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How to Exploit Sustainable Food Consumption Habits of Individuals: Evidence from a Household Survey in Izmir, Türkiye

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Abstract: Sustainable production and consumption in the food supply chain are critical for the United Nations' sustainable development goals (SDGs). Therefore, it is significant to identify the factors that shape individuals' food consumption behaviour. Türkiye prioritises sustainable food consumption and the prevention of food loss and waste as a national focus. Accordingly, this study aims to identify the drivers of individuals' food consumption habits in Türkiye through a survey with the participants being households in Izmir, the third most populous city in Türkiye. More specifically, the study has two main objectives: (i) to identify the factors influencing households' food consumption preferences and (ii) to demonstrate how the factors concerning sustainable food consumption interact through a survey conducted in Izmir. Based on the state-of-art literature, an online survey was completed by 515 respondents in Izmir. Through an analysis of the survey responses, this study provides a descriptive analysis of socio-demographic variables and a correlation analysis between socio-demographics and sustainable food consumption behaviours, including food shopping behaviour, food purchasing and consumption behaviour, dietary habits, and food waste behaviour. The results demonstrate that socio-demographic factors such as age, gender, education level, income level, and the number of residents in the household are significant for sustainable food consumption behaviour. The survey results also demonstrate that the respondents do not consider carbon footprint generation from food production and transportation in their decisions or behaviours. The study's main limitation is that the survey is implemented in a single city, Izmir. Future research may extend the scope to other cities in Türkiye, allowing a comparative analysis.

Keywords: sustainability; food consumption; food shopping; dietary habits; food waste



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1. Introduction

The relationship between sustainability and food consumption behaviour has been frequently addressed on policy agendas worldwide. This relationship becomes even more critical when several vital facets are considered, including the carbon and water footprint of food production and consumption, their impact on the environment and climate, growing concerns for consumer and public health with a rising population and changing consumption patterns, and social and economic dimensions of the consumption [1]. Moreover, ensuring sustainability in consumption and production, particularly in terms of the food supply chain (e.g., reducing food waste), is one of the sustainable development goals (SDGs) set out by the United Nations [2]. The United Nations Food Systems Summit 2021, held as a part of the Decade of Action that aims to accelerate sustainable solutions to achieve SDGs, sets “shift to healthy and sustainable consumption patterns” as one of the five action

areas [3]. Food consumption has a crucial impact on the food system's sustainability due to its multidimensional relationship with many factors, including the structure and the demand for food supply chains [4]. However, signs of shifts toward sustainability are limited, partially attributed to politicians' neglect of broader fundamental problems [5].

There are diverse opportunities for consumers to adopt more sustainable consumption patterns, such as acknowledging the production process in their food choices or the amount of their food consumption [6]. Sustainable consumption behaviours are generally analysed regarding individual attitudes, personal or social habits, convenience and concerns regarding health, and cost-efficiency, which are difficult to change [7]. When additional dimensions such as urbanisation, globalisation and marketing are considered, food consumption behaviour becomes a multi-layered issue [8,9]. Therefore, a fundamental objective of sustainable consumption is identifying and altering internal and external factors that hinder individuals from changing their consumption patterns [10].

Türkiye identifies the transition to sustainable consumption and prevention of food loss and waste as a national focus for improving sustainable food systems through reducing food loss and waste [11]. Türkiye has also made efforts to achieve a sustainable food system as a part of the preparations for the United Nations Food Systems Summit 2021. Subsequently, the national roadmap of Türkiye draws particular attention to household food waste and losses [12]. Accordingly, Türkiye's targets and policy within the scope of the 11th Development Plan involve raising consumer awareness to prevent food losses and waste [13].

To develop an understanding of pathways to sustainable consumption and to design relevant policies, it is significant to identify the factors that shape individuals' food consumption behaviour and the barriers to sustainable food consumption. Food consumption patterns show differences in global, regional, inter-, and intra-country variations [8]. Türkiye has already addressed the sustainability of food consumption in its domestic policies [11]. However, given the vital problems brought by the carbon emissions of food production and consumption worldwide, it is significant for Türkiye to accelerate its efforts to follow a more sustainable path. It is, therefore, crucial to poll the Turkish public on this issue at the city, regional or, if possible, national level. Hence, this research aims at identifying the drivers of food consumption habits of individuals as households in Izmir through a survey. The focus on the role of individuals as households also aims to contribute to the understanding of the dynamics associated with household constructs such as household size, household composition, and household income. The research aims to describe sustainable food consumption habits and factors associated with these habits by (i) identifying the factors influencing households' food consumption preferences and (ii) demonstrating how the factors concerning sustainable food consumption interact through a survey conducted in Izmir.

Accordingly, this manuscript is structured as follows. First, a literature review is conducted to reveal how the variables are measured for the sustainable food consumption habits of households in Izmir. Second, a survey was designed to measure the link between the socio-demographic variables and variables on households' sustainable food consumption behaviours in Izmir. Then, descriptive and multivariate logistic regression analyses were performed to examine the survey results. Lastly, the study aligns the survey results with the earlier literature findings and discusses the food consumption habits of households in Izmir in the conclusion part.

The survey adds two significant contributions to the literature body with its unique questions and design. First, it sheds light on household food consumption preferences in a metropolitan setting outside of the Western context. The survey also provides a solid foundation for the policies that aim to enhance sustainable food consumption strategies by providing extensive information on barriers that hinder households from adopting sustainable food consumption in Izmir, Türkiye.

2. Literature Review

The United Nations Brundtland Commission defines sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” [14]. Sustainable consumption is one of the essential tools to reach sustainability and the related development goals of the UN. Sustainable consumption is generally understood as purchasing, using, and discarding products socially and environmentally consciously [15]. Sustainable consumption is also seen as an activity realised by conscious citizens who consume by considering ecological and social issues [16].

The Oslo Roundtable on Sustainable Production and Consumption [17] defines sustainable food consumption as consuming foods “that respond to basic needs and bring a better quality of life while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations”. Similarly, sustainable food consumption is defined in the literature as consumers’ conscious decisions to consume sustainable food to reduce their carbon footprint and waste, hence protecting the environment and the local economy [1,4,18,19].

In general, as the impact of individuals’ dietary habits on environmental sustainability increases, the number of studies in the literature concerning household sustainable food consumption behaviour also increases [20–23]. Earlier studies have used quantitative and qualitative methodological approaches to households’ sustainable food consumption patterns, food waste management, and buying local food [1,9,24–29].

