

## **FRUIT AND VEGETABLE CONSUMPTION BEHAVIOUR: A QUALITATIVE STUDY OF MALAY ADULTS IN SUBANG JAYA, SELANGOR**

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### **ABSTRACT**

*The consumption of fruits and vegetables is important in daily food intake. Thus, much previous research about the benefits of consuming fruits and vegetables has been carried out to prove the importance of fruits and vegetables intake. However, limited information was available to prove whether Malaysians consume enough fruits and vegetables. The purpose of this research is to find out the reasons amongst Malay Malaysian consumers for consuming fruits and vegetables on a daily basis. A qualitative method using an in-depth interview was employed. Ten Malay participants from Subang Jaya, Selangor were interviewed to find out their fruit and vegetable consumption behaviour. Criteria of the respondents were adults aged between 19 to 59 years old who often buy and consume fruits and vegetables. The collected data was coded and analysed manually. Thematic factors were identified at the end of the study. Consequently, results show four factors which influence the consumption of fruits and vegetables, which are sensory appeal, knowledge, availability and environment. The findings obtained from this study can provide a better understanding to Malaysian marketers on why Malays adults consume fruits and vegetables in Selangor, Malaysia.*

**Keywords:** Qualitative, fruits, vegetables, consumption behaviour, Malay

### **INTRODUCTION**

Various studies have been carried out on the benefits of consuming fruits and vegetables (Brug, Vet, Nooijer, & Verplanken, 2006). Past and current scientific evidence suggests that diets rich in fruits and vegetables can protect human beings from various diseases such as cardiovascular diseases, diabetes, strokes, cancer (Campbell et al., 1999; Hall, Moore, Harper, & Lynch, 2009) and obesity problems (Bogers, Assema, Kester, Westerterp, & Dagnelie, 2004; Dibsall, Lambert, Bobbin, & Frewer, 2003). Fruits and vegetables contain vitamins, minerals, proteins, fibre and bio-functional components that help reduce fat, sodium and calories (Devine, Connors, Bisogni, & Sobal, 1998).

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In 2003, the World Health Organization (WHO) reported that everyone should consume a minimum of five portions, or 400 g, of fruits and vegetables on a daily basis. Breaking that down, WHO recommended that adults should consume two daily servings of fruits (160 g) and three (3) servings of vegetables (240 g) (WHO, 2003).

Findings from the Malaysian Adults Nutrition Survey (MANS) in 2003 reported that 40% of Malaysian adults consumed only 96 g of vegetables daily (Norimah et al., 2008). This means that the consumption of vegetables by this population group is still below the recommended vegetable intake by WHO, i.e., a total of 240 g per day. Besides looking at the nutritional value and benefits, it is also important to focus on the behaviour of human consumption of fruits and vegetables among Malaysians since a previous report had shown that the consumption of fruits and vegetables is low among Malaysians (Nurul Izzah et al., 2012). Therefore, the purpose of this study is to determine the factors affecting the consumption of fruits and vegetables, followed by estimating the consumption of fruits and vegetables by Malaysians. In this study, the city of Subang Jaya in the state of Selangor, which is situated in the west coast of Malaysia, was selected based on the report of the Department of Statistics (2010) which stated that Subang Jaya is highly populated by the three main ethnic groups in Malaysia, namely Malays, Chinese, and Indians. Malays make up the largest ethnic group in Subang Jaya (594,108), compared to Chinese (444,529) and Indians (124,101).

Malaysia is a small nation with an estimated population of 28,300,000 in the year 2010 (Malaysian Department of Statistics, 2010). It is made up of 11 states in Peninsular Malaysia, and the states of Sabah and Sarawak on the island of Borneo. It comprises three main races – Malays, Chinese and Indians. In Peninsular Malaysia, Selangor is one of the states that has the largest population of Malays, with an estimated population of 2,680,829 in the year 2010. There were several studies conducted in Malaysia which focused on fruits and vegetables consumption for Malay respondents (Sheng, Shamsudin, Mohamed, Abdullah, & Radam, 2008), Malaysian urban (Ali & Abdullah, 2012), and patterns of fruits and vegetables consumption (Nurul Izzah et al., 2012). However, due to the lack of information on fruit and vegetable consumption behaviour among the Malay respondents, this study was initiated. Hence, this study is focused on the fruit and vegetable consumption behaviour of Malay adults (aged between 19 – 59 years) with purchasing power.

