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Exploring Demand: Challenges and Opportunities for Free-From and Organic Foods in Portuguese Market

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Abstract: The rising prevalence of food intolerances and increased health and environmental consciousness has driven the demand for free-from (FF) and organic products. This study aims to analyze consumer needs, motivations, and challenges related to these products in Portugal through an online survey with 2268 eligible responses, with a median age of the participants of 41 years. The sample was predominantly female (76.9%), with male participants comprising 23.1% of the sample. The results show that 97.4% of the respondents were aware of FF products, with 60.0% being regular consumers, particularly of lactose-free milk and gluten-free bread and biscuits. Significant market gaps were identified in the variety of FF bread (62.8%), pastries (49.0%), and cookies (38.4%). The consumers identified high prices (84.9%) and excessive sugar/fat content (52.1%) as the main drawbacks of FF products currently on the market. The women showed greater knowledge and purchase levels compared to the men. The trust in organic certification was low (21.4%), with skepticism higher among the lower-income and male participants. Despite this, 78.1% believed in the health benefits of organic products, and 72.2% agreed that increased demand could lower prices. Overall, this study highlights the need for greater product variety, improved transparency, and consumer education to enhance market trust and accessibility.

Keywords: consumer behavior; food intolerances; free-from food products; market demand; organic products; Portugal

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1. Introduction

Health and environmental concerns are increasingly influencing consumer food choices, leading to a rising demand for free-from (FF) and organic products (OPs) [1–3]. These products are often perceived as healthier and more sustainable, appealing to consumers with specific dietary needs and those committed to environmentally friendly practices [4]. Consequently, the market for FF products and OPs is expanding, mirroring a broader shift towards improved health and environmental consciousness.

Free-from products

Food hypersensitivity, which includes both food allergies and intolerances, represents a significant health concern globally [5,6]. In the United States, approximately 19.0% of the population is affected by food hypersensitivity, while in Europe, the prevalence ranges from 2% to 37%, highlighting regional variability but may also reflect differences in screening and monitoring efforts across various countries [6].

The distinction between food allergies and intolerances, as defined by the National Institute of Allergy and Infectious Diseases (NIAID), is critical yet often blurred in public perception [7]. Food allergies involve an immune response, typically mediated by the production of specific IgE antibodies, which trigger immediate allergic reactions upon exposure to the allergen. Common examples of food allergens include peanuts, tree nuts,

shellfish, and eggs. In contrast, food intolerances are nonimmune reactions that can result from metabolic, pharmacologic, or toxic mechanisms [8]. Despite these clear definitions, the general population frequently conflates these conditions, leading to misunderstandings about their management and implications [7].

Food intolerances, distinct from allergies, are widespread and often mistaken for allergic reactions. Lactose intolerance (LI), for example, affects an estimated 57% of the global population, though prevalence varies significantly across different ethnicities and regions [9]. LI arises from the inability to absorb lactose, a disaccharide sugar naturally occurring in milk and various dairy products, due to a deficiency in lactase [1]. This deficiency leads to gastrointestinal symptoms such as bloating and diarrhea [9].

Similarly, nonceliac gluten sensitivity (NCGS) and celiac disease (CeD) are conditions associated with gluten consumption. Gluten, a protein found in wheat, barley, and rye, contributes to the viscoelastic properties of dough, making it essential for products like bread and pasta [1]. CeD is an inflammatory disorder of the small bowel caused by an immune response to dietary gluten, leading to adverse gastrointestinal symptoms, such as bloating, gas, and diarrhea [9]. NCGS, although not immune-mediated, mimics CeD in both gastrointestinal and extraintestinal symptoms, such as headaches and fatigue. The prevalence of NCGS ranges from 0.6% to 13%, with its diagnosis complicated by the absence of specific biomarkers [9].

Market research indicates a rise in the availability and sale of gluten-free products, driven not only by gluten-intolerant individuals but also by those who perceive these products as healthier [1,4]. However, studies suggest that gluten-free products may have a lower protein and dietary fiber content and higher amounts of fat, sugar, and salt than their gluten-containing counterparts [1]. Furthermore, gluten-free products are not typically fortified with essential nutrients such as folate, iron, niacin, thiamin, and riboflavin. Hence, if consumed in high amounts at the expense of a diversified diet and not properly managed, these may lead to potential nutritional deficiencies [9]. Gluten-free products often consist of ingredients like corn, rice, soy, cassava, and potato, replacing gluten-containing grains [10].