Several studies use quantitative and qualitative research methods regarding the relationship between socio-demographic variables and sustainable food consumption. Interviews and surveys frequently examine households’ sustainable food consumption, shopping, and waste management habits. In this regard, Demirtas et al. [30] found a correlation between consumers’ organic food consumption habits and their income, education, age, household size and place of residence. Similarly, Gazdecki et al. [31] demonstrated that consumers’ place of residence has a significant role in their sustainable food behaviour. Miranda-De La Lama et al. [32] have explored that sustainable consumption in Mexico has been affected by several factors, including income level, level of knowledge, and consumers’ place of residence.

Gender is a significant parameter cited in the literature concerning organic food consumption. Accordingly, women tend to buy organic food more than men [4,33,34]. Furthermore, several studies indicated that women are more likely to adopt sustainable consumption preferences [35–37]. However, there are contradicting findings concerning the link between age and sustainable consumption behaviour. Several studies found that older people are more likely to adopt environment-friendly consumption behaviour [38–40]. In contrast, Azzurra et al. [4] and Bulut et al. [41] demonstrated that younger generations are more likely to have sustainable and organic consumption tendencies in their respective studies.

The existing literature on sustainable food consumption also focuses on the motivators and barriers of households in purchasing their food. In this sense, Weatherell et al. [42] reported that functional returns of food (e.g., taste, nutritional value, and accessibility) influenced individuals’ food choices. Similarly, various studies have pointed to several drivers for choosing organic food, including the gustatory sensation, nutritional benefit, and medical and ecological concerns [43–48]. On the other hand, the barriers to consuming organic food have been found in the literature as insufficient knowledge, low accessibility, reliability problems, and high cost and time restrictions [45,49–54]. For instance, Vittersø and Tangeland [55] conducted two consumer surveys simultaneously. They found that Norwegian consumers’ perceptions have changed at the expense of consuming organic food due to access problems (unavailability of organic foods), lack of information, and high prices.

A line of researchers focused on the relationship between individuals’ purchasing, cooking, and eating habits, environmental concerns, and food waste behaviour [56–60]. Furthermore, various studies found that individuals’ shopping habits, leftover repurposing styles, and level of consciousness are significant determinants of their food waste behaviour [61–64]. More specifically, the study by Berjan et al. [65] on the nexus between

the COVID-19 pandemic and Serbian household food waste management indicated that while household waste in Serbia was relatively low in the pre-COVID-19 period, the pandemic led people to go shopping more and create more food waste. The lack of knowledge and awareness was regarded in the literature as the significant reasons for creating food waste by households and food services. For instance, Yıldırım et al. [66] revealed in their explanatory survey that approximately 50% of participants expressed that they would be less likely to throw away if there was sufficient information about the adverse ecological and economic consequences of food waste. Similarly, the Cordova-Buiza et al. [67] study on food waste management in Peru found that food services are unaware of reusing and repurposing organic waste.

Regarding households' local food purchases, several studies have investigated the factors influencing consumers' decisions to buy local products [68–70]. For instance, Megicks et al. [71] revealed that local food shopping decisions of individuals were based on several reasons, including the local food's perceived value, people's will to strengthen the local market, ethical concerns, and shopping advantages. Furthermore, the study by Holmes and Yan [72] demonstrated that while previous habits of consumers and low prices of 'conventional' goods were the main drivers behind consumers' preferences for 'conventional' products, high standards of local food and empowering local entrepreneurs were found as the primary reasons for individuals' choosing of local food. Similarly, the study by Hasselbach and Roosen [73] on a sample of 720 German consumers found that the consumers' motivations for buying local or organic food included demand for natural substances, concerns for 'animal welfare', sensory attraction, health concerns, and price-related issues.

Regarding sustainable food consumption in Türkiye, Ayar and Gürbüz [74] used a research data survey method to examine the sustainable consumption habits of consumers in Kastamonu, Türkiye. Tekinbaş Özkaya et al. [75] framed sustainable food consumption by conducting semi-structured interviews with Turkish experts and found that consumers had insufficient awareness and knowledge about sustainable practices. Studies on organic food consumption in Türkiye suggest that organic food consumption is highly related to education, income level, and ecological and health awareness [76–78]. A survey study on sustainable food consumption in Izmir considers gender and age as dependent variables [41].

Having analysed the relations between a wide range of socio-demographic factors (gender, age, education, income level, employment status, household size, and composition) and sustainable food consumption behaviours of the target group in Izmir, this study provides the encompassing empirical findings on sustainable food consumption. In this regard, it contributes to the literature on sustainability and sustainable food consumption by revealing food shopping, purchasing/consumption, food waste behaviours, and dietary habits of the relevant sample in Izmir.

3. Methods

Izmir makes for an interesting case study because of its local policies regarding agricultural transformation. The Izmir Metropolitan Municipality's agriculture and rural development activities started in 2004, earlier than other metropolitan municipalities in Türkiye. The so-called Izmir Model's main objective is improving food quality through innovation, sustainability, and networking. The Izmir Metropolitan Municipality supports organic and good agricultural practices, seed and sapling distribution, ovine breeding, beekeeping activities, expands road infrastructure, conducts soil and leaf analysis, and provides agricultural forecasting services [79,80]. Türkiye's first organic market was opened in Karsiyaka with the initiative of the Izmir Metropolitan Municipality. Izmir is also a gastronomy spot with its large capacity commercial port, agricultural sector, and culinary heritage. It became a member of the World Gourmet Cities Network in 2015.

Considering the sustainability potential of the city of Izmir, this study relies on survey data to understand drivers for food consumption preferences, behaviours, and enablers and barriers for households in Izmir. The drivers for households' sustainable food consumption

are identified in the literature as ecological and health concerns, high nutritional quality, accessibility, and taste of particular foods [43–48]. Furthermore, several studies found socio-demographic factors such as household income, age range, gender distribution, education, and transportation preferences as critical elements [30–32]. Accordingly, the questionnaire of this study aims to measure the relationship between the socio-demographic variables and variables on households' sustainable food consumption behaviours, including food shopping, food purchasing and consumption behaviour, dietary habits, and food waste behaviour.

Results of the literature review are utilised to identify the dimensions regarding sustainable food consumption behaviours and relevant socio-demographic factors (gender, age, education, income level, employment status, household size and composition) that can be utilised in the survey design. Table 1 demonstrates the existing variables in the literature regarding sustainable food consumption and how these variables were used in the survey design of this study to reveal the sustainable food consumption habits of households in Izmir.

Table 1. Variables derived from the literature review and correlation with socio-demographics.

