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Sociodemographic Variations in Organic Food Consumption and Food Choice Motives among Malaysian Adults: A Study between Organic and Non-Organic Food Consumers

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Abstract

The growing trend of organic food consumption worldwide highlights its importance regarding sustainability, environmental impact, the food system, and ethical considerations. This study aims to identify differences between organic and non-organic food consumers regarding their sociodemographic characteristics and food choice motives to better understand this trend. Through an online survey using six targeted Facebook advertisements across six zones in Malaysia, 424 Malaysian adults were sampled. The results revealed that organic food consumers had higher monthly incomes, were more likely to be married, and included a higher percentage of Bumiputera. In terms of food choice motivations, the top three priorities for organic food consumers were health, mood, food safety, and nutrition. In comparison, non-organic food consumers were more motivated by price, sensory appeal, and convenience. These findings suggest the need for different strategies to promote organic food consumption among adults in developing nations, considering their specific sociodemographic characteristics and food choice motives.

Keywords: Consumer Behaviour, Organic Food Consumption, Sociodemographic Characteristics, Food Choice Motives, Sustainability

Introduction

The rise in global food demand has led to the industrialization of agriculture-based food production, resulting in the widespread use of chemical synthetic agricultural inputs such as pesticides, fertilizers, growth regulators, and feed additives to enhance agricultural productivity (Botinggo et al., 2021; Udin et al., 2019). Due to modern agricultural activities, this situation has led to consumer concerns about food safety and health and environmental issues such as climate change, air pollution, and natural resource depletion. Consequently,

consumers worldwide opt for organic food, which they perceive as a safer, healthier, and more sustainable dietary option (Thøgersen et al., 2017). The shift towards organic food is driven by consumers' intrinsic desire to protect their health and the environment (Tandon et al., 2020). The outbreak of COVID-19 has also made people more health-conscious, contributing to the anticipated increase in the demand for organic food globally (Qi & Ploeger, 2021), resulting in nearly 18 billion dollars worth of sales from 2000 to 2020 (Statista, 2021).

Rising Organic Food Preference

Malaysia has also witnessed similar trends, with growing concerns about food safety, quality, and improved living standards contributing to increased demand for organic food (Aziz et al., 2020; Tiraieyari et al., 2014). For instance, the availability of organic food in various retail outlets such as hypermarkets, pharmacies, and specialized stores, particularly in urban areas of Malaysia, has been observed (Jaafar et al., 2020). Furthermore, in response to the growing gig economy, organic food has gained extensive marketing traction through online platforms, including major food retailers like Lotus (formerly known as Tesco), Jaya Grocer, and Mydin. Besides, the number of locally certified organic food producers has increased by approximately 50%, from 71 producers in 2019 to 110 as of June 2022 (Department of Agriculture, 2022), indicating a sustained demand for organic food among Malaysian consumers. This trend could potentially reduce the reliance on imported organic food, considering that currently, around 60% of organic food products sold in Malaysia are imported from countries such as the United States (US), European Union (EU), Australia, New Zealand, Japan, China, and others (Somasundram et al., 2016). Furthermore, the growing number of certified local organic food producers highlights the necessity to expand their presence further, aiming to reduce the reliance on expensive imported organic food options.

Problem Statement

Although many studies have indicated that the demand for organic food is outstripping its supply (Somasundram et al., 2016; Thøgersen et al., 2017), the actual consumption of organic food among Malaysians remains unclear. This lack of clarity presents a significant knowledge gap in understanding consumer behaviour in the context of organic food. Without detailed insights into who consumes organic food and their motivations, policymakers, marketers, and producers may find it challenging to develop effective strategies to promote sustainable food consumption and support local organic food production.

For several reasons, understanding the actual consumption patterns and sociodemographic factors influencing organic food consumption is crucial. First, it can help tailor marketing strategies to specific consumer segments, enhancing promotional campaigns' effectiveness. Second, it provides valuable information for policymakers to design targeted interventions encouraging organic food consumption, contributing to public health and environmental sustainability. Third, it supports local producers in identifying potential market opportunities, ultimately reducing reliance on imported organic food.