## LITERATURE REVIEW

### Definition of Consumption Behaviour

Guez and Allen (2000) defined behaviour as the way in which an individual behaves or acts. In other words, behaviour is the way individuals conduct themselves daily. Consumption behaviour has become the ‘vanguard of history’ (Miller, 2005). Kardes, Cronley and Cline (2011) stated that consumer behaviour in terms of marketing of products and services focuses on human reaction to products and services. Additionally, according to Schiffman and Kanuk, (2007) the study of consumer behaviour focuses on how individuals decide

to manage their time and money on consumption-related things. It consists of what they buy, why they buy, when they buy, where they buy and how often they use it. Presently, consumers concerned about food are based not only on worries but also on agriculture, ecology and food culture (Holm & Kildevang, 1996). Tee (1999) reported that swift growth and expansion of the Malaysian economy over the past two decades (1980s and 1990s) have resulted in changes in the food consumption patterns among Malaysians. These changes have significant contributions to the lifestyles of people, especially their dietary patterns.

### **Factors Affecting Consumption of Fruits and Vegetables**

Previous researchers have established many factors that influence fruit and vegetable consumption in humans. Multi-component approaches such as individual factors (e.g. knowledge, attitudes, skills, social influences and behaviours) and environmental factors (e.g. access, cost, quality and supply), appear to be more effective in influencing fruit and vegetable consumption patterns (Glanz & Hoelscher, 2004).

Many studies have shown that individuals with higher education, income and social status consume more fruits and vegetables compared to those with lower education, income and social class status (Johansson & Andersen, 1998; McClelland, Demark-Wahnefried, Cowan, & Campbell, 1998). Factors such as lack of nutritional knowledge, and practical issues have been found to be highly predictive of low intakes of fruits and vegetables (Cox, McKellar, Reynolds, Lean, & Mela, 1998; Cox, Anderson, Lean, & Mela, 1998; John & Ziebland, 2004). However, by improving knowledge and product promotion, the changes in individual and social behaviour can be achieved in the long term. Furthermore, knowledge of the recommended fruit and vegetable intake may be motivational, leading to self-evaluation of intake, influencing norm and increasing the expectation on the level of consumption (Cox et al., 1998a; Cox et al., 1998b; John & Ziebland, 2004).

### **Conceptual Framework**

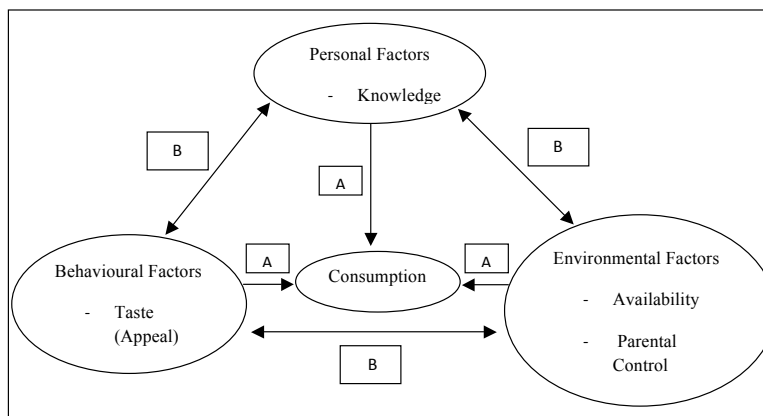
In a qualitative study, the general construct presented by a graphic or narrative form is recommended to explain the main themes explored in the research (Fawcett & Downs, 1992; Maxwell, 2008; Voss, Tsiriktsis, & Frohlich, 2002). Therefore, a conceptual framework was proposed to guide the researcher based on the research objectives. This study proposes that the Social Cognitive Theory (SCT) can be used to explain the behavioural, personal, and environmental factors and their interactions, to explain consumption behaviour.