Dependent Variable Measuring Sustainable Consumption	How to Measure the Variables (Corresponding Survey Question)	Correlation with Socio-Demographics
Market place preference	Where do you buy most of your food products? Please indicate your top 3 choices.	Gender, age, education, income [4,30–32]
Shopping frequency	How often do you go food shopping?	Gender, age, employment, household size, household composition, income [31,32,60]
Shopping face-to-face/online	How do you shop for food? (You can choose more than one option.)	Gender, age, education, employment, household composition [31,40,68]
Using digital channels for online shopping	Which digital channels do you use the most for your online shopping? Please indicate your top 3 preferences.	Gender, age, education, employment, income [24,31,68]
Means of transportation for food shopping	Which method or means of transportation do you use the most for food shopping? Please indicate your top 3 preferences.	Gender, age, education, employment, income [4,65]
Percentage of household income for food shopping	What percentage of household income is spent on food shopping?	Gender, age, education, employment, household size, household composition, income [33,34,40]
Food Type Preference	What food products do you prefer the most in your food shopping? Please indicate your top 3 preferences.	Gender, age, education, household size, income [33–35,73]
Factors affecting food preferences	What factors do you consider when choosing food? Please indicate the top 3 factors.	Gender, age, employment, household size, income [4,21,73]
Environmental consciousness for food preferences	Which of the following do you consider important when making food choices? Please indicate the top 3 factors.	Gender, age, education, household size, income [4,34,35,41]
Food Group Preferences	Which food groups do you primarily consume in your food consumption? Please indicate your top 3 priorities.	Gender, age, education, household size, household composition, income [4,41,42]
Choice of place to eat	Where do you prefer to eat? Please indicate your top 3 habits.	Gender, age, education, household size, income, employment [21,24]
Obstacles to a healthy diet	What are the obstacles to a healthy diet? Please indicate your top 3 preferences.	Gender, age, employment, household size, income [53,68,72]
Disposal of food waste	How do you dispose of food waste? Please indicate your top 3 preferences.	Gender, age, education, employment, household size, income [65–67]
The utilisation of leftover food	How do you utilise leftover food? Please indicate your top 3 preferences.	Gender, age, education, employment, household composition [65–67]

The questionnaire was designed based on insights from relevant studies that previously utilised surveys as the methodological framework [65,66,73]. The draft survey was pretested online by ten individuals and researchers. Based on the feedback from the pretest, the survey design reached its final form.

The online survey was sent to participants through Google Forms between June and September 2022. Online survey platforms such as Google Forms offer a practical and less costly alternative to in-person surveys. In line with the scope of this research, the survey identified households residing in Izmir as the target group. The respondents were recruited through invitation only. A quota on age was set to 35% for the 25–44 age group to ensure that the participants reflect Izmir's census estimates [81]. In total, 515 respondents completed the questionnaire. The sample data were also weighted for gender using statistics provided by TurkStat [82] to represent the Izmir population. For academic integrity, the survey was anonymous and did not ask for personal or contact information. Google Forms also prevents participants from being identified in any circumstances. The response rate to the survey was 57%; scholars consider a response rate of 50% and above as satisfactory, particularly for online surveys [83–85].

This study analyses socio-demographics and sustainable food consumption behaviours based on the survey responses. The socio-demographic variables considered are gender, age, education level, income level, household size, and house size. In contrast, the sustainable food behaviours analysed include food shopping, purchasing and consumption, dietary habits, and food waste.

The relationship between the socio-demographic characteristics, food-related habits, and food consumption behaviours is analysed through frequency analysis, Kruskal–Wallis, Chi-square, and Weighted F tests. Moreover, Logistic Regression is utilised to model these relationships.

4. Survey Results

4.1. Descriptive Analysis: Socio-Demographic Characteristics of Participants

Table 2 presents the descriptive statistics for socio-economic and demographic variables. Sampling weights were used in the analysis to reflect the gender distribution of the Izmir population. Of the 515 respondents, 50.31% of respondents were female, and 49.69% were male. Therefore, those aged between 25 and 44 comprise the largest group in the sample. As for the level of education, it is observed that the majority of the respondents (65.56%) had either a vocational school or bachelor's degree, followed by a master's degree or upper level with 19.97%, and high school or a lower degree with 14.47%. Regarding the average monthly income level, the demographic data show that most respondents (49.40%) had an income level of more than 20,000 TL. Furthermore, 60.71% of the respondents were employed.

The socio-demographic data also include information regarding household size, household composition, house type, and house size. Regarding household size, most respondents (58.73%) lived with three to four people and 35.67% with one to two people. Only 5.59% of the participants lived with more than five people at home. Regarding household composition, Table 2 shows that 61.98% of the respondents shared their homes with household members under 18. Regarding house type, most participants (73.59%) lived in apartments and residences. Only 26.41% lived in other building types, such as detached, semi-detached, or summer houses. Regarding the house size, the majority (62.07%) preferred houses between 100 and 200 m², while 22.53% lived in smaller houses (less than 100 m²). Only 15.39% of respondents reported houses sized more than 200 m².

4.2. Food Shopping Behaviour

Figure 1 presents the weighted percentages of consumers by food shopping place preferences. The questionnaire asked respondents to select up to three places of purchase among nine options. The results show that the most frequently selected shopping place option was chain markets (423 respondents, almost 83%), while the least selected option was organic markets (30 respondents, 6%). The other notable retail places included street markets, markets, butchers, and groceries, selected by almost 49%, 39%, 32%, and 28% of individuals, respectively. Only 30 individuals (6%) reported organic markets as one of their shopping destinations. However, none of the 510 respondents who answered this survey reported organic markets as their only food source. Meanwhile, almost 8% of respondents

considered chain markets as their single food shopping location. This finding suggests that organic markets have yet to become entrenched in Izmir residents' daily lives.

Table 2. Socio-demographic characteristics of the survey participants.

