		J.G: <i>“...if you should use natural fertilizers, it is very necessary for the quality of food.”</i>

TABLE 4 Organic vs. non-organic group: motives behind consumer behavior.

Theme	Organic group	Non-organic group
Places to purchase and frequency of consumption of organic products	<ul style="list-style-type: none"> • Consumes frequently organic • Generally buys in big supermarkets and some products in specialized shops • •Some participants through family lands 	<ul style="list-style-type: none"> • Consumes mostly non-organic • Buys in big supermarkets (any product) • Some participants through family lands
Motives that make one decide to buy organic or not	<ul style="list-style-type: none"> • Convenience (organic if available in the shop) • Time • Price (organic if affordable) • Taste (organic is better) • Family values • Being a new mum (organic is better for the child) • Sustainability (helping small farmers and packages) • Health • •Esthetics of product and freshness 	<ul style="list-style-type: none"> • Taste (what is tastier will be bought) • Price (organic is too expensive) • Sustainability (packages) • Health • Esthetics of product and freshness
Knowledge about the soils: erosion and degradation	<ul style="list-style-type: none"> • Curiosity and interest • General knowledge not specific 	<ul style="list-style-type: none"> • Not enough knowledge • Belief that more knowledge would increase pro-environmental behaviors • Belief that the ones who really must know about this are the farmers not the consumers
Self-perception of control, actions, and contributions for the future	<ul style="list-style-type: none"> • Dissemination of content about the soil and how to take care of it • Thinking before acting 	<ul style="list-style-type: none"> • Individual actions cannot change the planet (feeling powerless) • Organic mass catering could impact the way farmers cultivate the soils • Importance of dissemination and communication • Use of natural pesticides

Some of the participants explained that their family had some lands where they cultivate some vegetables.

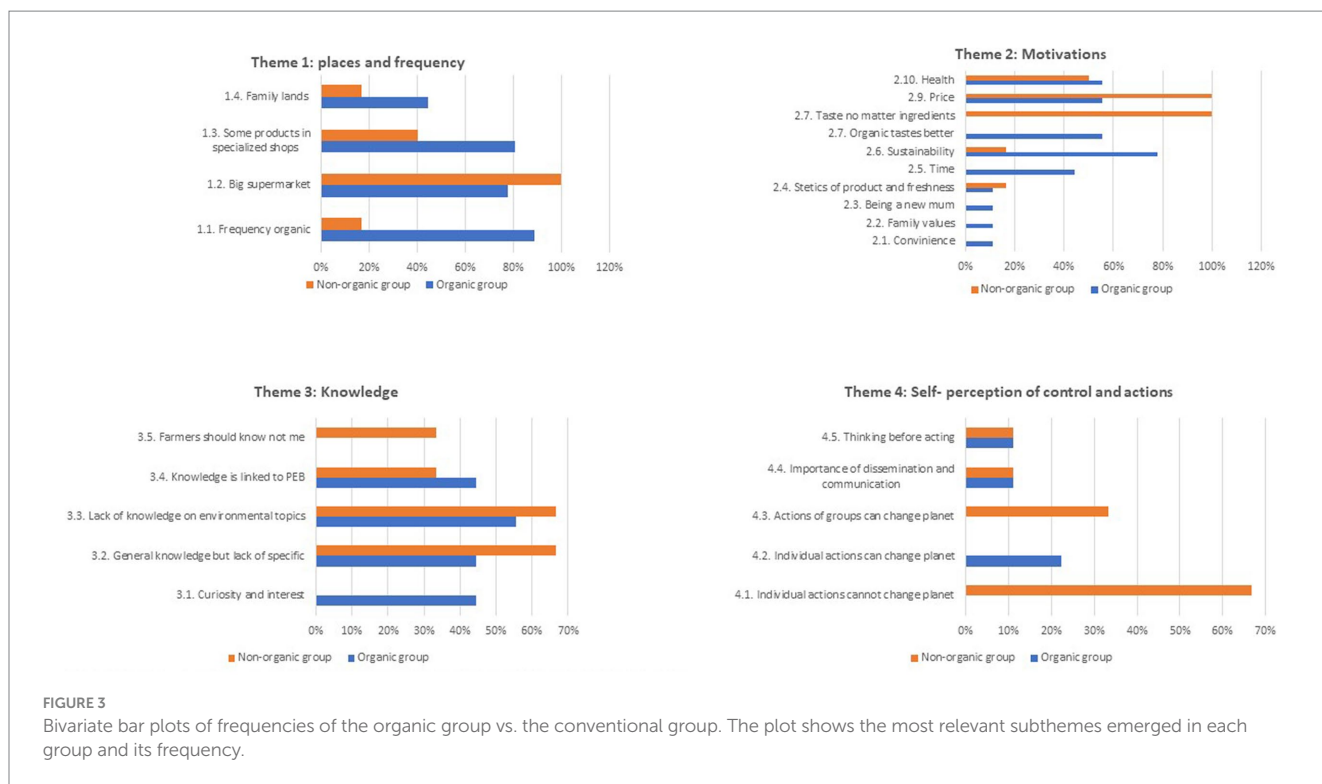
3.1.2 Theme 2: motives that make one decide to buy organic products