Therefore, investigating the actual consumption of organic food among Malaysian adults, who generally have a greater purchasing power for food consumption, is necessary. This study aims to examine sociodemographic characteristics such as age, gender, ethnicity, education, monthly income, marital status, presence of chronic disease, and BMI associated with organic food consumption. Additionally, this study seeks to determine the significant

food choice motives between organic and non-organic food consumers based on the Food Choice Questionnaire (FCQ). Therefore, the research questions are as follows:

RQ1: What are the sociodemographic characteristics of organic and non-organic food consumers in Malaysia?
RQ2: What food choice motives influence organic food consumption among Malaysian adults?
RQ3: What are the differences in sociodemographic characteristics and food choice motives between organic and non-organic food consumers?

Literature review

Sociodemographic Characteristics and Organic Food Consumption

Numerous studies have shown that sociodemographic characteristics influence organic food consumption. While the results are sometimes inconsistent, there are several consistent findings across previous studies. Women, especially those with children, are more likely to buy organic food, as they tend to have a higher level of awareness and knowledge about functional foods such as organic food (Ali & Rahut, 2019). They are also more concerned about health, nourishment, and the environment (Chiu et al., 2018; Irianto, 2015). Besides, older adults prioritize health-related effects over convenience and tend to have more significant disposable income and fewer time constraints than younger adults, making them consume more organic food (Hwang, 2016; Mohamad et al., 2014; Song et al., 2016).

Moreover, ethnic groups have varying inclinations and preferences towards organic food. In the USA, people who identify as Black, Hispanic, Asian, and other ethnicities value sustainably grown organic food more than their White peers, but limited access and high prices prevent regular consumption(Burt et al., 2021; Massey et al., 2018). Meanwhile, in Malaysia, the Chinese are more aware of organic food due to their belief in its medicinal benefits and impact on personal well-being (Asraf Mohd-Any et al., 2014). Furthermore, Chinese in Mainland China prefer imported organic food certified by international food safety organizations due to the lack of confidence in the local certification system following numerous food safety scandals (Ayyub et al., 2018; Qi et al., 2020; Wang et al., 2020).

Next, higher education corresponds to a higher likelihood of actual organic food consumption (Gundala & Singh, 2021; Hasanov & Khalid, 2015). It is possible that more educated consumers, who are becoming increasingly aware of the benefits of organic food, experience a better quality of life. Moreover, higher-income consumers are more likely to consume organic food due to their higher knowledge of organic food and heightened environmental concerns (Chuan et al., 2014; Nguyen et al., 2019; Rezai et al., 2013). Furthermore, they may have better accessibility to organic food, as it is commonly available in urban areas and is often sold at a higher price than conventional food products (Song et al., 2016). However, recent research in Hanoi, Vietnam, found no relationship between income and organic food consumption, primarily due to the unpopularity of organic food products in that region (Tran & Nguyen, 2021).

On the other hand, married individuals are more likely to consume organic food, especially women with children in the household, because they believe it is safer and more nutritious than conventional food (Dimitri & Dettmann, 2012; McCarthy, 2015; Tran &

Nguyen, 2021). Other than that, people who reported consuming organic food regularly have a history of family members with chronic illnesses (Ahmad & Juhdi, 2010; Rezai et al., 2017). People who consume organic food regularly also tend to have a healthy lifestyle apart from their organic food consumption, as evidenced by a study in France, where they were found to be less overweight and obese (Kesse-Guyot et al., 2013; Vigar et al., 2019).

Food Choice Motives and Organic Food Consumption

Food choice motives play a significant role in determining why people choose certain food products over others. Health, safety, quality, and respect for the environment and animals are the primary motivators for organic product consumption (Massey et al., 2018). Even so, previous studies suggest that people prioritize different motives for organic food consumption in various regions. For example, Polish adults prioritize convenience and price over health and food safety, while Italians prioritize ethical and food safety concerns to express their identity (Rana & Paul, 2017; Żakowska-Biemans, 2011). Consumers in Thailand ranked local origin, animal welfare, and environmental attributes higher than health and food safety as motives for organic food consumption (Ueasangkomsate & Santiteerakul, 2016). As for Malaysian consumers, health is the most crucial factor in food choice, followed by weight control for green food consumption (Rahim et al., 2015). Nonetheless, the COVID-19 pandemic has resulted in a shift in food consumption patterns, as people become inclined to sustainable food choices due to rising health, food safety, and environmental concerns (Marty et al., 2021; Qi et al., 2020; Qi & Ploeger, 2021). Therefore, more studies exploring the relationship between food choice motives and organic food consumption in Malaysia are necessary for successful communication strategies promoting organic food consumption.

