

Consumer Demand for Healthy Food: Evidence from a Regional Context in Malaysia

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Abstract

Many urban Malaysians dine out, as evident from the high frequency of food consumed outside of home. Unfortunately, poor dietary habits and inadequate physical activity have contributed towards obesity and increased risk of diet-related non-communicable diseases in Malaysia. Approximately 8.1% of Malaysians are living with diabetes, hypertension, and high cholesterol. Consequently, improvements and modifications in the dietary intake are critical; even when dining out. Although many Malaysians would like to eat healthily, the high costs associated with healthy food acts as a deterrent. Thus, this study aimed to determine factors predicting consumers' behavioral intention toward healthy food when dining out. Using the cross-sectional study design, quantitative data from 385 Malaysian living in Klang Valley were collected through online survey by sharing the Google form through social media. The findings revealed that health factors, social and subjective norms, attitudes, and price significantly affected consumers' behavioral intentions in choosing healthy food in the food service industry. Moreover, price is the most influential factor in choosing healthy food followed by the health factor. Furthermore, age, marital status, employment status, and household monthly income significantly affected the behavioral intentions to choose healthy food. Restaurateurs should consider more reasonably priced healthy food options to benefit from the healthy eating trend in Malaysia and to fulfil consumer demand for healthy food when dining out.

Keywords: Eating Healthy, Health Factor, Social Factor, Price, Attitude, Behavioral Intention, Dining Out

Introduction

Healthy food can provide nutrients to maintain our body's health and energy level. Primary nutrients such as carbohydrates, proteins, fats, vitamins, and minerals are essential in a healthy balanced diet. According to the World Health Organization (2020), a healthy diet can help prevent chronic diseases such as diabetes, cardiovascular diseases, hypertension and many more. Thus, consuming healthy food can eventually boost the immune system to protect

against those non-communicable diseases and malnutrition. However, different people define healthy food differently. According to Cambridge Dictionary (n.d.), healthy food is food that does not contain artificial chemicals or much sugar and fat. Minnesota Food Charter (2014) collected the ideas from participants about healthy food and how they defined it. One of the participants described healthy food as broccoli, legumes, vegetables, and fruits, and not sugar. In contrast, others described healthy food as fresh and minimally processed or unprocessed. In recent years, we can see that there has been a trend of eating healthy among consumers worldwide, especially after the outbreak of the Covid-19 pandemic. Consumers tend to shift their daily lifestyles, including eating behaviors; to be healthier. According to the International Food Information Council's (IFIC) Food and Health Survey (2020), more than 20% of American consumers reported eating healthier than usual due to the Covid-19 pandemic. Similarly, Malaysians eat better and exercise more in the new normal (Chandran, 2020; Herbalife Nutrition, 2020). They were aware that a healthy immune system is crucial during the pandemic. In the survey conducted by Herbalife Nutrition (2020), more than 50% of Malaysian consumers had shifted their eating habits, such as having more fruits and vegetables, and eating less meat while consuming more plant-based food. Most Malaysians are trying to eat healthily, but the price of healthy food is a barrier for them (Food Industry Asia, 2019). However, they also expected that food and beverage operators would provide more healthy food options ("Most Malaysians want", 2019).

Despite Malaysians' desire to eat healthily, about 8.1%; equivalent to 1.7 million people in Malaysia is currently diagnosed with three major risk factors for cardiovascular diseases; including diabetes, hypertension, and high cholesterol (Institute of Public Health, 2020). The survey findings also indicated that 95% of Malaysian adults do not consume sufficient fruits and vegetables daily. This reflects that healthy eating habit is not widely implemented among Malaysian consumers.

Various factors have been found to influence healthy eating behavior including health consciousness (Annunziata & Pascale, 2009; Singh & Verma, 2017), knowledge, subjective norms, price, and availability (Singh & Verma, 2017). Kang et al (2015) studied consumers' health food choices at casual dining restaurants among Midwestern University members, suggested future research to examine the influences of geographical area or demographic profiles on healthy food choice.

A study was conducted among Malaysian young adults on the intention to consume healthy food by extending the theory of planned behaviors (TPB) model which included health consciousness and knowledge of healthy food, attitude, subjective norms and perceived behavioral control (Mamun et al., 2020). The findings showed that TPB, health consciousness and knowledge of healthy food had a significant positive effect on the intention to consume healthy food. According to Oppotus (2020), 15% of Malaysian consumers dine out every day. Additionally, 73% of diners prefer deep-fried food to other cooking methods. However, this does not indicate that Malaysian consumers do not prefer healthy diets because the deep-frying oil can be replaced by vegetable oils or more healthy alternatives such as coconut oils. Few studies have also been conducted on how health values influenced consumers to buy organic food (Michaelidou & Hassan, 2008; Singh & Verma, 2017). A study on the factor that influenced Generation Y to dine out was carried out in Kota Kinabalu, Sabah, Malaysia (Pawan et al., 2014). However, there is limited study on factors influencing Malaysian consumers to consume healthy food when dining out. To fill the research gap, this study examined factors influencing behavioral intention towards healthy food in Klang Valley, Malaysia.