Social Cognitive Theory (SCT) by Bandura (1989) explains that the relationship (reciprocal determinism) may be linked to three factors in interaction (personal, behavioural and environmental). According to this theory, a change in one factor will affect other factors (e.g. behaviour itself, once enacted, can change the beliefs and directly influence the environment through mechanisms such as meeting new friends who support the behaviour). A model that was developed and improvised from the SCT is proposed in

this research. Figure 1 shows the proposed themes contributing to Malays' consumption of fruits and vegetables used in this study.

Based on this figure, the three factors that influence fruit and vegetable consumption are personal, behavioural and environmental. However, each of the factors can react independently in Process A to influence consumption of fruits and vegetables in daily life or on a reciprocal Process B. Process A is a direct factor that influences consumption, while Process B shows two collaborating factors that affect fruit and vegetable consumption.

Figure 1 shows that knowledge can influence fruit and vegetable consumption (Process A). The results from Table 3 show that respondents have less knowledge about the benefits of consuming fruits and vegetables. This result is in line with Cox et al. (1998b) who reported that the lack of nutritional knowledge is the main reason for less consumption of fruits and vegetables. Thus, the behaviour to consume fruits and vegetable can be positively influenced if consumers have better knowledge on the benefits of consuming fruits and vegetables.



Note: A = Independently; B = Reciprocal process  
 Source: Social Foundation of Thought and Action (Bandura, 1986)

**Figure 1: Conceptual Framework of Fruit and Vegetable Consumption Patterns**

## METHODOLOGY

A qualitative method was employed in this study. An in-depth interview was conducted by using convenience sampling to target the ‘best informant’ who is willing to share relevant experience (Morse, 1992; Patton, 1990) about fruit and vegetable consumption. Furthermore, an in-depth interview is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme or situation (Boyce & Neale, 2006). The criteria for the selection of the respondents interviewed were Malay adults aged between

19 to 59 years-old who lived in Subang Jaya, Selangor, who often (based on frequently and preferred) to consume fruits and vegetables. Subang Jaya, located in the West Coast of Peninsular Malaysia was chosen because it has the highest composition of Malay ethnic population in Malaysian cities with a total of 594,108 people (Malaysian Department of Statistics, 2010). Adults were chosen as respondents as they are usually independent consumers who are highly aware and have high understanding of their choices (Sandlin & Callahan, 2009).

### **Data Collection**

Respondents were interviewed after they agreed to participate in this study. The respondents were selected based on their ability to contribute their knowledge and share experiences to meet this research paper's goals and objectives. Only 10 respondents were chosen as participants and the research was terminated when the given feedback met saturation point or when the interviews seemed to yield little additional information (Nestor & Schutt, 2012). Once this point was reached, interviews with additional people may not yield any genuinely new insights (Tylor & Bogdan, 1998). Unstructured or semi-structured interview questions were used to develop and cover all focused topics relating to factors affecting consumption of fruits and vegetables. The session was divided into two parts. First, the discussion about fruits was conducted for 1 hour and 15 minutes. After a short break, the second session covered questions related to vegetable consumption, which lasted for 1 hour and 15 minutes. Two separate topics about fruits and vegetables were provided to clarify the consumption of each fruit and vegetable for each respondent. The interviews were held at the respondent's home, office, or a restaurant after making an appointment. Usually, about four to seven open-ended questions on the patterns of fruit and vegetable consumption were asked during the interview. Some examples of questions asked during the interview are shown in Table 1.

**Table 1: Examples of Open-ended Questions during the In-Depth Interview Session**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. What types of fruits/vegetables do you choose for daily consumption?</li><li>2. Please explain the reason for choosing the fruits/vegetables.</li><li>3. When do you consume the chosen fruits/vegetables?</li><li>4. How often do you eat the chosen fruits/vegetables?</li><li>5. Who influenced you to eat fruits/vegetables?</li><li>6. What do you believe are the benefits of eating fruits/vegetables?</li><li>7. Please recall, when you were growing up, whether you remember anything about eating fruits/vegetables.</li></ol> |
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Prior to the interview session, respondents were required to sign a consent letter stating that they agreed to be involved and participated voluntarily. The participants were informed of the rules and procedures during the interview, such as all the sessions will be audio-taped and all the responses will be kept confidential. The in-depth interview process was conducted by the researcher. A token of appreciation was given to the respondents for their participation in this research at the end of the interview. All the interviews were

audio-taped and transcribed *verbatim* and data were reviewed for accuracy. The collected data were coded and analysed manually. Contributing factors to fruit and vegetable consumption were identified at the end of the study by using content analysis.