Methodology

This research was a cross-sectional study in which data was gathered through online sampling. Ethical approval and permission involving humans as subjects of the study were granted by the Ethics Committee for Research Involving Human Subjects (JKEUPM) of Universiti Putra Malaysia.

Survey Instrument

This study utilized a structured questionnaire consisting of three sections to gather data on respondents' sociodemographic characteristics, food choice motives, and actual consumption of organic food. The first section of the questionnaire collected information on respondents' sociodemographic characteristics which are age, gender, ethnicity, education, monthly income, marital status, presence of chronic disease, and BMI. The second section measured the respondents' food choice motives using a modified version of the Food Choice Questionnaire (FCQ) developed by (Steptoe et al., 1995).

The FCQ was chosen for this study because it comprehensively covers various food choice motives across different cultural contexts, including a recent study on food choice behaviour such as health, mood, food safety, and nutrition (Marsola et al., 2020). These factors are believed to be crucial for understanding organic food consumption behaviours. The modified FCQ consisted of 37 items measuring five food choice motives: health and mood, food safety and nutrition, familiarity and morality, price and sensory appeal, and convenience, as shown in Table 1.

Table 1

Validity and reliability of the instrument measuring food choice motives

Food choice motive	Factor Loading	Cronbach Alpha
Health and Mood		.926
1. Contains a lot of vitamins and minerals	.519	
2. Is high in protein	.651	
3. Keeps me healthy	.527	
4. Is good for my skin/teeth/hair/nails/etc	.610	
5. Cheers me up	.770	
6. Helps me cope with life	.797	
7. Keeps me awake	.772	
8. Helps me relax	.689	
9. Makes me feel good	.645	
Food safety and nutrition		.939
1. Contains no food additives.	.775	
2. Contains natural ingredients.	.753	
3. Contains no artificial ingredients	.821	
4. Certified free of chemical and hormone residues	.856	
5. Is as unprocessed as possible	.700	
6. Is prepared in a way that preserves its natural goodness	.646	
7. Is low in calories	.647	
8. Is low in fat	.662	
9. Is free from genetically modified organisms (GMOs).	.718	
Familiarity and Morality		.873
1. Is familiar	.656	
2. Is what I usually eat	.710	
3. Is prepared in an environmentally friendly way	.653	
4. Comes from the country I approve officially	.670	
5. Has the country's origin clearly marked	.630	
6. Has halal certification from the government	.773	
Price and sensory appeal		.869
1. Is not expensive	.708	
2. Is cheap	.832	
3. Is good value of money	.731	
4. Taste good	.844	
5. Smells nice	.648	
Convenience		
Is easy to prepare	.699	
Is easily available in shops/supermarkets	.869	
Can be cooked very simply	.785	
Takes no time to prepare	.791	
Can be bought in shops close to where I live/work	.833	

Cronbach alpha = .95

The FCQ was modified by combining the items measuring the nine important motives of the original FCQ with additional motives adapted from several studies. For instance, a 3-item risk perception factor and a 6-item natural content factor were included to consider food safety assurance commonly associated with organic food. A 2-item religion factor was also added, given that it is the most important motive in food choice among the Malaysian community.

The modifications were based on factor analysis conducted using Principal Component Analysis (PCA) with varimax rotation. Each item was measured using a 5-point Likert-type scale, ranging from "1 = very not important" to "5 = very important."

The third section of the questionnaire measured the actual consumption of organic food using instruments adapted from studies conducted by and Nuttavuthisit and Thøgersen (2017). Respondents were asked to self-report their frequency of actual consumption of organic food by 12 food groups within a year, as presented in Table 2. The food groups follow the organic food categories sold at Jaya Grocer, which is known as the fastest-growing local chain with numerous organic food products to suit the Malaysian study setting. Each food group's consumption was scored "never; no intake" = 1, "rarely; once or twice a year" = 2, "sometimes; once or twice a month" = 3, "often; once a week" = 4, and "always; more than once a week" = 5.

The instrument underwent pre-testing among five respondents and five expert panels from various fields related to organic food production, nutrition, and consumers to assess face and content validity. Additionally, the content validity and reliability of the questionnaire were established through a pilot study involving 119 respondents who were recruited in the same manner as this study. The content validity was evaluated using exploratory factor analysis, while the reliability was assessed using Cronbach's alpha value. None of the items had a factor loading below .50, and the Cronbach's alpha values for all five food choice motives and actual consumption were greater than .70, indicating good validity and reliability.