	N	Weighted %
Gender		
Female	324	50.31
Men	185	49.69
Age		
18–24	81	16.77
25–34	61	12.15
35–44	125	23.26
45–54	134	23.87
55–64	67	13.46
65 and above	42	10.49
Education		
High school or lower	72	14.47
Vocational school or bachelor's degree	332	65.56
Master's degree or upper level	106	19.97
Income		
10,000 TL and under	74	14.32
10,001–20,000 TL	185	36.28
Above 20,000 TL	251	49.40
Employment status		
Employed	310	60.71
Unemployed	200	39.29
Household size		
1–2	175	35.67
3–4	307	58.73
5 or more	28	5.59
Household composition		
Households with members under 18 years of age	306	61.98
Households with members over 18 years of age	204	38.02
House type		
Apartment and residence	371	73.59
Other	139	26.41
House size		
100 m ² or under	113	22.53
101–200 m ²	311	62.07
Above 200 m ²	86	15.39

Table 3 presents the Chi-square tests for the relationship between preferences for food shopping places and selected socio-demographic variables. Furthermore, it provides a breakdown of socio-demographic variables related to shopping places. The results indicate that gender only correlates with market shopping, while age correlates with five available options. Income is also associated with four shopping destinations. However, education is not a significant determinant of any venue. One interesting finding from Table 3 is that respondents in the highest income category reported shopping more frequently in supermarkets, street markets, butchers, greengroceries, local food producers, seafood, and organic markets, than other respondents. This situation is particularly noteworthy for seafood shopping places and butchers, which may be considered niche market segments and viewed as more expensive than supermarkets. Another intriguing finding is that none of the socio-economic variables is statistically related to the demand for organic markets. However, it should be pointed out that among those who reported shopping at organic outlets, 61% were women.

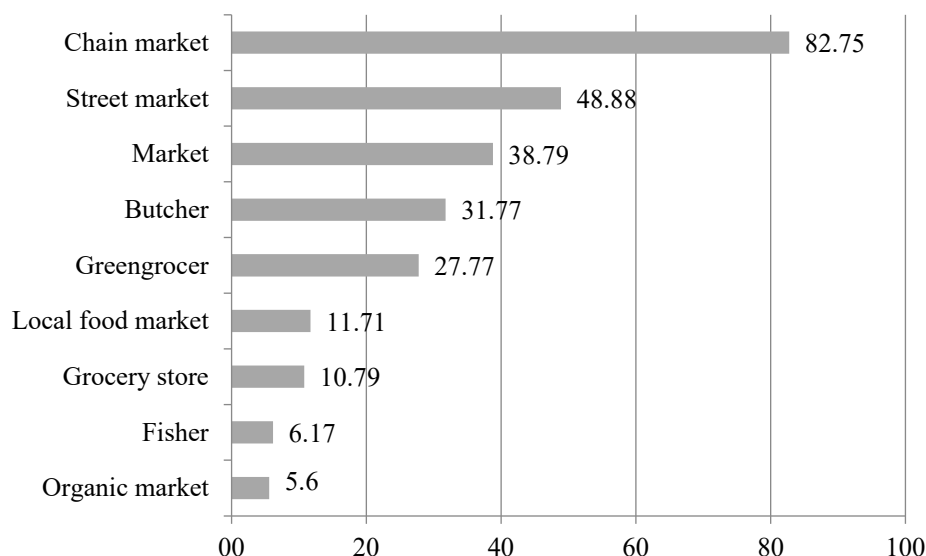


Figure 1. Weighted Percentages of Preferred Food Shopping Places (N = 510).

Table 3. Relationship Between Food shopping places by socio-demographic characteristics.

	Supermarket	Street Market	Market	Butcher	Greengrocery	Local Food Producer	Grocery Store	Fisher	Organic Market
Gender	$p > 0.05$	$p > 0.05$	$p \leq 0.01$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$
Women	0.507	0.527	0.432	0.518	0.565	0.610	0.403	0.478	0.614
Men	0.493	0.473	0.568	0.482	0.435	0.390	0.597	0.522	0.386
Age	$p \leq 0.001$	$p > 0.05$	$p \leq 0.001$	$p \leq 0.001$	$p > 0.05$	$p \leq 0.001$	$p \leq 0.001$	$p > 0.05$	$p > 0.05$
18–24	0.177	0.159	0.229	0.085	0.152	0.076	0.364	0.131	0.152
25–34	0.132	0.114	0.142	0.078	0.131	0.086	0.193	0.050	0.140
35–44	0.253	0.230	0.207	0.218	0.213	0.192	0.151	0.169	0.223
45–54	0.248	0.252	0.176	0.343	0.315	0.228	0.086	0.213	0.160
55–64	0.120	0.142	0.099	0.148	0.112	0.323	0.093	0.256	0.180
65 and above	0.071	0.104	0.147	0.128	0.077	0.095	0.114	0.181	0.145
Education	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$
High school or lower	0.130	0.160	0.173	0.120	0.143	0.139	0.157	0.094	0.152
Vocational school or bachelor’s degree	0.659	0.656	0.660	0.667	0.640	0.732	0.754	0.618	0.612
Master’s degree or upper level	0.212	0.185	0.167	0.213	0.217	0.129	0.089	0.288	0.236
Income	$p > 0.05$	$p > 0.05$	$p \leq 0.001$	$p \leq 0.001$	$p > 0.05$	$p > 0.05$	$p \leq 0.01$	$p \leq 0.01$	$p > 0.05$
10,000 TL and under	0.133	0.158	0.168	0.060	0.129	0.116	0.229	0.050	0.160
10,001–20,000 TL	0.350	0.358	0.464	0.305	0.371	0.304	0.514	0.213	0.368
Above 20,000 TL	0.517	0.484	0.368	0.635	0.500	0.580	0.257	0.737	0.472

The questionnaire also asked respondents to select up to three reasons for avoiding organic markets as shopping places. Overall, 433 respondents (86%) reported at least one reason. The most frequently identified barriers to shopping at organic markets were accessibility (60%) and high costs (49.3%). This finding implies that organic market venues have yet to become popular because of their inconvenient location or working hours and because organically grown products are perceived as more expensive than conventional foods.

The respondents were asked to estimate how often they shop for food. Only a minority of respondents (0.27%) prefer shopping once a month. Fifty-eight reported that they shopped a few times a week. The Kruskal–Wallis tests show that shopping frequency does not change with gender, age, employment, income, household size, composition, or shopping venue. However, the result for shopping frequency supports the previous finding that individuals do not prefer organic markets because of the inconvenience of access. If

people frequently shop a few times a week, they will prefer closer shopping venues to distant organic markets, which might increase transportation costs.

When respondents were asked whether they preferred face-to-face or online shopping, almost half (49.85%) reported face-to-face shopping, while the other half (49.3%) preferred face-to-face and online shopping. Only 1.12% reported that they do online shopping exclusively. Chi-square tests were performed to see whether modes of shopping are linked to socio-demographic data. The results reveal that age and income are the only variables statistically associated with face-to-face and online shopping. Among those who shop daily, 5.17% preferred online shopping, 43.76% preferred traditional in-store shopping, and 51.07% did both. Non-daily shoppers did not exclusively use online shopping but combined it with in-store shopping. Similarly, those who shopped once a month were all combiners. The largest group of respondents who exclusively preferred in-store shopping were those who shopped once a week (59.54%).