The drivers to consume (or not) organic products, especially food, were a relevant theme as all the participants intervened about this topic, and several subthemes emerged. The first subtheme identified was “Products easy to get are also easy to buy: convenience.” Several participants pointed out that they consume organic food whenever possible. From their words, it can be inferred that they usually consume organic without changing their “conventional routines,” i.e., they continue going to the conventional supermarket or eating at their parents’ house, and whenever they have the chance to choose between

non-organic and organic products, they opt for the second ones. In terms of “convenience,” the relevance of this subtheme can be represented by the words of one of the participants:

A.P: “At my mum’s home, where I go very often to have lunch or dinner, almost everything is organic. At my home, it depends on what I can get at the supermarket.”

The second and third subthemes detected were “Organic is expensive but most of the time worth it: price vs. value” and “When consuming organic is not possible: unaffordable prices.” Most of the respondents agreed that buying organic food is the best choice, even though it can be more expensive. Only one of the participants explained that she internalized this concept some time ago and made the decision to buy local and organic food without considering its price. The rest made clear that they could not afford to buy everything



organic. A participant pointed out that buying organic in the city is more expensive than in villages:

R.C: “At home, I do not buy organic products because they are very expensive...I mean, it can be homebred chicken, and it is organic. But I am in the city and organic fish and meat are twice or three times more expensive.”

A fourth subtheme that emerged in the focus group was “How a lack of time impacts consumers’ behaviors and patterns.” Some of the participants referred to have busy lives, which justified some actions. For instance, instead of going to several and more specialized shops and buying organic, high-quality products, getting all the products in a big supermarket.

R.C: “...depends on if I am in a hurry or not”; A.M: “honestly, I think that a lot of times, in the day-to-day rush, there is only time to go to the supermarket, a place where a person can get everything at once.”

Most of the participants agreed that when they have more time, they make more conscious decisions, this can be reflected in the following words:

P.B: “Then, if I have time, I really like to read the labels with the ingredients and check what I am buying.”

The fifth subtheme identified was “Organic food tastes better.” Most agreed that organic food tastes better than non-organic and it was one of the main reasons for some of them to decide to buy organic when possible.

A couple of participants underlined “The importance of family transmission of values” (sixth subtheme). They highlighted how their behavior as consumers can be explained by their parents’ pro-environmental and healthy behaviors. A participant summarized this idea by saying:

E.F: “...this is value transmission. My mum always preferred organic food that came directly from the land and was sustainable. I am also doing this with my daughters, and I also try to give them everything as natural as possible.”

Subtheme seven was brought up by a respondent who was the only new mum in the group. She described how “Becoming a parent changed certain consumption patterns,” like buying organic and natural products more frequently. She also said that when the organic option was too expensive, she and her husband preferred to buy it anyway for the baby and choose the non-organic one for them.

R.C: “I already consumed organic products before [becoming a mother], not only now. But I have to say that in his [the baby] diet, I am more careful. In financial terms, if I have to choose, for his soup and things, I buy organic and, for me and my husband, other cheaper products. I do that more with him, it’s true! I am careful! Especially at the beginning of complementary feeding...”

The eighth subtheme that emerged was labeled “Buying organic: important for the environment and one’s health.” This was one of the most relevant subthemes alongside the subtheme “Price and convenience.” One of the main reasons for them to buy, or at least consider buying organic, was the potential positive effect on health and environment.”

P.B: "...I prefer organic products for health reasons but also because of sustainability, which I also think is important."