Table 2
Validity and reliability of the instrument measuring actual consumption of organic food

Actual consumption (AC)	**Factor Loading**	**Cronbach Alpha**
Respondents will be asked to report the frequency of organic food consumption.		.950
"How often have you bought the following organic food items for your own consumption?"		
1. Organic fruits or vegetables	.718	
2. Organic dairy and beverages (e.g., juice, milk, soy, oat, tea, coffee, puree or cordial)	.788	
3. Organic chicken or meat products	.740	
4. Organic rice, grains or dried goods (e.g., dried almond, cashew nuts, quinoa or chia seeds)	.841	
5. Organic noodles or pasta	.792	
6. Organic sauces, condiments or oil (e.g., soy sauce, apple cider coconut oil or olive oil)	.843	
7. Organic herbs or spices (e.g., chilli flakes, black pepper or cinnamon powder)	.814	
8. Organic cereal	.830	
9. Organic biscuits or snacks	.849	
10. Organic spreads or honey	.831	
11. Organic sugar or salt	.810	
12. Other organic product(s)	.793	

Sample Size and Sampling Method

The study employed an online sampling method using targeted Facebook advertisements. According to Smith et al. (2020), online sampling through social media platforms is effective in reaching diverse demographics. Facebook advertisements were chosen due to their ability to target specific user interests and demographics, ensuring a representative sample of the Malaysian population interested in organic food. The justification for using only Facebook advertisements is based on its widespread usage in Malaysia, with over 24 million users, providing a robust platform for data collection (Malaysian Communications and Multimedia Commission, 2021). Moreover, the sampling method was also considered an alternative approach during the COVID-19 pandemic, as people were encouraged to stay home and practice social distancing.

Six Facebook ads were created to recruit respondents from each zone, with a specified quota for each zone based on the proportion of national distribution across states for the first quarter of 2020, as reported by the Department of Statistics Malaysia. The number of total respondents for each zone was calculated by multiplying the respective population percentage by the total number of respondents as presented in Table 3. The quota sampling approach was utilized to ensure diversity among respondents from different demographic strata, as recommended by (Zhang et al., 2020).

The Facebook advertisements were set to target Facebook users aged 18 and above with an expressed interest in organic food. Respondents who clicked on the advertisement were directed to a Google Forms questionnaire. A total of 424 usable responses were obtained through this method, which was appropriate given Malaysia's relatively low rate of organic food consumption. The respondents were further vetted through inclusion and exclusion criteria set in the Google form, which required them to be Malaysian citizens living in any state of Malaysia. Only respondents who met all the inclusion requirements were permitted to complete the questionnaire, while those who did not meet the criteria were routed to the end of the survey and ultimately removed from the data. Prior to participating, respondents had to provide their consent by ticking a box after reading the study description. They were then required to provide their email address before they could start filling out the questionnaire. This was done to prevent duplicated responses from the same respondent. The data collection was carried out between September and December 2020.

Table 3
Number of respondents for each zone

Population by state*	**Total by zone***	**% by population**	**No. of respondents**
North			
Perlis - 255.0	6,751.1	18.0	95
Kedah – 2,193.9			
Penang - 1,783.6			
Perak – 2,518.6			
Central			
Kuala Lumpur– 6,368.0	13,046.4	35.0	186
Putrajaya – 108.9			
Selangor – 6,569.5			

South			
Johor – 3,776.6	5,849.4	16.0	85
Melaka – 936.9			
Negeri Sembilan – 1,135.9			
East Coast			
Kelantan – 1,904.9	4,846.1	13.0	69
Pahang – 1,682.2			
Terengganu - 1,259.0			
Sabah			
Sabah – 3,907.5	3,907.5	10.0	53
Sarawak			
Sarawak – 2,828.7	2,828.7	8.0	42
Total	37,229.2	100.0	530

*In thousands

Statistical analysis

The Statistical Package for Social Sciences (SPSS version 20.0, SPSS Inc., Chicago, IL, 2011) was utilized to conduct statistical analysis. Descriptive analysis was employed to summarize respondents' backgrounds by computing the frequency and percentage of their sociodemographic characteristics. To determine significant differences in sociodemographic characteristics and food choice motives between organic and non-organic food consumers, independent t-tests and ANOVA were conducted.

Gender, ethnicity, education, monthly income, marital status, presence of chronic disease, and BMI were analyzed using t-tests to test for statistically significant differences between two independent sample means. Differences between the sample mean scores of each food choice motive of organic and non-organic food consumers were also determined using t-tests. ANOVA, on the other hand, was employed to test for statistical differences between more than two independent sample means, such as age. Statistical significance was confirmed if the p-value was <.05.