Indeed, allergies and intolerances towards specific food components like gluten or lactose are among the multiple factors that currently drive consumers in their food choices. While satiation, nutrient content, flavor, and price remain fundamental drivers, modern food consumption in industrialized societies is increasingly influenced by health concerns, sustainability, and convenience [4]. Health concerns are driven not only by affluence but also by the rising incidence of food- and lifestyle-related diseases such as diabetes and obesity [4].

Organic products

The demand for OPs has been notably shaped by health and environmental considerations. Portuguese consumers increasingly seek healthier food choices that support long-term health and well-being and reduce the risk of disease [11,12]. Additionally, sustainability has become a crucial factor, largely due to the growing awareness of environmental pollution associated with conventional agricultural practices [13]. This awareness has fueled the expansion of organic agriculture and its associated markets, as consumers demonstrate a preference for organic and environmentally friendly products, even when these are sold at higher prices [4,14].

OPs are derived from agricultural systems that prioritize natural inputs and processes, minimizing or excluding synthetic agricultural inputs such as pesticides, growth regulators, highly soluble mineral fertilizers, supplements, preservatives, flavoring agents, aromatic substances, and genetically modified organisms [15]. These practices aim to maintain and enhance the soil fertility and quality through methods like crop rotation, polyculture, intercropping, ecosystem management, cover crops, legumes, organic and bio-fertilizers, mechanical cultivation, and biological control methods [15]. As a result, organic farming is often perceived as more environmentally friendly and sustainable than conventional farming, leading to the production of foods that many consumers view as healthier and more natural [15–17].

The demand for organic products has been rapidly increasing worldwide, driven by consumers' growing awareness of health, environmental safety, and the perceived harmfulness of pesticides [2,18]. Consumers perceive organic foods as healthier, safer, and more environmentally friendly, which often leads them to pay a premium for these products [2,14,15]. Factors influencing consumer preferences for organic products include personal health motivations, concerns about synthetic pesticide residues, and the desire for foods produced through more sustainable and ethical farming practices [2,14,16]. Considerations, including animal welfare and local origin, are also increasingly significant in consumer decision-making [14].

However, the sustainability and environmental benefits of organic farming are complex and context-dependent. While some studies suggest that organic farming practices may result in lower nitrate levels, fewer pesticide residues, and reduced exposure to antibiotics and other pollutants [15], there are also significant challenges associated with organic agriculture. For instance, organic farming typically yields lower crop outputs compared to conventional farming, requiring more extensive land use to produce the same quantity of food. This increased land use can have far-reaching environmental consequences, including the potential for greater deforestation, loss of biodiversity, and increased greenhouse gas emissions due to land use changes [19,20].

Additionally, while some studies suggest that organic foods may contain slightly higher or comparable levels of certain mineral elements, vitamins, secondary metabolites, phenolic compounds, and antioxidants, the overall nutritional differences between organic and conventional foods are generally modest and not consistently significant [13,15]. Furthermore, there is some evidence suggesting that organic food consumption may reduce the risk of allergic diseases, overweight, and obesity, although these findings are not conclusive due to potential confounding factors such as healthier lifestyle choices among organic food consumers [17]. Despite these potential benefits, the scientific community acknowledges that more research, particularly long-term interventional studies, is needed to draw definitive conclusions about the overall health impacts of consuming organic foods [15,17].

Moreover, consumers' understanding of what constitutes 'organic' and the various labels associated with organic certification remains inconsistent and, at times, limited. Research indicates that many consumers are unaware of the rigorous control systems underlying organic certification, with knowledge about the differences between various organic labels generally lacking [21]. This lack of understanding can lead to subjective perceptions of organic products, which are not always grounded in objective knowledge [22].

Furthermore, trust in organic labeling is highly variable across different regions. For instance, in Scandinavian countries, where there is substantial government involvement in organic certification, consumer trust in these labels is notably high [23]. In contrast, in countries like the USA and the UK, trust in organic labels is less pronounced, partly due to the multiplicity of certification bodies and labels, which can create confusion among consumers [24]. The existence of multiple labels can also dilute the perceived reliability of OPs, making it challenging for consumers to discern the authenticity of what they are purchasing.