The respondents were also asked which digital channels they used for online shopping. The results are displayed in Table 4. Around 62% of individuals reported using websites and mobile applications of hyper- and supermarkets. Almost 30% favoured same-day grocery delivery apps. However, the number of respondents who answered this question ($N = 257$) and the percentage of respondents (49.85) who reported that they do only in-store shopping suggests that online shopping has yet to be considered a substitute for in-person shopping despite the COVID-19 experience. People still prefer to see the products before they buy.

These results are summarised in Table 4 below:

Table 4. Summary of shopping preferences of respondents.

Respondents' Reasons for Not Choosing Organic Markets ($N = 433$, Weighted Percentages)					
Transportation difficulty/accessibility	High costs	Household habits	Lack of time	Personal preferences	Other
60.20	49.26	31.69	31.32	12.70	10.09
Respondents' Shopping Frequency ($N = 506$, Weighted Percentages)					
Every day	Few times a week	Once a week	Every two weeks	Once a month	
11.28	57.90	26.03	4.51	0.27	
Comparison of Shopping Frequencies of Online vs. In-Store Shoppers ($N = 505$, Weighted Percentages)					
	Online shopping		In-store shopping		Both
Every day	43.76		51.07		5.17
Few times a week	48.35		50.72		0.93
Once a week	59.54		40.46		0.00
Every two weeks	39.74		60.26		0.00
Once a month	0.00		100.00		0.00
Online Food Shopping Preferences by Channel ($N = 257$, Number of Respondents, Weighted Percentages)					
Websites/mobile applications of chain markets				161, 61.79%	
E-market applications that provide fast delivery service				76, 29.95%	
Websites/social media accounts of local food producers				12, 5.09%	
Other online shopping sites or applications				8, 3.16%	

Table 5 demonstrates the relationship between transport modes for shopping and socio-demographic data. It accomplishes this by using the Chi-square test to determine if significant differences exist in transport modes among various socio-demographic groups. The table also shows how the categories of socio-demographic variables are related to transport modes. The results of Table 5 indicate that public transport usage significantly differed in age and income, with both variables having p -values below 0.001. Specifically, the lowest age group (18–24) and the highest age group (65 and above) accounted for 23 per cent of public transportation users.

Table 5. Relationship between shopping transport modes and socio-demographic characteristics *.

	Private Car	Home Delivery	Public Transportation
Gender	$p > 0.05$	$p > 0.05$	$p > 0.05$
Women	0.497	0.547	0.582
Men	0.503	0.454	0.418
Age	$p > 0.05$	$p \leq 0.001$	$p \leq 0.001$
18–24	0.146	0.213	0.226
25–34	0.106	0.120	0.202
35–44	0.246	0.310	0.096
45–54	0.251	0.217	0.167
55–64	0.138	0.112	0.081
65 and above	0.114	0.027	0.229
Education	$p > 0.05$	$p > 0.05$	$p > 0.05$
High school or lower	0.125	0.132	0.205
Vocational school or bachelor's degree	0.666	0.658	0.622
Master's degree or upper level	0.209	0.211	0.173
Income	$p \leq 0.001$	$p \leq 0.05$	$p \leq 0.001$
10,000 TL and under	0.088	0.137	0.329
10,001–20,000 TL	0.346	0.307	0.536
Above 20,000 TL	0.566	0.555	0.134

* $N = 509$, weighted percentages.

Furthermore, income is significantly associated with using public transportation such as buses, trams, metro, and minibuses. These findings are unsurprising given that public transportation is a convenient and low-cost alternative to private cars. In contrast, nearly 57% of car users were high-income, while only 13% of public transportation users were high-income individuals.

The respondents were also asked how much their household income was spent on food shopping. Most respondents (almost 32%) reported spending 21–30% of their monthly household income on food. Those who spent more than 40% of their budget were only 17% of the sample. Table 6 further shows the percentage of food shopping expenditure by household income. Again, the weighted F test shows that the relationship between household income and food budget is statistically significant ($p = 0.0003$).

Table 6. Percentage of food shopping expenditure by household income *.

Food Shopping Expense	Income Level		
	10,000 TL and under N (Weighted %)	10,001–20,000 TL N (Weighted %)	Above 20,000 TL N (Weighted %)
Less than 10%	2 (3.75)	3 (2.22)	18 (7.26)
11–20%	8 (12.63)	27 (14.68)	63 (26.23)
21–30%	18 (23.47)	61 (34.23)	79 (32.17)
31–40%	25 (32.64)	51 (26.71)	64 (24.25)
More than 40%	21 (27.51)	43 (22.15)	27 (10.09)
Total	74 (100)	185 (100)	251 (100)

* Total $N = 509$. Uncorrected $\chi^2(2) = 33.3423$; $p = 0.0003$.

4.2.1. Food Purchasing/Consumption Behaviour and Socio-Demographics

The respondents were asked which types of food they purchase or consume, including fresh food, frozen food, packaged food, canned food, and ready-to-heat food or meals. Table 7 displays Chi-square test results which show the relationship between food type preference and socio-demographic variables. The Chi-square test shows that none of the socio-demographic variables is significantly associated with consuming fresh food. Frozen food and ready-to-heat meal purchases are significantly associated with age. While almost 26% of people who consume frozen food were between the ages of 18 and 24, those who

were over 65 were only 3%. Age is also significantly associated with packaged food and ready-to-heat meals. The results show that those over 55 refrain from consuming both food groups. Ready-to-heat meals are also significantly related to gender and income. Of the respondents who preferred this food type, 71% were men.

Table 7. Food type preference by socio-demographic characteristics ($N = 509$, weighted percentages).