## RESULTS AND DISCUSSION

### Respondent Profiles

A total of 10 respondents participated in this study. Participants were recruited by using convenience sampling. Out of 10 respondents, there were three males and seven females. More females were chosen as respondents as they were more approachable and willing to be interviewed in this qualitative study (Morse, 1992; Patton, 1990). The age range of the respondents was between 27 to 49 years-old.

**Table 2: Respondent Profiles**

| No. | Name | Gender | Age | Occupation               |
|-----|------|--------|-----|--------------------------|
| 1.  | R 1  | Female | 33  | Accountant               |
| 2.  | R 2  | Male   | 27  | Post-Graduate Student    |
| 3.  | R 3  | Female | 44  | Housewife                |
| 4.  | R 4  | Female | 49  | Housewife                |
| 5.  | R 5  | Female | 39  | Teacher                  |
| 6.  | R 6  | Female | 43  | Teacher                  |
| 7.  | R 7  | Female | 29  | Lab Technologist         |
| 8.  | R 8  | Male   | 27  | Site Supervisor          |
| 9.  | R 9  | Male   | 38  | Chief Technology Officer |
| 10. | R 10 | Female | 39  | Lecturer                 |

Table 2 shows the demographic profile of the respondents. Most of the respondents shared their knowledge on fruits and vegetables and factors affecting their consumption behaviour. The occupation of the respondents was not used as a criterion for selection since the aim of this qualitative study was to focus on the willingness of respondents to be interviewed (Morse, 1992; Patton, 1990).

### Themes

In this research, the texture, colour, taste, odour and appearance were the main characteristics that influenced respondents' consumption of fruits and vegetables. There were four themes that emerged and they were discussed at length such as sensory appeals, health consciousness, availability and parental control.

### *Sensory Appeals*

The respondents were asked on how, why, when, and also the portion size with regards to their consumption of fruits and vegetables. All the respondents claimed that they consumed fruits and vegetables every day. The types of fruits and vegetables chosen were based

on individuals' taste preferences. Respondents stated that they selected fruits based on the taste. In addition, other characteristics such as texture, quality, smell and appearance played major roles in their deciding the types of fruits and vegetables to be consumed. Some of the responses quoted in verbatim are given below.

*"I like apples. They're crunchy". At the supermarket, imported fruit such as grapes and apples are arranged nicely. It's convenient for me."* (R 1)

*"I choose apples based on the shape. For other fruits, I'll look at the skin to ensure that the fruits are fresh. Honeydew and pineapples have great aroma when they're fully ripe... they're juicy and sweet!"* (R 3)

*"I like all fruits. You can put everything in front of me and I can eat them! But, they must be delicious and fresh."* (R 10)

*"I like yellow rambutan. The taste is unique, and it has a round shape with natural sweetness."* (R 9)

However, there are also some fruits and vegetables that are not consumed by respondents due to their taste.

*"It's the taste that can make me feel like eating those fruits. Because, sometimes I am in the mood to choose what fruit I want to eat on that day...I like watermelon but I'm trying to avoid watermelon because it gives me another effect that's not good for me."* (R7)

*"I don't eat oranges, papayas and pineapples because oranges and pineapples are sour... and papaya is too soft. Cooked bean sprouts have no taste... what is the purpose of eating them?"* (R 1)

*"If I eat fresh lychee, I will cough. This is because of the usage of pesticides on lychee."* (R 9)

### ***Health Consciousness***

From the analysis, there were several factors that affected the consumption of fruits and vegetables (Slavin & Lloyd, 2012). Respondents were found to consume fruits and vegetables because of their perceived health benefits. For example, they believed that for diseases like diabetes, cancer, eye-sight problems and high blood-pressure, one can benefit from taking fruits and vegetables. Fruits contain fibre and vitamins, are a source of water which helps in digestion, and are good for skin complexion, and also for some other diseases.