Methodology***Research Design and Data Collection***

This study adopted the cross-sectional study design and collected quantitative data from 385 Malaysian residents living in Klang Valley through an online survey that started in April 2022 and ended in June 2022. Respondents were selected using convenience sampling method. This study was delimited to Malaysian adults 18 years and older; residing in Klang Valley. The location; Klang valley was chosen because it has the highest population size in the country (Macrotrends, n.d.), and it housed the highest number of registered restaurants compared to other states in Malaysia (Ministry of Domestic Trade and Consumers' Affairs, 2020).

The data collection process was carried out online using messaging applications and social media platforms such as WhatsApp, Telegram, Instagram, and Facebook. Respondents were provided with the Google form link to access the questionnaire. Additionally, to encourage participation copywriting of the definition of healthy food, study objectives, and assured anonymity statement were included at the beginning of the questionnaire. Respondents' action in completing the questionnaire indicated their consent to participate in the study.

Research Instrument

Closed-ended and straightforward questions were designed to evaluate the responses of the respondents to the given structures. This method can help the target respondents to understand the survey questions easily and appropriately. Five factors were evaluated in this survey; the health factor, social factor, and behavioral intention were measured by three questions adapted from each study respectively (Mamun et al., 2020; Rahnama et al., 2017; Singh & Verma, 2017). On the other hand, subjective norm and price were measured by three questions adapted from several studies. Attitude towards healthy food was measured by four questions adapted from several studies. All question items were evaluated using a 5-point Likert scale ranging from 1; "strongly disagree" to 5; "strongly agree" for factors predicting consumers' behavioral intention towards healthy food. On the other hand, a 5-point Likert scale ranging from 1, which is "not at all" to 5, which is "to a great extent" was used to evaluate consumers' behavioral intention in choosing healthy food in the food service industry.

Findings***Demographic Background***

385 usable questionnaires were collected and analyzed. The demographic breakdown of the respondents is shown in Table 1. Many of the respondents were female (64.9%), while male respondents made up the remaining 35.1%. More than half of the respondents (86.1%) were young adults, specifically between the age of 18 and 40. In this study, the ethnic groups were divided into four which included Malay (42.1%), Chinese (41.3%), Indian (12.2%) and Non-Malay Bumiputera respondents (4.4%). Most respondents were unmarried (70.6%); the remaining respondents were married, widowed, or divorced. Regarding the highest educational level attained, 62.6% completed their bachelor's degree or equivalent, while the rest accomplished primary school certificate (0.5%), secondary school certificate (8.6%), diploma or equivalent (17.9%), master's degree (9.1%) and PhD (1.3%). Respondents working as full-time made up the largest group in this sample (42.9%), followed by students (40.3%). Regarding household monthly income, most respondents (24.7%) had income between RM 2501 - RM 4500. 24.2% of the respondents had an income of below RM 1500. The following are the percentage of household monthly income; between RM 1500 - RM 2500 (17.7%), between RM 4501 - RM 7500 (20.3%), between RM 7501 - RM 10500 (8.8%), between RM

10501 - RM 13500 (2.1%) and the remaining respondents have an income more than RM 13500.

Table 1
Demographic background of the respondents (n=385)

	n	%
Gender		
Male	135	35.1
Female	250	64.9
Age		
< 20	3	0.78
20 - 29	258	67.01
30 - 39	58	15.06
40 - 49	45	11.69
50 - 59	17	4.42
≥ 60	4	1.04
Ethnicity		
Malay	162	42.1
Chinese	159	41.3
Indian	47	12.2
Bumiputera	17	4.4
Marital status		
Not married	272	70.6
Married	105	27.3
Widowed	4	1.0
Divorced/Separated	4	1.0
Education level		
Primary school certificate	2	0.5
Secondary school certificate	33	8.6
Diploma or equivalent	69	17.9
Bachelor's degree or equivalent	241	62.6
Master's degree	35	9.1
PhD	5	1.3
Employment status		
Full-time employment	165	42.9
Part-time employment	20	5.2
Self-employed	25	6.5
Military	1	0.3
Student	155	40.3
Unemployed	14	3.6
Retired	5	1.3
Household monthly income		
< RM 1500	93	24.2
RM 1500 - RM 2500	68	17.7
RM 2501 - RM4500	95	24.7
RM 4501 - RM 7500	78	20.3
RM 7501 - RM 10500	34	8.8
RM 10501 - RM 13500	8	2.1
> RM 13500	9	2.3

Relationship between Variables

Pearson correlation coefficient analysis was used to determine the relationship between the factors and the consumers' behavioral intention in choosing healthy food in the food service industry. It also measured the strength and direction of the relationship between the

variables. Table 2 shows the correlation between those four factors and the consumers' behavioral intention. All four factors showed significantly strong positive correlations toward consumers' behavioral intentions.