Results and Discussions

Background of the Respondents

Table 4 presents the demographic characteristics of the survey respondents. The sample consisted of 83.3% women and 16.7% men. The age group with the highest representation was 18-29 years old (37.7%), followed by 30-39 years old (32.5%) and those aged 40 and above (29.7%). The ethnic distribution of the sample was predominantly Bumiputera (61.6%), followed by Chinese (27.4%), Indians (9.4%), and Others (1.7%).

Table 4
Background of the respondents

Factors	**n (%)**
Gender	
Men	71 (16.7)
Women	353 (83.3)
Age, years old	
18-29	160 (37.7)
30-39	138 (32.5)
40 and above	126 (29.7)
Ethnicity/ Ethnicity	
Bumiputera	261 (61.6)
Chinese	116 (27.4)
India	40 (9.4)
Others	7 (1.7)
Education	
Secondary	29 (6.8)
Tertiary	395 (93.2)
Monthly income	
< RM 1,500	149 (35.1)
RM 1,500 and above	275 (64.9)
Marital status	
Single	223 (52.6)
Married	201 (47.4)
Presence of chronic disease	
Yes	41 (9.7)
No	383 (90.3)
BMI, kg/m^2	
< 18.5	41 (9.7)
18.5 - 24.9	238 (56.1)
25 - 29.9	91 (21.5)
≥ 30	54 (12.7)

Regarding education, the majority of respondents (93.2%) had a tertiary education, while only 6.8% had a secondary education level. Most of the respondents reported an income of RM 1,500 and above (64.9%) and were married (52.6%). In terms of health status, 90.3% of respondents reported having no chronic disease, while 9.7% reported having a chronic disease. More than half of the respondents (56.1%) had a normal BMI, while 12.7% were obese, 21.5% were overweight, and only 9.7% were underweight. Besides, this study involved a higher proportion of women (79.8%) than men (20.2%), which is commonly observed as women often show a greater interest in sustainability (García-González et al., 2020). The sample primarily consisted of younger adults within the age group of 18-39 years (65.5%), possibly due to their higher engagement with social media compared to older adults. In terms of racial distribution, it closely mirrored the national demographic, with 51.3% Malay, followed by Chinese (39.5%), Indian (5.9%), and other ethnicities (3.4%).

The distribution of ethnicities in the sample appears to be well-balanced when compared to the ethnic distribution in the country, based on the 2020 census data from the Department of Statistics Malaysia. Specifically, the sample consists of 69.6% Bumiputera, 22.6% Chinese, 6.8% Indians, and 1.0% Other ethnic groups. Furthermore, the age range of respondents is evenly distributed across young, middle-aged, and older adults. However, the sample over-represents women in comparison to the Malaysian adult population.

The majority of respondents were highly educated, had a monthly income of RM 1,500 or more, and were healthy with BMIs below 25 kg/m^2 and no chronic diseases. This may be attributed to the greater interest in the research topic among this group of adults, leading to a higher willingness to participate in the survey. Also, the sample is slightly over-represented by single respondents, which may be due to their higher levels of activity on social media platforms such as Facebook and Instagram. Consequently, although the study made efforts to maintain the representativeness of the Malaysian adult population, the results should not be extrapolated beyond the sample characteristics.

Actual Consumption of Organic Food

Based on Table 5, organic fruits or vegetables are the most frequently purchased organic food item (M = 3.40, SD = 1.02), while organic cereal (M = 2.52, SD = 1.21) and organic biscuits or snacks (M = 2.47, SD = 1.17) are the least purchased. Table 5 shows that the actual consumption of organic food among Malaysian adults is relatively low (M = 2.82, SD = .93).