Given these challenges, there has been a growing call for more transparent and accessible verification methods in the organic sector. One proposed solution is the inclusion of QR codes on OP packaging, which would allow consumers to trace the entire production chain and verify the product's organic status. This approach aligns with the findings that consumers value certification and labeling as key indicators of organic products [25]. However, to fully capitalize on this trend, it is essential to enhance consumer education regarding organic certification and labeling systems. By doing so, consumer trust and confidence in organic products can be strengthened, thus supporting sustained market growth.

The increasing awareness of health and sustainability among consumers has prompted a significant shift towards functional and organic foods worldwide. In Portugal, this trend is becoming increasingly relevant as consumers become more health-conscious and environmentally aware. However, the understanding of consumer behavior in this

specific market remains underexplored, particularly in comparison to other European countries, where the dynamics of organic and functional food consumption have been extensively documented.

This study aims to fill this important gap by investigating the demand, purchasing patterns, and attitudes towards free-from (FF) and organic (OP) foods among Portuguese consumers, in a very dynamic market. While global studies provide valuable insights, they may not accurately reflect the unique cultural, economic, and social factors influencing consumer choices in Portugal. This knowledge can help inform producers, marketers, and policymakers in the food sector. By analyzing consumer behavior in this context, we seek to contribute valuable knowledge that can enhance market strategies, product development, and consumer trust in FF product and OP offerings.

2. Materials and Methods

2.1. Study Design

A comprehensive questionnaire was disseminated online to gather data on consumption habits, consumer preferences, and perceptions of adults towards FF products and OPs in the Portuguese market. The social networks of researchers were used to spread the questionnaire, and participants were incentivized to share the questionnaire among their own contacts. The survey was conducted in Portuguese via the Qualtrics platform, and the mean survey time was 8 min. The questionnaire was developed based on a review of the existing literature [26,27]. The survey was pre-tested on a small sample (n = 50) to identify potential ambiguities and to verify the clarity and flow of questions. Feedback from the pilot test led to minor modifications to enhance readability and question comprehension. The final version of the survey included a mix of closed-ended, Likert-scale, and multiple-choice questions. During questionnaire preparation, the meticulous selection of the questions was performed, because the researchers were aware that people are not available to be enrolled in long questionnaires that are filled out online.

The participation was voluntary and anonymous, and distribution was achieved through email and social media platforms (LinkedIn, Facebook, Twitter, Instagram). Participants were informed about the study's objectives and assured of anonymity and confidentiality. The study adhered to ethical principles of scientific research, with informed consent obtained from all participants. The Ethics Committee of Technology, Social Sciences, and Humanities (CETCH) of Catholic University of Portugal approved the survey (CETCH2023-64).

2.2. Participants

The survey garnered 2782 responses, with 2268 deemed eligible after excluding incomplete submissions and those from participants under 18. The inclusion criteria were residency in Portugal, proficiency in Portuguese, and being at least 18 years old. Most participants resided in Porto (29.3%) or Lisbon (17.4%), the two biggest districts in Portugal.

Of the eligible respondents, 76.9% were women, and 23.1% were men, reflecting a significant gender imbalance that is consistent with similar studies in the field [28,29]. No participants from other gender categories were represented in the sample.

2.3. Data Collection

The questionnaire comprised multiple sections on awareness of FF products and OPs, purchasing patterns, motivations for purchase, product preferences, and perceptions of quality and availability. The questions were tailored to the study's objectives and adapted for relevance to the Portuguese market. The collected socio-demographic characteristics included age, gender (male, female, prefer not to say), living district, nationality, education level (less than high school, high school, technical school, university degree or higher), occupation, number of household members, and number of children under 18 years old living in the household. The questionnaire remained open for responses for two months (January and February 2024), and participants were encouraged to share the survey upon completion.

2.4. Statistical Analysis

Statistical analysis was conducted using the Statistical Package for Social Sciences (IBM Corp. Released 2021. IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY, USA: IBM Corp.), and a significance level of 5% was considered. Some figures were constructed using the Excel® (Microsoft Excel 365, Microsoft Corporation, Redmond, WA, USA, 2023) software.

Categorical variables were described through absolute (*n*) and relative (%) frequencies. Age, the only continuous variable, was described by the median and 25th and 75th percentiles, as the variable did not follow a normal distribution. For inferential analyses, age was transformed into tertiles. The chi-squared test was applied in the bivariate analysis, and logistic regression was used in the multivariate analysis.