Table 2

Means, standard deviations, and correlations for study variables

	<i>M</i>	<i>SD</i>	<i>HF</i>	<i>ATT</i>	<i>SN&SF</i>	<i>PF</i>	<i>BI</i>
HF	4.39	0.662	-				
ATT	4.54	0.561	0.642**	-			
SN&SF	3.88	0.790	0.463**	0.390**	-		
PF	3.23	1.013	0.403**	0.417**	0.419**	-	
BI	4.05	0.837	0.574**	0.513**	0.508**	0.554**	-

Note: HF: Health factors; ATT: attitudes toward healthy food; SN&SF, social and subjective norms; PF: Price factors; BI: Consumers' behavioral intention.

** Correlation is significant at 0.01 level (2-tailed)

Factors Predicting Consumers' Behavioral Intention towards Healthy Food

Multiple regression analysis was carried out to determine the relationship between the dependent variable and several independent variables (Table 3). The R^2 value was 0.496 indicating that 49.6% of the variance in consumers' behavioral intention was explained by the four factors. R-value was 0.704, which was greater than 0.5; thus, this signifies a strong relationship between the consumers' behavioral intention and the four factors. Next, the F value is 93.334, and the sig-F value was 0.000, less than $\alpha=0.05$. This indicates that the regression model fits the data well. The sig-t values for all factors were less than $\alpha=0.05$. Thus, all factors (health factors, attitude, social and subjective norms, and price) significantly influenced the consumers' behavioral intention. Lastly, from the standardized coefficients β value, price factors recorded the highest value, which was 0.304. This shows that price is the most influential factor in consumers' behavioral intention in choosing healthy food in the food service industry.

Table 3

Multiple regression analysis

Variables	R = 0.704, R² = 0.496				
	F = 93.344, Sig-F = 0.000 < 0.05				
	B	SE B	β	t	p
(Constant)	0.001	0.260		0.006	0.995
Health factors	0.345	0.063	0.273	5.454	0.000
Attitudes toward healthy food	0.196	0.073	0.132	2.689	0.007
Social and subjective norms	0.214	0.046	0.202	4.705	0.000
Price factors	0.251	0.035	0.304	7.174	0.000

Comparison between Demographic Variables and Behavioral Intention

A one-way ANOVA analysis was conducted to compare the means between two or more groups. In this study, one-way ANOVA analysis was used to determine if significant differences existed in consumers' behavioral intention in choosing healthy food when dining out based on their demographic background as shown in Table 4. The results revealed that age, marital status, employment status and household monthly income significantly affected consumers' behavioral intention to choose healthy food in the food service industry.

Post hoc analysis was conducted to determine the differences between more than two groups means specifically when the ANOVA F test was significant. Regarding age, there were significant differences between the age groups 20-29 and 30-39, and between the age groups 20-29 and 40-49. For marital status, significant differences existed between married and unmarried groups. The *p* value between respondents with income between RM 1500 – RM 2500 and between RM 4501 – RM 7500 was 0.019, which was less than $\alpha=0.05$. The *p* value between respondents with the income between RM 1500 – RM 2500 and between RM 7501 – RM 10500 was also less than $\alpha=0.05$, which was 0.004. Thus, there are significant differences in the consumers' behavioral intention to choose healthy food in the food service industry between the RM 1500 – RM 2500 group, with both the mid-income RM 4501 – RM 7500 group and high-income RM 7501 – RM 10500 group.

Table 4

One-way ANOVA for demographic background

Grouping Variable	Consumers' behavioral intention		
	df	F	<i>p</i>
Gender	1	0.000	0.988
Age	5	3.398	0.005
Ethnicity	3	1.272	0.284
Marital status	3	2.733	0.044
Educational level	5	1.345	0.245
Employment status	6	2.282	0.035
Household monthly income	6	3.165	0.005

Discussion

This study aimed to determine the factors that predict consumers' behavioral intention in choosing healthy food when dining out. Findings revealed that health factors, attitudes toward healthy food, social and subjective norms and price factors strongly and positively correlated with consumers' behavioral intention in choosing healthy food when dining out. The findings of this study were similar to Mamun et al (2020), which revealed that health consciousness, attitudes toward healthy food, and subjective norms influenced the intention to consume healthy food. Rahnama et al (2017) stated that social factors influenced Iranians to buy and consume antibiotic-free chicken.