Then, after describing the importance of health and preserving the environment, participants reflected on the role of marketing. Sometimes, thanks to selling strategies, people tend to believe that an organic product is automatically healthy, but they also stated they know this is not always the case. We labeled this ninth subtheme as "Not all the food displayed as organic is organic, and not all the organic is healthy: A critical view." Some respondents added that this was one of the motives that makes them be skeptical when deciding whether to buy or not organic products and perceived them as a fad (trend). This idea can be summarized with the following quote:

A.M: "Now there's also a bit of a 'fad...' because it's organic it's good, and it should not be the only factor to consider."

3.1.3 Theme 3: knowledge about the soils: erosion and degradation

Participants' knowledge regarding soil degradation, erosion, and environmental issues was explored. A couple of participants were more acknowledged and expressed their curiosity and interest in the topic. However, most of the participants referred to have only general knowledge and were unsure about the meaning of the concepts "degradation" and "erosion."

3.1.4 Theme 4: self-perception of control, actions, and contributions for the future

The last theme explored was related to the contributions and actions that can protect the soils and the environment. Two subthemes emerged from this topic. The first one was highly linked to the previous theme, "Knowledge as an enhancer of organic consumption in the future." Some respondents reflected on how greater knowledge about the soils would positively impact their behavior as consumers. This idea can be represented by the following quote:

F.F: "I lack the knowledge to be able to explain and argue and I think that perhaps it is this lack of knowledge that makes me... although I am very careful with my consumption, I am not 100% careful, and perhaps if I had more knowledge, I would be more careful."

The second subtheme was "Little things for a great impact on the environment." Some participants also added that everyone, at an individual level, could implement little actions to protect the earth. Firstly, converting some daily automatic behaviors into conscious actions. This initial effort would increase pro-environmental behaviors, such as consuming organic food whenever possible or throwing the organic matter in the organic bin instead of using the waste bin.

3.2 Non-organic group

The four themes investigated in the organic group were also explored in the non-organic group, i.e., theme 1: "Places and frequency with which organic products are purchased/consumed," theme 2: "Motives that makes one decide to buy organic or not," theme 3:

"Knowledge about the soils: erosion and degradation," and theme 4: "Self-perception of control, actions and contributions for the future." The subthemes that emerged from each theme, and the way the participants approached them were slightly different.

3.2.1 Theme 1: places to purchase and frequency of consumption of organic products

Most of the participants stated that they consume mostly non-organic products, except for a couple of them that declared to consume half organic products and half non-organic. Another one assumed always consuming non-organic food, except for a couple of products that he really enjoys eating. The following sentence summarizes this participant's experience:

J.Re: "I rarely buy organic food, but when I do, I buy mostly apples, which is the fruit I like and eat the most."

Additionally, most of the respondents mentioned that they buy most (if not all) of the products in the supermarket. They also said they try to buy from local farmers. However, one of them revealed not being aware and not paying attention to the origin of the products:

J.Re: "I do not give much importance to that; I do not notice it. If the same product in the supermarket had a big sign on top saying 'Portuguese' or 'foreign' I would probably go for Portuguese, but since that does not happen, it does not matter, I do not even think about it."

3.2.2 Theme 2: motives that makes one decide to buy organic

Several participants pointed out that the most important aspects when buying food are the price and the taste.

J.G: "I take into account the price and the taste."

A participant from an island, living in the continent now, noticed that organic food in cities [non-organic], are less tasty and much more expensive compared to the ones she was able to find in other areas. She added that the fact of not perceiving a significant difference in taste between the organic and non-organic products in the city, makes her decide to buy non-organic. This participant reflected on these ideas with the following words:

S.F: "For me, it's about the price and the taste. On the continent, I have the problem of not being able to find organic or local fruit that tastes good, because even organic fruit, like local fruit, tastes like water."

From this subtheme, another one emerged. Participants commented that organic food in North Portugal is expensive and not affordable for them. A respondent noted:

J.Re: "I'm also going for the price; things are very expensive these days."

One of the aspects that made participants unsure whether to buy or not organic, is that sometimes labels in the products seem to be contradictory. At first sight, a product looks utterly organic because

of the explicit claim on the package, but looking closer at the list of ingredients, it also contains non-natural components such as artificial preservatives and flavor enhancers.

Regarding the behavioral change after becoming a parent, there was only one participant that was a new parent and pointed out that her product consumption did not change after having the baby.

S.S: “I maintained the same food consumption pattern that I had before being a mum...”