3. Results

In this study, we considered a sample of 2268 adults living in Portugal, almost all of whom had Portuguese nationality (98.5%). Three-quarters of the respondents were women, with a median age of 41.0 years, ranging between 18 and 85 years. The majority of the respondents had completed high school (68.7%), 85.5% were employed, and 80.5% considered their income enough or to enable a comfortable lifestyle (Table 1).

Table 1. Socioeconomic characterization of the participants (*n* = 2268).

	***n* (%)**
Gender	
Women [*n* (%)]	1745 (76.9)
Men [*n* (%)]	523 (23.1)
Age [median (P25; P75)]	41.0 (31.0; 53.0)
Nationality [*n* (%)]	
Portuguese	2233 (98.5)
Other	35 (1.5)
Education [*n* (%)]	
Elementary (1–9 y)	110 (4.9)
Secondary (10–12 y)	601 (26.5)
Higher school (>12 y)	1557 (68.7)
Occupation [*n* (%)]	
Self-employed	423 (18.7)
Employed	1515 (66.8)
Student	136 (6.0)
Housewife	73 (3.2)
Unemployed	121 (5.3)
Household with children	
Yes [*n* (%)]	864 (38.1)
Household income [*n* (%)]	
The current income allows for a comfortable living	759 (33.5)
The current income allows for living	1066 (47.0)
It is difficult to live on the current income	322 (14.2)
It is very difficult to live on the current income	82 (3.6)
Don't know how to judge/Prefer not to say	39 (1.7)
Study or work on food and nutrition	
Yes [*n* (%)]	480 (21.2)

Free-from foods

Almost all the participants (2209 (97.4%)) had already heard about FF foods. The most well known were lactose-free milk (95.3%), gluten-free bread (92.5%), and gluten-free cookies (90.7%).

Although only 38% of the participants recognized that someone in their household benefits from using FF products due to allergies and/or food intolerances, 60% admitted

regularly buying those products. The more prevalent allergies and/or food intolerances were lactose (27.9%) and gluten (13.4%) intolerances.

The subjects bought these products at supermarkets (1327; 97.6%), specialized shops (501; 36.8%), and local markets (63; 4.6%).

The participants were asked about the gluten-free products that they would like to see available on the market, and 57% of them (n = 1295) expressed their opinions. Their answers are depicted in Figure 1. The most popular answer was "more variety of bread" (62.8%). Pastry, confectionery products, cookies, and biscuits were also highly desired.

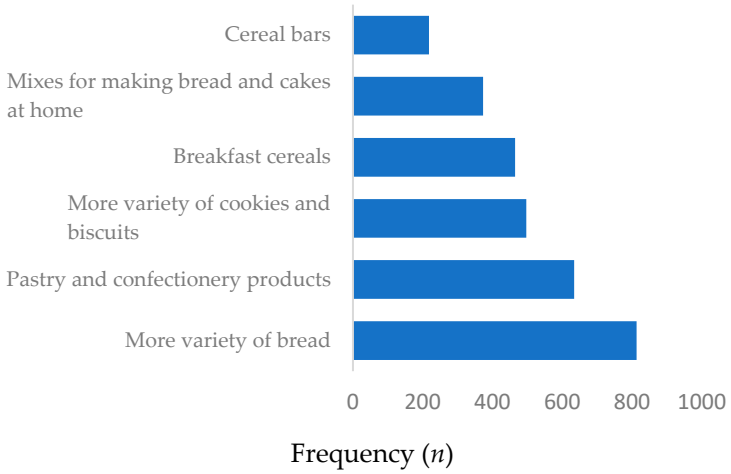

Figure 1. Free-from products desired in the market (n).

About half of the participants also referred to the negative aspects that they identify in FF foods available on the market (59%). The price was undoubtedly the principal negative point referred to (84.9%) followed by the perception that these products contain excessive fat and/or sugar (52.1%) (Figure 2).