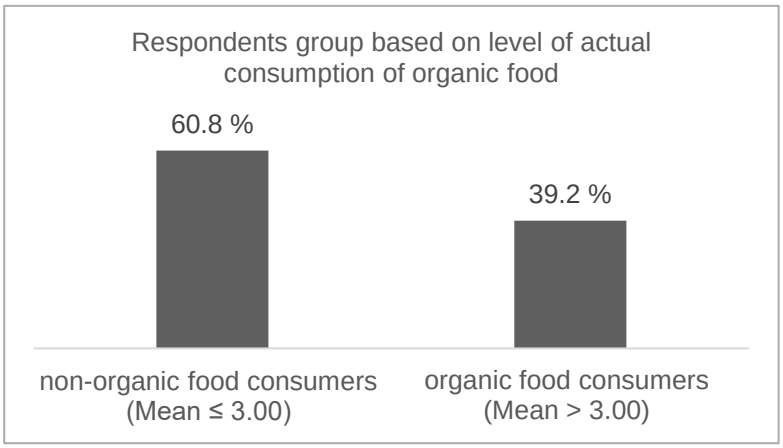
Table 5
Actual consumption of organic food

Construct/Item		Mean ± SD
Actual Consumption (AC)		2.82 ± .93
Item 1 (AC1)	Organic fruits or vegetables	3.40 ± 1.02
Item 2 (AC2)	Organic dairy and beverages (e.g., juice, milk, soy, oat, tea, coffee, puree or cordial)	2.94 ± 1.18
Item 3 (AC3)	Organic chicken or meat products	2.83 ± 1.26
Item 4 (AC4)	Organic rice, grains or dried goods (e.g., dried almond, cashew nuts, quinoa or chia seeds)	3.08 ± 1.13
Item 5 (AC5)	Organic noodles or pasta	2.65 ± 1.15
Item 6 (AC6)	Organic sauces, condiments or oil (e.g., soy sauce, apple cider coconut oil or olive oil)	2.76 ± 1.22
Item 7 (AC7)	Organic herbs or spices (e.g., chilli flakes, black pepper or cinnamon powder)	2.87 ± 1.23
Item 8 (AC8)	Organic cereal	2.52 ± 1.21
Item 9 (AC9)	Organic biscuits or snacks	2.47 ± 1.17
Item 10 (AC10)	Organic spreads or honey	2.67 ± 1.24
Item 11 (AC11)	Organic sugar or salt	2.91 ± 1.31
Item 12 (AC12)	Other organic product(s)	2.76 ± 1.24

Figure 1 illustrates that 60.8% of the respondents reported occasional or never consumption of organic food, while the remaining 39.2% consumed it regularly. In this study, organic food consumers were identified based on categorizationusing the midpoint of the mean score of actual organic food consumption. This categorizationdistinguished respondents who

consumed organic food at least once a week (often) or more than once a week (always), with a mean score higher than 3 (Mean > 3.00), as organic food consumers (Badsar, 2011; Moon et al., 2017).

Figure 1
Distribution of organic and non-organic food consumers



The low consumption of organic food among Malaysian adults may be attributed to several factors. One possible reason is the lack of confidence in the benefits of consuming organic food. In the United States and European countries, various organic logos, certifications, and unverified claims of "organic food" have caused uncertainty and scepticism about the authenticity of organic food, discouraging people from consuming it (Chang et al., 2019; Somasundram et al., 2016). Furthermore, the price difference between organic and conventional food is much wider in Malaysia, with significant pricing differences ranging from 100.0% to 300.0%, compared to only 25.0% to 30.0% in the United States and European countries (Somasundram et al., 2016). However, Chen et al. (2014) argued that competing on price is not advisable. Instead, suppliers of organic food should focus on increasing knowledge and awareness of the high quality and product differentiation that organic food offers compared to its conventional counterparts, as supported by Song & Kanesh (2022). This approach can help consumers understand the value of organic food relative to its cost.

Differences in Organic Food Consumption Based on Sociodemographic Characteristics

Table 6 presents the differences in organic food consumption based on sociodemographic characteristics. According to t-test analysis, gender was not significantly associated with actual consumption of organic food (women: M = 2.89, SD = .94; men: M = 2.68, SD = .91), which is consistent with previous studies (Handranata et al., 2019; Singh & Verma, 2017). Possibly, both men and women are likely to perceive similar hurdles, mainly the high price and limited availability of organic food, which impede their actual consumption of organic food. In terms of ethnicity, the study found that Bumiputera respondents consumed more organic food (M = 2.95, SD = .97) compared to non-Bumiputera respondents (M = 2.68, SD = .85), which contradicts Ibitoye et al (2014), findings of higher organic food awareness among Chinese consumers in Malaysia.

The disparity in results could be due to the majority ethnic group in each study, and the lower consumption among non-Bumiputera respondents may stem from trust issues in organic food safety and quality. Chinese and Indian cultures tend to prioritize functional food

over organic food due to its established health benefits (Jiang & Quave, 2013; Vasanthi & Parameswari, 2010; Xu et al., 2020). Non-Bumiputera respondents may opt for traditional Chinese herbs and therapeutic plant-based foods or herbs and spices for Indians for health reasons. As functional food offers established health benefits, organic food's production process that limits the use of synthetic agricultural inputs may be less prioritized.