	Fresh Food	Frozen Food	Packaged Food	Canned Food	Ready-To-Heat Food/Meals
Gender	$p > 0.05$	$p > 0.05$	$p \leq 0.001$	$p > 0.05$	$p \leq 0.01$
Women	0.510	0.503	0.416	0.428	0.287
Men	0.490	0.497	0.584	0.572	0.713
Age	$p > 0.05$	$p \leq 0.01$	$p \leq 0.05$	$p > 0.05$	$p \leq 0.01$
18–24	0.161	0.255	0.212	0.299	0.387
25–34	0.120	0.155	0.154	0.140	0.173
35–44	0.236	0.277	0.222	0.237	0.196
45–54	0.239	0.213	0.206	0.131	0.121
55–64	0.138	0.068	0.121	0.073	0.093
65 and above	0.107	0.032	0.085	0.120	0.031
Education	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$
High school or lower	0.141	0.178	0.130	0.165	0.183
Vocational school or bachelor’s degree	0.654	0.645	0.672	0.729	0.675
Master’s degree or upper level	0.205	0.177	0.198	0.106	0.142
Income	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p > 0.05$	$p \leq 0.05$
10,000 TL and under	0.138	0.152	0.133	0.179	0.294
10,001 TL–20,000 TL	0.367	0.389	0.414	0.421	0.320
Above 20,000 TL	0.495	0.459	0.454	0.400	0.387

The survey also asked respondents about the motivations behind their food preferences. Participants could select from ten options. Table 8 shows that health, seasonal harvest, cost, and taste preferences constitute the most salient motivations. The weighted Chi-square tests further show that health considerations are significantly associated with age and income (both at p values ≤ 0.05). Age ($p \leq 0.01$) and income level ($p \leq 0.001$) are also correlated with cost-related issues. Those who prefer food based on harvest season are primarily women (55%, $p \leq 0.05$). Moreover, age strongly correlates with seasonal harvest considerations ($p \leq 0.001$).

Table 8. Food preferences ($N = 505$).

	Motivations behind Food Preferences N (Weighted %)	Preferring Fresh Food N (Weighted %)
Health	298 (58.17)	296 (59.13)
Seasonal harvest	272 (52.21)	271 (53.3)
Cost	241 (48.83)	232 (48.03)
Taste preference	239 (47.31)	234 (47.19)
Cooking skills	102 (19.69)	98 (19.18)
Local product	84 (17.12)	84 (17.53)
Meal planning	74 (14.44)	72 (14.23)
Cooking time	55 (10.92)	53 (10.63)
Lifestyle	36 (6.45)	35 (6.61)
Special diet	30 (5.56)	30 (5.699)

Table 8 further shows that 59% of those who prefer fresh food make food choices based on health considerations. The Chi-square test further shows that preferring fresh food is statistically associated with health considerations ($p \leq 0.01$).

The survey also asked respondents to select up to three environmental factors affecting their food choices. Almost 68% of respondents reported that they care about local food, while 53% stated that organic eating is essential for them. Among those who preferred local and organic food, women constituted 53 and 52%, respectively. Those in the highest income category also reported a higher preference for local and organic food. The respondents who prioritised carbon footprint generation from food transportation and production constitute a minority in the sample. Moreover, the Chi-square tests show that environmental concerns are not statistically related to socio-demographic factors. The only exception is between age and preferring local food ($p \leq 0.01$).

This paper also used logistic regression models to test whether age is independently associated with preferring local and organic food when other relevant variables are considered. Table 9 presents the results.

Table 9. Logistic regression analysis of factors influencing the prioritisation of locally sourced food and organic food.

Independent Variables	Model I (Local Food)	Model II (Organic Food)
	Odds Ratio (Robust Standard Errors)	Odds Ratio (Robust Standard Errors)
Gender	1.447 (0.320)	1.140 (0.220)
Age	1.771 *** (0.144)	1.086 (0.073)
Education	0.900 (0.167)	1.020 (0.168)
Income level	1.026 (0.165)	1.023 (0.144)
Households with members under 18 years of age	1.134 (0.253)	1.033 (0.205)
Eating healthy	1.635 (0.425)	1.253 (0.300)
Intercept	0.226 ** (0.111)	0.599 (0.265)
Number of individuals	509	509
Log likelihood	−274.514	−349.997

A p -value of less than or equal to 0.01 is represented by two asterisks (**), and a p -value of less than or equal to 0.001 is denoted by three asterisks (***). If the p -value is greater than 0.05, no asterisk is used.

The dependent variable is prioritising local food for environmental reasons in Model I. Since the dependent variable is dichotomous (coded 1 if the respondent reported a choice for local food and 0 otherwise), we used logistic regression. Cell entries are the odds ratios, which indicate how much the odds of preferring local food increase with each unit change in an independent variable while holding all other variables constant. The upper row for each independent variable displays the odds ratios, and the number in parentheses represents the robust standard errors. The results indicate that age increases the propensity to choose local food for environmental reasons when controlling for the other related variables ($p < 0.001$). All else being equal, the odds of an individual preferring local food were increased almost 1.8 times with an increase in the age group. In Model 2, the dependent variable takes 1 if respondents reported a preference for organic food and 0 otherwise. None of the independent variables was found to be statistically significant.

4.2.2. Dietary Habits and Socio-Demographics

Regarding dietary habits, the first question asked to the participants was about what food groups they consumed, including bread and cereals, vegetables, fruits, red meat, poultry, fishery, milk, dairy products, eggs, legumes, and pulses. Table 10 shows that most (77%) preferred vegetables, while almost 52% preferred red meat. The fats, oils, and sweets group was the least selected item by respondents. The Chi-square tests also show that, while eating vegetables is significantly associated with gender and age, higher-income groups tend to avoid bread and cereals. Individuals with higher incomes primarily consumed red meat and fishery products.

Table 10. Preferences for different food groups and eating places.

	N	Weighted %
Food group preferences		
Vegetables	404	77.19
Red meat	255	51.49
Milk, dairy products and egg	242	45.85
Fruits	190	36.64
Bread and cereals	121	24.91
Fishery products	96	19.33
Legumes and pulses (beans)	96	18.53
Poultry	73	15.64
Fats, oils, and sweets group	14	2.63
Other	5	1
Eating places		
Home	494	96.16
Outside	245	48.47
Take away	46	10.2
Other	15	3.24
On the move	12	2.43

The survey also included a question about individual preferences for eating away from home. Respondents were asked to select up to three options among home-cooked meals, eating out, takeaway, on the move, and others. The results of this question are displayed in Table 11, which shows that the most popular choice was eating at home, followed by eating out. Furthermore, the Chi-square tests conducted on the data indicate a significant relationship between gender and age concerning eating at home. On the other hand, income and age are associated with the preference for eating out.

Table 11 presents the multivariate logistic regression results predicting preferences for eating at home (Model III) and eating out (Model IV). The upper row for each independent variable displays the odds ratios, and the number in parentheses represents the robust standard errors. The analysis controlled for socio-demographic characteristics, and the results reveal that age is significantly and positively associated with a greater likelihood of eating at home. Women were also found to be more likely to eat at home. Regarding eating out, the analysis found that younger age and higher income levels were significantly and positively linked to the preference for eating out.

After being further asked about their eating habits, 76% of the respondents reported eating healthily. For those who considered themselves to eat unhealthily, 69% attributed their eating habits to personal choices, while 54% cited food prices as a reason for their choices. The Chi-square tests on the data revealed that habits were not correlated with any of the socio-demographic variables analysed in this study. However, a significant correlation was found between food prices, income, and household size.