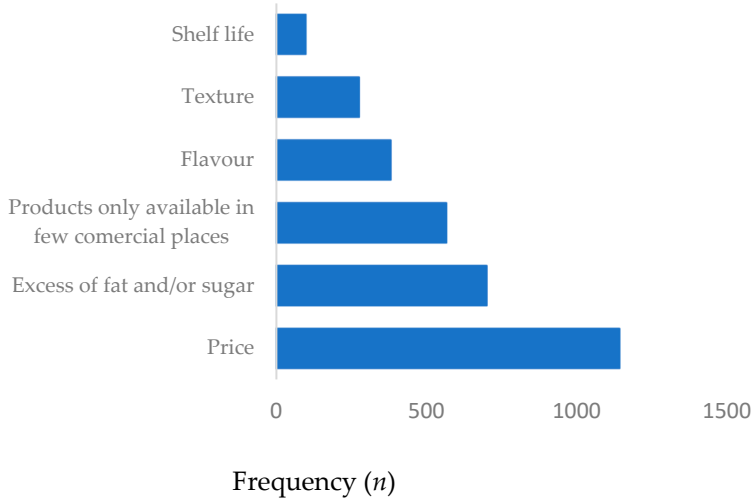

Figure 2. Negative issues of the free-from products available on the market (n).

The main drivers in the choice of an FF product were ascertained. For this, the participants were asked to select three main reasons. As shown in Figure 3, the price (67.6%), healthiness (60.6%), and low sugar content (58.7%) were the most frequently selected features.

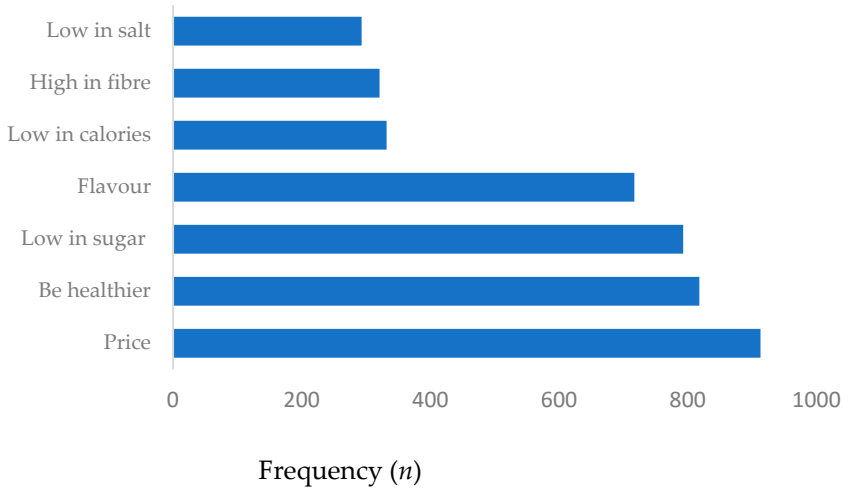

Figure 3. The main drivers in the choice of a free-from product (*n*).

Characteristics associated with the purchase of free-from products

The characteristics of the respondents associated with the purchase of FF products were also studied. Being a woman and having completed higher education were associated with a higher probability of buying these products, while studying or working in the food and nutrition field decreased that probability. Being older also slightly decreased the probability of purchasing those products (Table 2).

Table 2. Socioeconomic characteristics associated with the purchase of free-from products.

	Crude OR (95% CI)	Adjusted * OR (95% CI)
Gender		
Men	1	1
Women	2.16 (1.77; 2.63)	1.88 (1.51; 2.34)
Age (years)	0.98 (0.98; 0.99)	0.99 (0.98; 1.00)
Education		
Elementary (1–9 y)	1	1
Secondary (10–12 y)	2.04 (1.36; 3.09)	1.74 (1.14; 2.66)
Higher school (>12 y)	2.10 (1.42; 3.10)	1.56 (1.04; 2.34)
Household with children		
No	1	
Yes	1.12 (0.95; 1.34)	
Household income		
The current income allows for a comfortable living/allows for living	1	
It is difficult/very difficult to live on the current income	0.96 (0.77; 1.20)	
Study or work on food and nutrition		
No	1	1
Yes	0.77 (0.63; 0.95)	0.74 (0.60; 0.91)

OR—odds ratio; CI—confidence interval; *—ORs adjusted for gender, age, education and study or work on food and nutrition.

Organic products

In this study, the perceptions and attitudes of consumers towards OPs were also ascertained. Most of the respondents buy OPs if they are appealing (42.1%) or buy both organic and non-organic products (29.5%) (Table 3).