3.2.3 Theme 3: knowledge about the soils: erosion and degradation

Familiar inherited knowledge was connected to increased knowledge of the soils and higher consumption of organic products. One of the participants pointed out that the knowledge she had about the soil's treatment and sustainable practices was due to the experiences she had at her parents' lands. She saw how they treated their lands and heard them discussing topics such as the importance of crop rotation.

Most participants noted that they had a lack of knowledge regarding soil erosion and degradation. Despite this, some associated a greater knowledge with potentially more significant consumption of organic products. Conversely, a few underlined that this topic is important for those who have a job connected to the land.

J.O: “...Those who work with the land know about it. I trust that they know what they are doing.”

3.2.4 Theme 4: self-perception of control, actions, and contributions for the future

The theme “Self-perception of control, actions, and contributions for a better future” was the one discussed more in-depth in the non-organic group. Some of the respondents think that individual actions could not have a real effect on the environment, and this belief was accompanied by a sense of powerlessness. Moreover, a participant added that a massive production is needed to feed all the people of the planet:

M.T: “But the truth is that we all have to eat, and we all have to use the soil for that. To feed so many people, we are always going to have bad practices that are going to further exacerbate soil erosion... but how am I going to avoid it? Or will my choice avoid it? ...On this issue, I do not think it's going to have a significant impact.”

This belief that individual actions cannot lead to great improvements made the group reflect on the relevance of togetherness and how different important agents, i.e., politicians, companies, educators, and each of us, can have influence. The group concluded that an individual pro-environmental behavior is not sufficient to protect the environment; however, small, and individual actions added to additional pro-environmental behaviors from different actors can make a significant difference. According to some participants, a specific sector that should be convinced to purchase and use organic products is mass catering. Big communities or groups turning their behaviors into more environmentally friendly and healthier would

affect individuals, making them feel less powerless when trying to conduct practices to preserve the planet. A participant expressed this idea by saying:

M.T: “...our individual actions can make a difference, but I think that large retailers (anything that is collective catering)... if these kinds of suppliers had more conscious consumption and demanded that from their suppliers, maybe we would be able to have a much bigger impact and much quicker because we feed thousands of children every day in our schools, at a super cheap cost and obviously the products have to be quite cheap.”

Another action pointed out by some participants to contribute to earth protection was disseminating relevant information on the topic by the government, the media, and education institutions.

Additionally, the use of aggressive pesticides and herbicides was associated by the participants with soil degradation, massive production, and economic interests, such as prioritizing a higher income in the short term. Some participants proposed the use of natural pesticides for plague control. These were perceived by the group as relevant for the soils and for the population's health.

Table 3 displays a comparison of the two groups. This is further discussed in the following section.

4 Discussion

The present study investigated the topic of sustainability and organic consumption in the North of Portugal through the content analysis of two focus groups. The following subtopics were explored: the consumer behavior, its attitudes, and motivations to consume organic products, knowledge of topics regarding the soils, and their ideas about contributions to protect the environment.

In the “organic group,” participants showed a tendency to be curious, acknowledged, and thoughtful about environmental topics. Additionally, the transmission of certain family values and habits, such as growing their own food, recycling, or practicing a circular economy seems to be associated with consistent and sustained pro-environmental behaviors. Finally, a lack of time is related to a decrease in organic product purchases and consumption.

Below, in subsection 4.1. a discussion comparing the findings of the two focus groups as well as the results found in other studies is displayed, then theoretical and managerial implications of our findings are exposed (subsection 4.2. and 4.3, respectively).

4.1 Discussion of the results in contrast with past research

4.1.1 Consumer behaviors

Most participants in both groups showed the willingness to consume organic food, justified by the perception that the environment and one's health would be protected. This finding is aligned with several studies conducted in other countries (Ben Hassine et al., 2014; Andersen et al., 2015; Ferreira et al., 2020; Tandon et al., 2020). As expected, the tendency to translate this willingness into the action of consuming organic products was prevalent in the “organic group.” In other words as mentioned in the methods section,

in both groups, there were participants who declared to consume half of the products organic and half non-organic. This suggests that although there must be people in North of Portugal with a clear tendency toward one type of consumption, there is a high prevalence of people that can be situated in the middle or slightly to the more organic side or to the less organic side.

Purchasing products in big grocery stores were the most frequent choice in both groups. Finding all the products, a wide variety (including organic ones), and the time saving that this option implies seem to be the reasons behind their decision. Within this panorama, exceptions are those who buy certain products in specific shops and those who receive products from their family land.