*"It's important, because it's good for our health...for increasing the quality of my health. Also, it is useful to reduce diseases like diabetes, cancer, and high blood-pressure. I eat broccoli and other (vegetables). My mum told me that it is important...important and useful to reduce cancer. I eat grapes and guava, not*



*just because they are tasty, but they are also high in vitamin C. They're good for my skin."* (R 1)

*"I eat grapes. I read an article about grapes. They help to improve my eyesight."* (R 2)

*"I eat bananas to solve my digestive problems. At the same time, they help to boost my energy."* (R 3)

*"Guava? Hmm... The fruit is good for skin. I think it is good for skin."* (R 7)

Fruit choice is important for respondents who are suffering from diseases such as diabetes and high blood pressure.

*"Yes, I try to blend green apple with celery. My husband has shown improvement."*

*"I also consume oats with dates. Dates are good for your heart..."* (R 3)

Health is an important consideration when selecting food to be consumed. In comparison, a survey conducted by the Malaysian Education Authority's health and lifestyle, stated that consumers with low income were found to agree with the statement, 'healthful is not enjoyable' as well as, 'I don't really care what I eat' (Thompson, Margetts, Speller, & McVey, 1999). It was also found that when one believed in the benefits of the fruits and vegetables, this might increase the individual's consumption. Concerns about nutritional content can usually be associated with dietary behaviour (Pollard, Kirk, & Cade, 2002). In the present study, it was found that respondents had very limited knowledge on nutritional content of the fruits and vegetables that they consumed, although they believed that fruits and vegetables had a positive impact on health.

### ***Availability***

This factor relates to the availability of fruits and vegetables. The availability of fruits and vegetables at home, and that can be found at shops/ stalls might influence the respondents to increase their consumption of fruits and vegetables. Several researchers have studied the perceived barriers to increasing fruit and vegetable consumption (McClain, Chappuis, Nguyen-Rodriguez, Yaroch, & Spruijt-Metz, 2009; Pearson, Biddle, & Gorely, 2009; Rasmussen et al., (2006). Their findings showed that respondents complained about the limited availability of vegetables and fruits at work, when eating out, in a take-away restaurant, and at friends' houses. These are some of the reasons reported to be barriers to increasing their fruit and vegetable intake (Cox et al., 1998<sup>a</sup>). A similar finding was observed in this study whereby the respondents said that the availability of fruits and vegetables was an important factor that influenced them to consume fruits and vegetables every day.



*“I eat bananas, because they are always available in my house, and are easy to find at fruit stalls. Local fruits are available at the wet market or morning market. They are fresher than those at the supermarket. However, when I’m travelling by car, I eat cut fruits. It’s available at nearby fruit stalls by the roadside.” (R 3)*

*“I eat apples and oranges at home... it’s always available in my refrigerator. At the office, I eat cut fruits during lunch. It’s sold at the cafeteria.” (R 2)*

*“Previously, I studied abroad. During that time, the available fruits were apples. There were many apples available on trees. So, I thought it might be delicious if I tried to fry an apple. Yup, it tasted good.” (R10)*

Local fruits such as durian, mangosteen, rambutan, duku and langsung are seasonal fruits. The chances of eating these fruits are higher during their fruiting season. However, when these fruits are out of season and they are not available in Malaysia, respondents shifted to imported fruits such as apples, grapes and orange.

*“I choose rambutan and mangosteen when they are in season. I replace them with grapes and kiwi or guava when they are not available.” (R 1)*

### ***Parental Control***

All respondents clearly recalled their childhood years when their parents influenced their consumption of fruits and vegetables. Parents play major roles in controlling their family eating habits (Pollard, Greenwood, Kirk, & Cade, 2002) and families with high consumption of fruits and vegetables tended to have more control of family members’ eating habits. The results obtained from the present study indicate that all respondents said that their eating patterns were influenced by their family members, especially their mothers.