Table 3. Participants' pattern of buying organic products.

	n (%)
As a rule, I never buy organic products	254 (11.2)
I actively seek out organic products, preferring not to buy the food if I can't find it.	43 (1.9)
If I have a choice, I opt for organic products if they please me in terms of appearance, price, etc.	954 (42.1)
If I have a choice, I always opt for organic products	349 (15.4)
I buy both organic and non-organic products	668 (29.5)

This pattern was not significantly different according to gender, education, income, or having children in the family, but the older participants answered more frequently that if they have the choice, they always opt for OPs (<35 years: 9.4%; 35–49 years: 16.4%; >49 years: 20.9%, $p < 0.001$). The people who study or work in the food and nutrition field answered more frequently, "As a rule, I never buy organic products" (14.8% vs. 10.2%, $p = 0.002$).

We also investigated the degree of consumer confidence in OPs available on the market. When we asked if when they see a product on sale that claims to be organic, they trust that it really is, about two-thirds (67.1%) answered "I've wondered if there might be steps in your production that don't respect fully organic production". Only 21.4% believed in the claim and 11.5% did not. The women (22.8% vs. 16.6%, $p < 0.001$), more educated participants (elementary: 16.4% vs. secondary: 16.1% vs. high school: 23.8%, $p = 0.002$), and people who study or work in the food and nutrition field (31.0% vs. 18.8%, $p < 0.001$) believe more frequently that OPs are really organic. The participants with a lower income answered more frequently, "I've wondered if there might be steps in your production that don't respect fully organic production" (73.0 vs. 65.8%, $p = 0.009$). The older people believed less in the claim of OPs (<35 years: 24.1%; 35–49 years: 21.0%; >49 years: 18.8%, $p < 0.001$).

The respondents were aware that the claim "to have organic ingredients" does not mean that the product is 100% organic (78.7%), and, largely, they considered important the existence of a QR code on OP packaging guaranteeing that the OP really is organic, through which the necessary care taken throughout the production chain could be seen (85.1%).

Lastly, we wanted to describe some of the consumers' perceptions regarding OPs (Table 4).

Table 4. Perceptions of consumers regarding organic products.

	Agree	**Neither Agree nor Disagree**	**Disagree**
		n (%)	
Eating organic food has a positive impact on health.	1771 (78.1)	393 (17.3)	104 (4.6)
Organic food has more vitamins.	945 (41.7)	848 (37.4)	475 (20.9)
It's safer to buy organic products in supermarkets than in high street shops.	396 (17.5)	809 (35.7)	1063 (46.9)
I believe that by eating organic food, I'm taking care of my health and the quality of the soil at the same time.	1836 (81.0)	334 (14.7)	98 (4.3)
If we all start buying more organic products, the supply of these products will increase in the future, at more attractive prices.	1637 (72.2)	376 (16.6)	255 (11.2)
I believe that the consumption of organic products would increase if there was more information about their benefits.	1691 (74.6)	357 (15.7)	220 (9.7)

The potential association between individual characteristics and respondents' opinions was investigated, and only the significant associations are described herein. The people who study or work in the food and nutrition field agreed less that eating organic food had a positive impact on health (71.3% vs. 79.1%, $p < 0.001$). However, the belief in this statement increased with age (<35 years: 73.2%; 35–49 years: 79.1%; >49 years: 82.3%, $p < 0.001$). The women (42.5% vs. 39.0%, $p < 0.022$), those with lower education levels (elementary: 41.8% vs. secondary: 48.8% vs. high school 38.9%, $p < 0.001$), and people who do not study or work in the food and nutrition field (43.1% vs. 36.5%, $p < 0.001$) agreed more frequently that organic food has more vitamins. The men (22.0% vs. 16.1%, $p < 0.001$) and older people (<35 years: 15.1%; 35–49 years: 15.6%; >49 years: 22.0%, $p < 0.001$) agreed more frequently that it is safer to buy OPs in supermarkets than in high street shops. The older participants also agreed more frequently that "by eating organic food, I'm taking care of my health and the quality of the soil at the same time" (<35 years: 76.6%; 35–49 years: 82.7%; >49 years: 83.8%, $p = 0.002$).

4. Discussion

Our findings revealed a high level of awareness and consumption of FF products among Portuguese consumers and allowed for the description of the motivations for consumption, desire for new products, and purchasing patterns, with women, younger people, highly educated people, and people who do not study or work in food and nutrition being more prone to buying these products. Regarding OPs, older people and people who do not study or work in food and nutrition buy these products more frequently.