In addition, there is a lack of trust in products sold in organic street markets. In general, both groups agreed that buying goods in the supermarket or specialized shops was the safest option as the products displayed as “organic” must fulfill the European regulatory requirements. One of the EU goals is to build trust in organic farming. To do so, the EU has a strict system of control and enforcement that ensures that the rules and regulations are followed. For further information on this topic see this EU link. The EU regulations seem to generate trust in our participants.

4.1.2 Motivations and factors behind the consumer behavior

4.1.3 External factors

It has been widely reported that the most relevant elements influencing behaviors and maintaining them are intrinsic or personal, i.e., health and environment-related concerns (Soroka and Wojciechowska-Solis, 2019; Nunes et al., 2021). Despite this, our findings suggested that these internal factors probably create intentions to consume; however, the conversion of these intentions into their corresponding actions is highly influenced by external elements.

“Convenience” was one of both groups’ most relevant extrinsic elements. Participants reported that they consume organic products when the products are available in conventional supermarkets or when members of their family or friends harvest their own vegetables. They stressed the importance of buying organic without compromising “convenience.” This element was highly connected to the factor “time.” A perceived increase in free time was associated with making more conscious decisions regarding what and where to buy.

In addition, “taste” was a key aspect in both groups, but it often drove them in different directions. Participants in the “organic group” find organic food tastier and healthier. This is another reason why they prefer to consume this type of product. On the other hand, people in the “non-organic group” do not associate “good taste” with “organic food,” and they are led to buy what they like best regardless of whether it is organic or not. Aligned with our results, other researchers found that sensory and emotional appeal and convenience were directly linked to buying organic and green products (Lockie et al., 2004).

In other studies, “price” plays a key role and often represents a barrier when willing to purchase organic products (Lockie et al., 2004; Chiciudean et al., 2019; Fleşeriu et al., 2020). For example, a study conducted in Portugal and Spain revealed that annual net incomes above 21.600 euros, along with education levels, are associated with organic food consumption (Flores et al., 2020).

Although research indicated that individuals tend to perceive organic products as more expensive (Ventura-Lucas and Marreiros, 2013), it is worth mentioning, as shown in our study, that the barrier of price is frequently overcome by “quality” and “taste” for the “organic consumer.”

To sum up, “convenience,” “time,” “taste,” and “price” seem to be the most impactful external motives associated with the consumption of organic food. These elements mediate internal motivations such as health, political ideas, or environmental concerns and the actual behavior (Padel and Foster, 2005; Chiciudean et al., 2019; Fleşeriu et al., 2020).

4.1.4 Intrinsic and personal factors

Apart from the external elements, our results shed light on the importance of personal values and intrinsic motivations. We agree with several authors that these factors form attitudes and intentions that predispose the person to consume organic products not only short term but mid and long term (Ajzen, 1985; Sterm and Oskamp, 1987; Dembkowski and Hanmer-Lloyd, 1994; Zagata, 2012; Scalco et al., 2017). External elements impact people short time. Intrinsic elements, however, are not enough to make people purchase and consume. In view of our results, we hypothesize that an ensemble of intrinsic and moderator extrinsic motivations is needed to ensure stable organic product purchasing and consumption.

Among the personal factors, “family values” seem determinant when explaining pro-environmental consumer behavior. Those who come from families accustomed to consuming organic products or growing their own without using pesticides usually follow the same practices. They also seemed committed to transmitting these healthy and environmentally friendly values to their children.

Expectedly, “health concerns” were among the drivers discussed in the focus groups. Most of our participants were acknowledged and reported, coinciding with the participants’ included in other studies (Tregear et al., 1994; Hutchins and Greenhalgh, 1995; Schifferstein and Ophuis, 1998; Chinnici et al., 2002; Zanolli and Naspetti, 2002; Hughner et al., 2007; Soroka and Wojciechowska-Solis, 2019; Wei et al., 2022) that they associate organic food and non-organic food with health protection and health issues. The concerns with health issues seem to be caused by the exposure to pesticides that could be present in conventional food. Aligned with this, several research revealed that eating organic constitutes a relevant prevention factor for many diseases, e.g., cancers, infertility, neurological, and psychiatric diseases (Cassal et al., 2014; Andersen et al., 2015; Pontelli et al., 2016). Moreover, consuming organic food might enhance the heart and brain health by the way the animals and soils are treated (Ellis et al., 2006). Moreover, some authors have associated health with a value of security and the association of certain values with organic consumption patterns.