Table 6
Differences in Organic Food Consumption Based on Sociodemographic Characteristics

Factors	**Actual consumption (N = 424)**				
	n (%)	**Mean**	**SD**	**t/F-value**	**p-value**
Gender				-1.60	.11
Men	71 (16.7)	2.66	.91		
Women	353 (83.3)	2.85	.93		
Age, years old				2.75[1]	.07
18-29	160 (37.7)	2.69	.87		
30-39	138 (32.5)	2.88	.95		
40 and above	126 (29.7)	2.93	.97		
Ethnicity				2.55	.01*
Bumiputera	261 (61.6)	2.90	.97		
non-Bumiputera	163 (38.4)	2.68	.85		
Education				-.42	.68
Secondary	29 (6.8)	2.75	.87		
Tertiary	395 (93.2)	2.83	.94		
Monthly income				-2.47	.01*
< RM 1,500	149 (35.1)	2.67	.86		
RM 1,500 and above	275 (64.9)	2.90	.96		
Marital status				-3.37	.00*
Single	223 (52.6)	2.67	.84		
Married	201 (47.4)	2.97	.99		
Presence of chronic disease,				.45	.65
Yes	41 (9.7)	2.88	.98		
No	383 (90.3)	2.81	.93		
BMI, kg/m2				.05	.96
< 25 kg/m2	279 (65.8)	2.82	.92		
≥ 25 kg/m2 above	145 (34.2)	2.82	.96		

Note: * p < .05

Notably, individuals who earned RM 1,500 and above exhibited a significantly higher level of actual consumption of organic food (M= 2.90, SD = .96) compared to those earning below RM 1,500 (M = 2.67, SD = .86). This difference can be attributed to the common perception among consumers that organic food is typically sold at a higher price than its conventional counterpart (Lim et al., 2014). It is plausible that people would be more inclined to purchase organic food if the price were reduced or if they were convinced that the benefits of organic food outweigh the cost.

Nevertheless, age and education level were not significantly associated with actual consumption of organic food, although previous studies suggest that higher education is

linked to higher intention to consume organic food (Nguyen et al., 2019; Rezai et al., 2013; Wong & Aini, 2017). This could be because, in Malaysia, the decision to consume organic food is more likely to be linked to income rather than education level, as better education does not always ensure a higher salary, particularly for recent graduates (Bank Negara, Malaysia, 2018).

The study found that married respondents consume significantly more organic food compared to single respondents, with a mean score of 2.97 (SD= .99) and 2.67 (SD = .84), respectively ($p < .05$). These findings are consistent with earlier research by Dimitri & Dettmann (2012) suggesting that married individuals prioritize health and are willing to spend more on health products such as organic food. In terms of health status, the study found no significant difference in terms of the presence of chronic disease.

Besides, respondents with chronic diseases consumed slightly more organic food than healthier respondents, as supported by an earlier study by Ahmad & Juhdi (2010), but the difference was not significant. More importantly, unlike the finding from a large-scale cohort study in France by Kesse-Guyot et al (2022), who found that actual consumption of organic food was associated with a lower BMI; this study found otherwise. Particularly, in the context of Malaysian consumers, regardless of their BMI, they occasionally consume organic food. This may relate to the fact that Malaysian adults prefer a diet high in meat, fat, and oil and low in fiber (Lee & Wan Muda, 2019), while organic food mainly consists of fruits, vegetables, and grains.

Differences in Food Choice Motives between Organic Food Consumers and Non-Organic Food Consumers

Based on Table 7, the highest mean score for food choice motives among the studied respondents is "health and mood" (M = 4.22, SD = .71), followed by "price and sensory appeal" (M = 4.19, SD = .68), "convenience" (M = 4.18, SD = .80), and "food safety and nutrition" (M = 4.13, SD = .78). Conversely, "familiarity and morality" received the lowest mean score (M = 3.86, SD = .86). Also, this study found that the mean scores for "health and mood" and "food safety and nutrition" motives are significantly higher among organic food consumers compared to non-organic food consumers. This indicates that organic food consumers are more likely to prioritize health, mood, and food safety and nutrition when selecting food items (Latip et al., 2021; Song & Liew, 2019).