Concerning the obstacles to a healthy diet, almost 70% of the respondents cite habits, whereas 55% point to food prices and 52% show time strains as a barrier. Access to healthy food is stated as a barrier by 36% of the respondents.

Table 11. Logistic regression analysis of food venue preferences.

Independent Variables	Model III (Home)	Model IV (Outside)
	Odds Ratio (Robust Standard Errors)	Odds Ratio (Robust Standard Errors)
Gender	4.042 * (2.461)	0.852 (0.177)
Age	1.538 * (0.321)	0.620 *** (0.048)
Education	1.853 (0.846)	1.193 (.205)
Income level	1.064 (0.426)	2.430 *** (0.396)
Households with members under 18 years of age	2.299 (1.552)	1.015 (0.212)
Eating healthy	2.098 (1.300)	0.626 (0.157)
Intercept	0.665 (0.628)	0.608 (0.297)
Number of individuals	509	509
Log likelihood	−67.213	−309.542

A *p*-value of less than or equal to 0.05 is denoted by one asterisk (*), and a *p*-value of less than or equal to 0.001 is represented by three asterisks (***). If the *p*-value is greater than 0.05, no asterisk is used.

4.2.3. Food Waste Practices

The survey also addressed the issue of food waste practices, with a five-item question asking respondents to select up to three personal approaches to food waste. The results reveal that the most frequently identified approach was disposing of without sorting, with 54% of participants choosing this option, followed by disposing of with sorting at almost 36%. Disposal as animal feed and organic fertiliser was reported by 19.42% and 10.38% of the respondents, respectively. For leftovers, freezing was the most-preferred option (47.55%), followed by repurposing and sharing (34.58% and 16.22%, respectively). In total, 7.83% of the respondents stated that they throw away leftover food. In addition, Chi-square tests were conducted on the data. They indicated a correlation between age and household size with participants' tendency to dispose of their food waste with and without sorting.

This paper also conducted logistic regression models to understand better whether these correlations would remain valid when accounting for other related variables. Table 12 presents the results. The upper row for each independent variable displays the odds ratios, and the number in parentheses represents the robust standard errors. Concerning disposal with sorting, this paper found that age is negatively associated with sorting waste but positively associated with disposal without sorting, even after holding other variables constant. None of the other variables of interest is significant in the regression analyses.

Lastly, the survey asked about how the respondents utilise leftover food. The results are presented in Table 13. Everyone in the sample has some leftovers. However, most (48%) freeze and almost 8% throw away the leftovers. Among those who repurpose leftover food, almost 59% are women. Repurposing is also significantly associated with age. Similarly, the Chi-square test showed that freezing significantly relates to respondents' age.

Table 13 presents the result for logistic regression models. The upper row for each independent variable displays the odds ratios, and the number in parentheses represents the robust standard errors. Model VII shows that the odds of freezing leftover food decrease with age, with all other factors in the model being held constant. However, age has no

statistically significant effect on repurposing. Results reveal that women are more likely to repurpose food than men after controlling for other variables (Model VIII).

Table 12. Logistic regression analysis of food waste disposal.

Independent Variables	Model V (With Sorting)	Model VI (Without Sorting)
	Odds Ratio (Robust Standard Errors)	Odds Ratio (Robust Standard Errors)
Gender	0.931 (0.183)	1.050 (0.213)
Age	0.823 ** (0.057)	1.235 ** (0.089)
Education	1.157 (0.192)	0.921 (0.156)
Income level	1.136 (0.158)	0.915 (0.132)
Households with members under 18 years of age	0.876 (0.175)	0.968 (0.203)
Eating healthy	0.803 (0.198)	1.374 (0.359)
Intercept	1.627 (0.739)	0.300 * (0.147)
Number of individuals	509	509
Log likelihood	−344.152	−323.106

A *p*-value of less than or equal to 0.05 is represented by one asterisk (*), and a *p*-value of less than or equal to 0.01 is represented by two asterisks (**). If the *p*-value is greater than 0.05, no asterisk is used.

Table 13. Logistic regression analysis of utilising leftovers.

Independent Variables	Model VII (Freezing)	Model VIII (Repurposing)
	Odds Ratio (Robust Standard Errors)	Odds Ratio (Robust Standard Errors)
Gender	0.944 (0.184)	1.767 ** (0.365)
Age	0.821 ** (0.556)	0.999 (0.071)
Education	1.027 (0.172)	0.712 (.126)
Income level	0.915 (0.130)	1.014 (0.153)
Households with members under 18 years of age	0.867 (0.173)	1.025 (0.210)
Eating healthy	1.254 (0.306)	0.917 (0.225)
Intercept	0.665 (0.628)	0.804 (0.368)
Number of individuals	509	509
Log likelihood	−346.302	−321.985

A *p*-value of less than or equal to 0.01 is represented by two asterisks (**). If the *p*-value is greater than 0.05, no asterisk is used.

4.2.4. Alignment of the Survey Results with the Literature

The results of the survey align with several earlier results from the literature. For instance, concerning the correlation preferred place of purchase and income levels [27], the survey results show that people with higher income levels prefer butcher and fish stores to markets or grocery stores. A similar result holds for another socio-demographic dimension, gender. Accordingly, gender is an essential determinant of food consumption, where women purchase more organic food than men [4,30,31]. In line with this result from the literature, the survey results also demonstrate that women spend more household income on food shopping than men. Gender also appears to be correlated with meal preferences. A number of studies in the literature conclude that women have a higher tendency towards adopting sustainable consumption behaviour [32–34]. The survey results also point to a similar conclusion: women are more likely to prefer home-cooked meals. In addition, men have a higher preference for takeaway meals than women. Another relevant socio-demographic variable is age. Earlier studies in the literature assess that older people have a higher tendency to adopt environment-friendly consumption behaviour [35–37]. The survey results support this assessment through multiple findings. Firstly, the survey results show that older people are more likely to prefer shopping from a butcher and local producer than to markets or grocery stores. This situation is also supported by the increase in the tendency to prefer local food as the age of respondents increases. While they prefer vegetables, fishery products, and home-cooked meals, older people are less likely to purchase and consume bread, cereals, and frozen, packaged, or ready-to-heat food. Another result from the survey that aligns with the findings is that younger people are more likely to eat outside or prefer takeaway meals.