Despite these facts, and although “health” was a topic discussed in both focus groups, this was not the main concern for our participants when choosing what product to consume. These findings are contrary to the results from other studies that considered that “health,” along with “environmental concerns,” are the strongest motive for purchasing organic food (Soroka and Wojciechowska-Solis, 2019; Wei et al., 2022). Conversely, “environmental concerns” seemed to be of higher relevance. One of the participants in the organic group, expert in nutrition, reported that due to her expertise, several doubts arise

when going to the supermarket. She is aware that most products processed products labeled as organic and natural are on several occasions as nutritious or less than those with organic ingredients. Then she asks herself “do I help the environment by opting for the organic ones or do I just focus on my health by looking at the ingredients and choosing those more nutritious?” In this case, her knowledge and expertise is clearly modeling her decision making when purchasing products, a relevant aspect to include as a covariate in quantitative studies. A study by [Lockie et al. \(2004\)](#) suggested three types of consumers: the first is composed of healthy medium or older aged adults that buy more organic food to enhance their health and consider environmental issues as secondary. The second is composed of younger participants concerned about the environment. Still, when consuming, they consider most of all lifestyle considerations, such as convenience (i.e., they consume green or organic products when they are available for them). And the third group, which is composed of hard-core environmentalists that only buy environmental-friendly products ([Lockie et al., 2004](#)).

4.1.5 Knowledge

Like the intrinsic and personal factors previously discussed, the individual’s “environmental education” seems to enhance the consumption of organic products and other pro-environmental behaviors ([Testa et al., 2019](#)). This topic was the less discussed in the focus groups and could insinuate a lack of knowledge by the participants. In the “organic group,” most participants referred to having a general knowledge. The “non-organic group” stated that if they knew more about the soils, they would modify certain behaviors to protect the environment. Although this thought was shared between participants, some of them felt that it was the farmers’ responsibility to acquire knowledge to protect the soils. This belief constitutes a relevant barrier, since knowledge is enhanced by curiosity, interest on the topic, and family members owning lands, which in turn, is highly linked to the consumption of organic products ([Zepeda and Deal, 2009](#); [Cerri et al., 2018](#); [Attenborough, 2020](#)).

4.1.6 Self-perception of control, actions, and contributions for the future

A lack of “self-perception of control” or “self-empowerment” was evident in a few participants. Although several respondents in both groups agreed that multiple simple actions could be taken to preserve our environment, a few of them, specially allocated in the “non-organic group,” expressed their self-perception of lack of power, i.e., their helpless feeling, toward the soil’s preservation. This fact discouraged some from carrying out pro-environmental behaviors. As pointed out by some authors, sometimes it is challenging for individuals to appreciate the significance of their acts on something huge such as the protection of the environment and the halt of climate change ([Dahl, 2012](#)). However, as stated by [Schultz \(2014\)](#), environmental problems are caused by human behavior and the only way to solve them is by changing each human’s behavior. Changes at an individual level generate changes at a community level ([Dahl, 2012](#)).

Several studies underlined the importance of evaluating behaviors and ethical values at a personal level, revising ethics in companies as highly relevant ([Grigorescu et al., 2019](#); [Gal et al., 2020](#); [Raza et al., 2020](#)). Aligned with this, our participants in both groups, considered “marketing” as a key aspect that could influence customers’ decision-making. In this sense, there is a societal demand for companies to use

transparent and ethical marketing, i.e., that focuses on the beneficial aspects of the product (not only at an individual level) as well as at a societal and environmental aspect. Some strategies that exemplify open marketing which were also suggested in the focus groups were the followings: ingredients should be displayed in a clear and understandable way, big labels of the products should match the small print (e.g., if there is a big label saying that it is organic in a specific product, all or most of the ingredients should be organic as well); if a product is local and/or organic it should be clearly shown in the product and clearly placed in the store. Although there is an increased number of companies investing in making business models more sustainable and in marketing their products in an honest, open and fair way, there is still a lot of work to do ([Grigorescu et al., 2019](#)). Opting for business ethical models seems, to be the only right direction. Evidence shows that managers who take unethical decisions generate significant costs at a personal, organizational, and societal level ([Laczniak and Murphy, 1991](#); [Grigorescu et al., 2019](#)). In a seminal paper by [Laczniak and Murphy \(1991\)](#) the authors discussed how during several years, the Harvard Business School did not teach ethics as they considered it pointless. They believed that one’s moral development occurs at an early age and once a person enters an organization or founds a company this morality is immutable. Contrary to these beliefs, research has revealed that unethical behaviors of managers who are not “extreme” or “highly rigid” can be modified by economic pressures, organizational actions and finally by an intrinsic moral maturity. This fact brings an optimistic scenario as findings suggest that most managers do not have a rigid mindset, they are situated in the middle ranges, and their cognitive-behavioral patterns are easier to modify ([Grigorescu et al., 2019](#)).