Besides, the motive "familiarity and morality" has a significantly higher mean score among organic food consumers compared to non-organic food consumers. This suggests that organic food consumers may be more concerned with the ethical and moral aspects of food consumption, even though they are seeking foods that are commonly consumed. Interestingly, there is no significant difference in the mean scores for "price and sensory appeal" and "convenience" between the two groups, indicating that these factors may be equally important to both groups when making food choices.

Table 7
Food choice motives of organic food consumers and non-organic consumers groups

Motive	N = 424	Organic food consumer (n = 166)	Non-organic food consumer (n = 258)	t-value	p-value
	Mean ± SD	Mean ± SD	Mean ± SD		
Health and mood	4.22 ± .71	4.48 ± .60	4.05 ± .73	-6.63	.00
Food safety and nutrition	4.13 ± .78	4.45 ± .61	3.92 ± .81	-7.67	.00
Familiarity and morality	3.86 ± .86	4.16 ± .72	3.66 ± .89	-6.41	.00
Price and sensory appeal	4.19 ± .68	4.20 ± .71	4.18 ± .65	-.27	.78
Convenience	4.18 ± .80	4.23 ± .81	4.14 ± .80	-1.14	.26

Note: * p < .05

The motives underlying food selection appear to differ between organic food consumers and non-organic food consumers, as summarized in Table 8. For organic food consumers, the top two food choice motives are "health and mood" (M = 4.47, SD = .63) and "food safety and nutrition" (M = 4.46, SD = .60). These motives are commonly associated with organic food in the context of Malaysian consumers (Jaafar et al., 2020; Saleki et al., 2019, p. 20; Wong & Aini, 2017), and previous research has found them to be key factors in determining whether someone prefers organic food over conventional food (Asraf Mohd-Any et al., 2014; H.-J. Lee & Yun, 2015).

Table 8
Ranking of organic food consumers and non-organic consumers groups' motives in food choices

Food choice ranking	Organic food consumer	Non-organic food consumer
1	Health and mood	Price and sensory appeal
2	Food safety and nutrition	Convenience
3	Convenience	Health and mood
4	Price and sensory appeal	Food safety and nutrition
5	Familiarity and morality	Familiarity and morality

On the other hand, for the non-organic food consumers group, "price and sensory appeal" (M= 4.18, SD= .65) and "convenience" (M = 4.13, SD = .80) were ranked higher compared to other food choice motives. These motives may act as barriers to the actual consumption of organic food. Several local and international studies have pointed out that the limited availability of organic food demotivates organic food consumption among consumers (Janssen, 2018 (German); Lim et al. (2014) (Malaysia); Żakowska-Biemans, 2011 (Poland)). Moreover, consumers who are very price-conscious and seek special price offers buy less organic food, as hypothesized by Janssen (2018), which is in agreement with the current study findings.

Both groups ranked "familiarity and morality" as the lowest when choosing food. Perhaps the "familiarity and morality" motive was also measured by the "religion" motive

along with "familiarity" and "ethical concern." The results could be influenced by the demographic characteristics of the sampled respondents, which were not only limited to Malays but also included Indians, Chinese, and other races who may or may not emphasize the religious element when it comes to consuming organic food. On top of that, the majority of organic products in Malaysia are imported and do not carry the Halal label. Consumers who are concerned about the Halal status of imported organic food goods might rely on the ingredients list or the vegan label as an alternative.

Recommendation and Conclusion

In conclusion, this study found that sociodemographic factors such as race, monthly income, and marital status significantly impact the actual consumption of organic food among Malaysian adults. Organic food producers and marketers in Malaysia could prioritize efforts to target potential consumers, including those who earn at least RM 1,500 and married individuals, by considering cultural differences and highlighting the sustainability benefits of organic food consumption. Furthermore, this study highlights that the motives behind food selection vary between organic and non-organic food consumers, with organic food consumers placing more importance on health, mood, food safety, and nutrition aspects. In contrast, non-organic food consumers prioritize price and convenience.

Therefore, it is recommended that food marketers and retailers emphasize the health, mood, and food safety benefits of organic food to attract more consumers while addressing price and convenience barriers that discourage organic food consumption. It is important to note that the study's findings may not be representative of the entire adult population of Malaysia due to nonprobability sampling, self-selection bias, and overrepresentation of certain groups. Future studies should aim to obtain more generalized findings by using a random sampling approach whenever possible and minimizing over-representation of certain characteristics through stratified sampling techniques.

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