The existing literature identifies the barriers to consuming organic food as insufficient knowledge, low accessibility, reliability problems, high cost, and time restrictions [42,46–51]. According to the survey results, increasing income level acts as an enhancing factor whereby, as the income level of the household increases, food prices are not perceived as a barrier to adopting a healthy diet. The survey also supports this result: higher-income groups tend to consume red meat and fishery products and do not consume bread and cereals. Along with the preceding more expected results, the survey results also demonstrate that as the number of people living in the household increases, food prices are not prioritised as a barrier to adopting a healthy diet. With a similar perspective, low prices together with the previous habits of consumers, high standards of local food, and the motivation of empowering local entrepreneurs are shown to affect the consumers' local or healthy food choices [69]. This outcome aligns with the survey results, demonstrating that higher income levels (or lower relative prices) support choosing local food and a healthy diet. The results are similar when studies that focus on Türkiye are considered. These studies suggest that organic food consumption correlates with higher education, income, and ecological and health awareness [73–75].

Another significant identifier of sustainable food consumption behaviour is whether and how the leftover food is repurposed. Earlier results from the literature demonstrate that the shopping habits, leftover repurposing styles, and level of consciousness of individuals are significant determinants of their food waste behaviour [58–61]. At this point, the main (negative) drivers for creating food waste by households and food services are identified in the literature as a need for knowledge and awareness. According to a survey study, around 50% of participants stated that they would be less likely to throw away food if there was sufficient information about food waste's adverse ecological and economic consequences [63]. In this regard, gender also acts as an identifier in terms of repurposing, according to the survey results. That is, women are more inclined towards repurposing leftover food compared to men.

Moreover, with increasing age and more household residents, the respondents are more likely to dispose of them without sorting. That is, younger people and respondents that share their houses with fewer residents have a higher tendency to dispose of their food waste by sorting. When leftover food is considered, younger people state that they are

more likely to freeze their leftover food, while older people claim that they mostly do not have any leftover food.

Concerning the relationship between sustainable food consumption and the main sustainability indicators, earlier studies reveal that consumers need more awareness and knowledge about sustainable practices [72]. The survey results point to a similar conclusion: the respondents do not consider carbon footprint generation from food production and transportation in their decisions or behaviours.

5. Conclusions

To develop an understanding of pathways to sustainable consumption and to design relevant policies, it is significant to identify the factors that shape individuals' food consumption behaviour and the barriers to sustainable food consumption.

Food consumption is a significant determinant of sustainability. Accordingly, sustainable food consumption and consumer behaviour are essential in sustainability, especially considering the carbon and water footprint resulting from food production and consumption. With the increasing population, changing consumption patterns, and emerging social and economic impacts, food consumption habits' impact on the environment and climate change becomes even more critical. Consumers' attitudes, behaviours, and choices are essential at this point. Through their sustainable food consumption habits along different lines, consumers may significantly affect their impacts in terms of sustainability. Accordingly, understanding consumers' sustainable food consumption behaviours may contribute to designing and implementing tailored policies to foster sustainable food consumption behaviour. Individual attitudes, personal or social habits, convenience, concerns regarding health and cost-efficiency, urbanisation, globalisation, and marketing activities drive food consumption habits.

To identify the factors and barriers affecting sustainable food consumption behaviour in Türkiye, a survey of more than 500 households was conducted in Izmir. The survey aimed to identify the respondents' attitudes, tendencies, and behaviours concerning relevant aspects, including food purchasing, consumption, dietary habits, waste, and leftover practices.

The research results provide essential conclusions based on three main areas: sustainable food consumption, purchasing, and leftover and waste food-related behaviour.

Concerning food consumption behaviour, the results emphasise the significance of socio-demographic factors such as age, gender, education level, income level, and the number of residents in the household. Generally, age is associated with adopting environment-friendly consumption behaviour, and health considerations are significantly associated with age and income. Another important socio-demographic factor in sustainable food consumption behaviour is income level. Generally, higher income levels positively correlate with the tendency to adopt sustainable food consumption. The results of the study also highlight gender as a determining factor in terms of sustainable food consumption behaviour. In all such cases, women are more likely to adopt sustainable food consumption than men, for instance, concerning organic food consumption, spending a higher percentage of household income on food shopping, and preferring home-cooked meals. Hence, policy formulations aiming to promote sustainable food consumption behaviour need to consider these socio-demographic characteristics explicitly, potentially through the surveys conducted in this research. Moreover, more tailored policies must be developed for different cross-sections of the socio-demographic sphere.

When food purchase behaviours are considered, the most preferred places for food shopping are chain markets, while the least preferred option is organic markets. Moreover, none of the socio-economic variables is statistically related to the demand for organic markets. When digital channels for food shopping are considered, most respondents stated that they used websites and mobile applications of hyper- and supermarkets. However, almost half of the respondents prefer only in-store shopping. This finding points out that, despite the COVID-19 experience, online shopping has yet to substitute in-person shopping. This profile on the preferences for shopping places emerges as a significant factor affecting

sustainable food consumption since individuals are generally confined to what the chain markets offer. These chains have limited offerings towards sustainable consumption.

For older people, the preference still favours local producers instead of markets or grocery stores. A similar result shows that younger people are more likely to eat outside or takeaway meals, but older people prefer more home-cooked meals and less frozen, packaged, or ready-to-heat food. Therefore, awareness-increasing interventions and campaigns must be targeted towards younger age groups.

The survey results also show that respondents in the highest income category prefer supermarkets, street markets, butchers, greengroceries, local food producers, seafood, and organic markets more frequently than other income groups. Accordingly, the relationship between household income and food budget is statistically significant. Therefore higher-income groups are more likely to develop sustainable food consumption behaviour, and policies need to be developed to enhance the access of lower-income groups to more sustainable food alternatives.

Among the motivations affecting food preferences, health, seasonal harvest, cost, and taste preferences are the most significant factors. Concerning the barriers, accessibility and high costs are identified as the main barriers to shopping at organic markets. These motivators and barriers identified by this research can also be utilised as inputs to policy formulations concerning sustainable food consumption.

Leftover and waste food-related behaviour are associated with socio-demographic factors such as gender, age, and the number of household residents. For instance, women are inclined towards repurposing leftover food; age is negatively associated with sorting waste but positively associated with disposal without sorting. Households with more residents are less likely to dispose of food without sorting. Moreover, respondents from Türkiye are more likely to dispose of without sorting as their age increases. Hence, these habits are affected mainly by persistent socio-demographic factors. More determined and long-term policies are needed to foster change concerning these habits, such as sorting food waste.

This study's results contribute to developing policies to foster sustainable food consumption behaviour to address the raised challenges following the survey implemented. Furthermore, future studies might consider these challenges in formulating their research agenda.

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