The last idea regarding “future contributions” to preserve our soils was the importance of information and knowledge on the topic to enhance pro-environmental behaviors. This point has already been considered in the subsection “Theme 3: Knowledge” of the present discussion.

To end, we would like to reflect on an approach, examined and implemented by several researchers and psychotherapists that has been massively shown to enable positive and consistent changes. Generally, it consists of making the individual think deeply about present habits. This can be achieved by leading them with certain dynamics, cards, or words to explore their internal and automatic processes, making the implicit ideas, beliefs, thoughts, and values explicit. After, revising them and confronting them like a researcher. This technique has been revealed by several studies to be a powerful tool to change individuals’ thought patterns and behaviors ([Aertsens et al., 2009](#)). In other words, real changes start with deep internalization of the values and a conscious effort to implement actions until they become routines and eventually, habits. As stated by [De Young \(1993\)](#) we need to change the undesired behavior for an adaptive one and most importantly, making it stick. We believe that if consumers at a large and small scale review their automatic patterns, modify them in accordance with their values and act mindfully, there are high chances that they take more care of the environment. Consequently, they will feel empowered and able to influence greatly farmers’ and producers’ practices, for instance reducing or eliminating chemical pesticides.

The contributions of both groups along with other authors’ results and discussions enlightened our understanding of the topic and enabled the development of a questionnaire to reach, in a more specific and quantitative way, the opinion of North Portugal citizens.

4.2 Theoretical implications

Future studies that investigate the relationship between income, self-perception of income and consumer behavior are needed.

In this study, several participants were younger or middle-aged adults, a feature that could explain their moderate concerns regarding health, medium-high concerns regarding the environment, and very serious concerns regarding lifestyle and convenience. Although the strength in the relationship between “age,” “income,” and “consumer behavior” could not be deeply explored in the focus groups, future studies should investigate the association between those variables, to create intervention tools adapted to different profiles, e.g., a tool for people who are lifestyle oriented, another one for environment-oriented consumers, and a last one for health-oriented individuals.

4.3 Managerial implications

Below, some managerial guidelines extracted from the literature review and the focus groups’ results are presented.

- Resources to help people have a more realistic perception of their income and define their values would be advantageous. These would enable individuals to make coherent decisions when purchasing goods.
- Sharing attractive information about PEB topics to the general population, and implementing marketing strategies in collaboration with leaders, is key to increasing individual and community awareness. Information and knowledge are powerful tools that promote self-perception of control.
- Several strategies to enhance pro-environmental behaviors have been described in the scientific literature. We believe that some might have the potential to increase “self-perception of control” and “self-empowerment” and consequently impact individuals’ behavior. One of these strategies is assessing and tracking one’s behavior to make changes and maintain them in time. Although there are tools to evaluate sustainability indicators at a national level, especially in the United Kingdom and Switzerland, there is a lack of instruments designed to evaluate, manage, and track personal goals and actions (Dahl, 2012). Adapting the national ones, such as the ecological footprint has done (<http://www.globalfootprint.org/>; <http://www.myfootprint.org/>) or creating new ones would be beneficial as they have been proven to encourage pro-environmental behaviors. Apart from tools to track personal behaviors, indicators to assess personal ethical values are the first step to making changes stable, i.e., to convert them into habits. Additionally, decades of learning regarding how to create indicators at a national level has shown us that to assess pro-environmental values and behaviors, tools should be adapted to the target population and culture. We propose to create flexible applications that adjust to specific communities, families, or individuals. In this sense, professionals with high expertise in programming and machine learning in collaboration with researchers in social psychology and environmental psychology are needed for the development of individualized apps and tools.
- Identifying companies with managers that are capable to change, assessing their ethical values and applying training programs on

ethics and business sustainable innovation would be highly beneficial.