Nearly all the participants had heard of FF foods, with lactose-free milk and gluten-free bread being the most recognized. The high prevalence of lactose intolerance (27.9%) and gluten intolerance (13.4%) among the participants aligns with global trends indicating rising food hypersensitivity rates [8]. Despite only 38% of the respondents indicating that someone in their household benefits from FF products due to allergies or intolerances, a significant 60% reported regularly purchasing these products. These findings suggest that beyond addressing specific health needs, FF products appeal to a broader consumer base, likely due to the perceived health benefits and lifestyle choices [1]. This information may indicate a degree of illiteracy or misinformation about the benefits of these products, highlighting the need for this to be addressed. Interestingly, our study found that women and younger individuals are more likely to choose FF products. This trend could be attributed to a greater awareness of healthy products within these demographics, the earlier onset of food intolerances, or a higher consciousness about dietary choices compared to older age groups [30,31]. Moreover, the preference for purchasing FF products predominantly from supermarkets over specialized stores or local shops probably highlights the importance of availability and convenience in consumer purchasing behavior [32].

The participants expressed a strong demand for more variety in FF products, particularly in categories such as bread, pastries, cookies, and cereals. This indicates significant opportunities for product development and market expansion in these areas. Another interesting result is that professionals in the food and nutrition field showed a tendency to choose FF products less frequently. This could be due to their understanding that the consumption of these products is not necessary unless there is a specific deficiency or intolerance, while the general population might perceive them as inherently healthier, leading to their consumption even without clinical justification.

The main drivers for purchasing FF products were the price, health benefits, and low sugar content. This aligns with existing literature indicating that modern food consumption is increasingly influenced by health concerns and dietary requirements [33–35]. However, the high cost of FF products and perceptions of excess fat and sugar content present challenges that need to be addressed by producers and retailers to enhance market acceptance and growth. The consumers' perception concerning the sugar content in FF products is quite interesting, since it is one of the three main drivers for their purchase, either in favor or against, according to its low or high content, respectively.

Regarding organic products, this study shows that a substantial portion of the respondents purchase these items, with 42.1% buying organic products if they find them appealing in terms of appearance and price, and 29.5% feeling indifferent and buying both organic and non-organic products. Interestingly, the older participants and those not working in the food and nutrition field exhibited a higher propensity to choose organic products. This is contrary to what one might expect, as professionals in the food and nutrition field might be assumed to have a higher awareness and appreciation of organic products. However, this discrepancy may be due to the fact that these professionals do not necessarily perceive organic products as being inherently healthier, or they might be skeptical about the added value of organic products, particularly given their often higher cost [36–38]. Additionally, previous studies have also suggested that while nutritional knowledge significantly influences the decision-making process regarding food choices, it does not always result in healthier eating habits [39].

In relation to the socio-demographic factors, our study did not find significant differences in the OP purchasing patterns between the men and women, although previous research suggests that women, often seen as primary household shoppers, have a strong influence on food choices and show a greater intention to buy food with nutritional claims [40,41].

Although the study did not collect specific frequency data on OP consumption, Table 3 provides insight into demand levels. The high demand for OPs indicates a growing market, yet Table 4 shows gaps in awareness and trust, with many consumers questioning the claims made by marketing communications [35]. Increased knowledge, trust, and availability of organic food products are critical for enhancing market growth. The supply chain market's role in ensuring product availability, as highlighted in the paper from Emerald Insight (2024), emphasizes the need for robust distribution networks to support the rising demand [42].

Consumers' motivations for buying organic products are primarily driven by balanced nutrition, food safety, and sustainability [43]. The key factor appears to be the trustworthiness in product claims, as previously reported in the literature [27,44]. Ensuring that organic products are perceived as being good-quality and having appealing attributes and healthier profiles is crucial for driving consumer behavior [43].

Our findings provide valuable insights concerning consumer behavior and market demand. The high awareness and consumption of FF products indicate a mature market with significant growth potential. However, the challenges related to the price and nutritional content must be addressed to sustain consumer trust and interest. Similarly, the growing preference for OPs underscores the importance of health and environmental concerns in shaping consumer choices.

There are significant opportunities for product development and market expansion in the FF and organic sectors. The demand for more variety in gluten-free products, particularly bread, pastries, and confectionery items, indicates a need for innovation and diversification with improved product nutritional formulations. Similarly, the interest in OPs suggests a potential for expanding organic offerings across various food categories, including dairy, meat, and vegetables. However, the importance of ensuring consumer trust in OP claims cannot be overstated. Skepticism about the authenticity of organic labels can undermine market confidence, making it a prime concern for consumers [37,38,45]. This is particularly true in the context of the lack of a robust supply chain market, which impacts product availability [42].