Furthermore, this study showed that price factors strongly correlated with consumers' behavioral intention in choosing healthy food in the food service industry. Nevertheless, price was considered a barrier for Malaysians to eating healthily (Sharkawi et al., 2014). On the contrary, according to Shaharudin et al (2010), consumers were willing to pay a higher price for organic food because they realize the benefits of organic food. Few studies also showed that consumers were willing to pay a premium price for organic food because they believe it benefits their health and well-being (Ditlevsen et al., 2019; Apaolaza et al., 2018). Thus, the study results are supported by those past studies.

Finally, the study showed that the demographic background, which are age, marital status, employment status and household monthly income, also influenced consumers' behavioral intention in choosing healthy food in the food service industry. Chambers, Lobb, Butler, and Traill (2008) found that older people who are 60 years old and above were more likely to choose healthy food as compared to younger people. On the contrary, some studies stated that younger consumers were likely to consume organic food (Magnusson et al., 2001; Krystallis et al., 2006). Results of the study revealed that age influences behavioral intentions in choosing healthy food. This study found that there is a significant difference in the consumers' behavioral intention to choose healthy food in the food service industry between the age groups of 20 –29 (young age group), with both 30 – 39 (mid-age group) and 40 – 49 (older age group).

Although some studies claimed that there is no significant difference in purchasing organic meat between marital status (O'Donovan & McCarthy, 2002; Bellows et al., 2008), Krystallis et al (2006) found that married consumers are likely to increase their intention to buy organic meat. This is parallel to this study findings that marital status influenced the consumers' behavioral intention in choosing healthy food in the food service industry and there is a significant difference in consumers' behavioral intention between unmarried group and married group.

Furthermore, employment status and household monthly income also affected behavioral intention. Employment status is an essential element of healthy behavior as unemployment and financial affordability negatively impact healthy dietary choices in Greece (Koulierakis et al., 2021). A study revealed that the employment status of consumers in the United Kingdom and Australia increases the likelihood of healthy food consumption (Thornton et al., 2014). In other words, employed consumers are more likely to consume healthy food in their daily life. Gosliner, Madsen, Woodward-Lopez, and Crawford (2011) found that most students (69%) tend to buy healthy food in their school. The findings showed that there is a significant difference in consumers' behavioral intention in choosing healthy food in the food service industry between full-time employment group and student group. Household monthly income also influenced the consumers' behavioral intention in choosing healthy food. The findings revealed that there is a significant difference in the consumers' behavioral intention to choose healthy food in the food service industry between the RM 1500 – RM 2500 group, RM 4501 – RM 7500 group and RM 7501 – RM 10500 group. Research by Kang et al. (2015) found that consumers with higher income levels prefer to purchase healthy food. Aloumanis and Papanas (2014) also stated that poor nutrition is typically a result of financial loss in Greece. Consumers who have less income or lose their income are unable to afford healthy food.

Conclusion

In short, it can be concluded that consumers' behavioral intention in choosing healthy food when dining out is influenced by price, health factors, social and subjective norms, and attitudes toward health. These factors also have a strong correlation with behavioral intention. Consumers' socio-demographic background also influenced their intention to consume healthy food, particularly age, marital status, and income. The price of healthy food is the most influential factor that predicts consumers' healthy food choices in the food service industry. Although the price of healthy food is perceived to be high, it does not negatively impact consumers' healthy eating intention because they realize the benefits of eating healthy. Nevertheless, the researcher suggests that restaurateurs can consider more reasonably priced healthy food options to benefit from the healthy eating trend in Malaysia and to fulfil consumer demand for healthy food when dining out. The study findings have implications for restaurateurs, marketers, local farmers, and government agencies. Marketers and government bodies should promote the benefits of healthy eating and provide information about healthy food to increase the awareness and knowledge of the consumers toward healthy eating (Lee & Muda, 2019). Apart from that, this study also provides suggestions to the local farmers. Local farmers should increase the production of crops to fulfill the demand of healthy food choices. Since the price of healthy food is considered high, the involvement of government agencies can help to reduce the cost. Restaurateurs are suggested to increase the availability of healthy food choices on the menu to meet the consumers' demand. As a result, Malaysian consumers will have easier access to the variety of healthy food choices. Future researchers can consider further identifying how

socioeconomic, social and cultural factors influence consumers' decisions to consume healthy food in their daily life.

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