The cognitive-behavioral approach and the use of techniques such as “values clarification” have been widely used in psychotherapy. Despite its success, they have not been used or adapted in training programs nor in tools to enhance pro-environmental behavior. The basis of this approach could be used and explored for training, counseling, and educational kits. It seems a promising way to enhance pro-environmental behaviors.

4.4 Study limitations

This study has some limitations. First, an attempt was made to build the two groups by trying to divide the participants into those who consumed organic products and those who did not. However, the division could not be so clear, as many people consume both organic and conventional foods. It was therefore decided to slightly modify the initial strategy and include those who did not have an extreme position in either direction. This made the comparison between the groups a difficult task, but it also brought some advantages. Diverse discussions emerged in both groups. Bringing together people with different opinions enriched the conversation. Second, most of the participants are female. There could be differences between sexes that could not be explored. While the study’s outreach efforts aimed to engage both women and men equally, more women contacted us. This might be showing a tendency of women in Porto to participate more in focus groups and express their opinions than men. Third, although our study shows variability between participants in years of education (i.e., between 10 and 19 years of formal studies) they do not represent the whole population, e.g., none of them have only primary education studies. These two latter issues should be considered in future studies using strategies to encourage the participation of people with a low level of education and men. Fourth, the subthemes that emerged in each group could be mirroring individual priorities toward specific subtopics, and not an accurate characterization of the group (i.e., within group differences). Nevertheless, the objective of the study was to offer a deep and qualitative view of the topic. In this sense, visual bar plots of percentages were included in this study only to enable a fast visualization of the subthemes emerged in each group. This study is the base to guide the design of self-reported questionnaires and conduct quantitative studies (e.g., using a structural equation modeling approach) in Portugal with a significative sample. Fifth, our study focused on analyzing the discussion of general people, any exclusion or inclusion criteria regarding “type of education degree, job or expertise” were conducted. This decision was made with the aim to enable variability of expertise in the sample. A couple of participants reported to be nutritionists and another couple psychologists, jobs linked with our topic. For specialized insight, future studies could include a focus group of experts on the field (e.g., environmentalists, nutritionists, and marketers) such in Di Vita et al. (2023) that selected the participants based on their expertise and motivation to participate. In addition, it is worth mentioning that although the selection of the focus group questions was conducted by experts on the field, the fact of these professionals being part of the study could include bias, for this reason an extra step of asking for external supervisory expertise could add objectivity and enrich the process. In this sense future

studies could implement the Delphi method or similar such in Spina et al. (2023) in which the collaboration with additional experts helps identify the relevant questions or items on a topic to give insight to the industry and/or conduct meaningful qualitative or quantitative studies." Sixth, the focus groups were performed online, and we believe it would have been more enriching to conducting them presently. However, due to the uncertainty of COVID regulations and lack of availability of some participants the focus groups were conducted using Google meet.

4.5 Conclusion

Several elements impact the consumer's behavior of the Northern Portuguese population. Among the most relevant internal and personal ones are "knowledge on the topic," "environmental concerns" and "perception of self-empowerment" or "self-control" regarding the preservation of the environment. On the other hand, the relevant external ones are "convenience" "availability of the products," "taste," "trust," and "price." This study is aligned with recent findings that suggest that some intrinsic motivation factors such as "health concerns" or "environmental awareness" might only partially explain attitudes and intentions toward organic food. Only the combination of internal and external elements can determine the actual consumer's behavior of organic products. Caution needs to be taken as this has been a first exploratory study in North Portugal. Further research using a bigger and more heterogeneous sample and quantitative methods should be considered to explore whether it exists correlation or causality between the distinct factors.

Data availability statement

The original contributions presented in the study are included in the article/[Supplementary material](#), further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving humans were approved by Ethical Committee Board for Health from the Universidade Católica Portuguesa (Project n° 171-CES/UCP). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

LP-S: Conceptualization, Data curation, Formal analysis, Methodology, Writing – original draft. ED-G: Conceptualization,

Data curation, Writing – review & editing. RC: Conceptualization, Data curation, Writing – original draft. MP: Data curation, Methodology, Writing – original draft. EP: Conceptualization, Funding acquisition, Supervision, Writing – review & editing. PO-S: Conceptualization, Funding acquisition, Supervision, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The author(s) declared that they were an editorial board member of *Frontiers*, at the time of submission. This had no impact on the peer review process and the final decision.

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fsufs.2023.1316634/full#supplementary-material>

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