Enhancing transparency in production processes and improving consumer education are essential for building trust and confidence in FF products and OPs. Implementing measures such as QR codes on packaging to provide detailed information about the product's origins and production methods can help reassure consumers about the authenticity of organic claims. Educational campaigns highlighting the benefits and proper management of FF products can also help address misconceptions and promote informed purchasing decisions. Marketing strategies play a crucial role here; labeling, certification, and traceability

are effective in communicating the organic nature of food products. Additionally, the use of environmentally friendly packaging and promoting the social and environmental benefits of organic food products can align with consumer values and justify premium pricing [43].

Marketing tactics are essential for the distribution and promotion of organic food items. Effective marketing strategies include labeling and certification schemes that communicate the organic nature of the product to consumers. Traceability mechanisms ensure the authenticity and purity of organic products throughout the supply chain. Furthermore, the use of environmentally friendly packaging aligns with the sustainability values of organic food consumers. Promoting the social and environmental benefits of OPs can raise consumer awareness and their willingness to pay a premium price. Pricing strategies, such as offering discounts or promotions and pricing organic products competitively with conventional products, can also encourage trial and lead to repeated purchases.

Policymakers also play a crucial role in supporting the growth of FF and organic markets. Developing policies that incentivize sustainable farming practices, subsidize organic production, and regulate product labeling can help address some of the challenges identified in this study. Additionally, promoting research and development in the FF and organic sectors can foster innovation and improve product quality, further driving market growth. The organic food market faces challenges such as high production costs, limited availability of organic inputs, restricted distribution channels, and a lack of consumer education and awareness. However, there are significant opportunities within the Portuguese context. Moreover, educational campaigns that target consumers, explaining the specific health benefits and appropriate use of FF products, could help combat misconceptions and enhance informed consumption.

This study provides an in-depth understanding of Portuguese consumers' behavior and attitudes towards FF products and OPs. By exploring socio-demographic characteristics, purchasing patterns, and motivations, this research offers crucial insights for marketeers, the food industry, and policymakers regarding the opportunities and challenges within the FF and organic markets. However, certain limitations must be acknowledged. The sample, although constituted by more 2200 participants, is not representative of the entire Portuguese population, being highly educated and predominantly female, which may not adequately reflect the country's demographic diversity. Additionally, the potential for socially desirable responses may have influenced the accuracy of the reported data. A further limitation lies in our choice of sampling method, which relied on the use of modern social networks for data collection. While this approach allowed for rapid dissemination and response collection, it may have introduced biases and resulted in a sample that does not fully represent the broader population. Another significant limitation is the general analysis of OP consumption without detailing specific food categories, which could limit the applicability of the results across different product segments. A significant limitation is the approach to income categorization; we utilized subjective measures that may lack clarity, such as "the current income allows for comfortable living". This vague categorization might limit the interpretability of the findings. For future studies, we will consider adopting a more standardized income scale to improve the accuracy of income-related analyses. Despite these limitations, this study provides valuable insights that can guide market offerings, emphasizing the need for greater diversity and transparency in FF products and OPs, as well as marketing strategies that reinforce consumer trust in product claims.

5. Conclusions

The growing awareness and demand for FF products and OPs in Portugal reflect broader global trends towards health-conscious and environmentally sustainable food consumption. However, the challenges identified in this study, particularly regarding cost, product variety, and consumer trust, must be addressed to fully realize the market potential of these products. From a research perspective, there is a clear need for future studies to explore the consumer trust in organic certification and labeling in greater detail. Given the emerging skepticism around these labels, understanding how to effectively communicate

authenticity and sustainability to consumers remains a critical challenge. Moreover, a more granular analysis of specific product categories within OP consumption could yield insights into whether these consumption patterns differ across dairy, meat, and produce, allowing for more targeted marketing strategies. Further research should explore the long-term effects of these factors on consumer loyalty and investigate potential differences across diverse demographics. By understanding and responding to the nuanced preferences and concerns of different consumer segments, the food industry can better strategically design, develop, and market organic and functional food products, ultimately contributing to both market growth and consumer satisfaction.

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

Data Availability Statement: The data supporting the reported results, including the questionnaire used in this study, are not publicly available due to privacy concerns and ethical restrictions, or proprietary information. However, the data may be made available from the corresponding author upon reasonable request.

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