*“I ate grapes, durian, mangosteen, guava and so on because my mother always brought these home. She would ask me to try these fruits. If I refused, she would eat them first before giving them to me to try. If the taste was good, I would then eat the fruits,” (R 1)*

*“My mum always prepared fruits after lunch. She peeled mangos, apples and oranges. She has asked me to eat those ever since I was small. Until now, she keeps doing it for me. Near my house, there is a rambutan tree. Since my childhood, my friends and I have climbed up that tree to eat the fruits” (R 2)*

*“I miss my childhood days. I liked to eat local fruits and vegetables during my childhood. We were close to nature. Everything was free. During that time, you could find fruits everywhere.. erm.. Fruits such as pink guava could easily be found. We plucked and ate pink guava just like that. But now, everything that you need, you have to buy.”*

*“I forced my children to eat vegetables ever since they were young. Usually, I will cut them nicely, mix all colourful vegetables to attract them to eat. Then, I told them about the benefits of the vegetables. It’s okay if they refused; at least they had tasted the vegetables”.* (R 3)

The parental control of fruit and vegetable intake during childhood affects the consumption of an adult. Therefore, the respondents’ practices were based on their parents’ eating patterns, and most often continued as habits as they grew older.

*“But I remember during my childhood, my mother forced me to eat vegetables. I would eat fruits, but not vegetables. I was really choosy about vegetables. I only ate cabbage, carrot, lady’s fingers and spinach. I started to consume other vegetables such as mushroom and brinjal during my postgraduate studies. My friend introduced these vegetables to me. Surprisingly, they were quite nice...”*

## Discussion

Table 3 shows the factors affecting fruit and vegetable consumption. By applying Social Cognitive Theory (SCT), these factors were obtained following data analysis. Content analysis was applied for data interpretation. Three factors were identified and these included behavioural, personal, and environmental factors. The first is behavioural factors which explain factors related to sensory appeals. In this theme, results shows that the taste was found to be one of the reasons for older Malay respondents to consume fruits and vegetables. However, for vegetable consumption, seven of the respondents were in agreement that the taste of specific vegetables will usually influence their intake. This is because certain vegetables have a unique taste, such as bitterness. Therefore, bitterness was reported as a sensory deterrent for vegetable preference and consumption by consumers.

**Table 3: Factors Affecting Fruit and Vegetable Consumption**

| <b>Factors</b>       | <b>Themes</b>                    | <b>Fruits Frequency</b> | <b>Vegetables Frequency</b> |
|----------------------|----------------------------------|-------------------------|-----------------------------|
| <b>Behavioural</b>   | Sensory appeal (taste)           | 6                       | 7                           |
| <b>Personal</b>      | Health consciousness (knowledge) | 6                       | 4                           |
| <b>Environmental</b> | Availability                     | 5                       | 5                           |
|                      | Quality                          | 9                       | 7                           |
|                      | Freshness                        | 5                       | 3                           |
|                      | Appearance                       | 2                       | 2                           |
|                      | Colour                           | 4                       | 10                          |
|                      | Parental Control                 |                         |                             |

The second factor observed in this study was the personal factor. This factor is related to health consciousness and it involved the knowledge on benefits of consuming fruits and vegetables. About six respondents agreed that they consumed fruits because they have knowledge on the benefits of consuming particular types of fruits. Meanwhile, only four respondents stated specific knowledge on the benefits of consuming vegetables; mainly, that fruits and vegetables contain vitamins, minerals, proteins, fibre and bio-functional components, and they are also low in fat, sodium and calories. The educators, a teacher and a lecturer, were found to have more information about fruits and vegetables compared to respondents with other occupations. Knowledge on the benefit of consuming fruits and vegetables of the respondents were based on the background of their family, which included academics, and their own self-efficacy, social life (sharing about health menu) and growing-up environments (family and friends). However, even these knowledgeable respondents only knew about the basic nutrition facts about fruits and vegetables.

The third factor is the environmental factor and it explains about availability, quality and parental control. The first is availability. Based on data analysis, five of the respondents consumed fruits and vegetables because of the availability of fresh produce. In other words, they consumed fruits and vegetables because it was accessible either at their working places or in their surroundings. Hence, when fruits and vegetables were available, their consumption will increase. The second is that consumption patterns are influenced by the quality of fruits and vegetables. Lastly, eating patterns are also a result of parental control. Table 3 shows that four respondents shared similar responses, whereby their parents influenced them to consume fruits by providing information about fruits which are associated with skin complexion and benefits for brain development. Apparently, parents bought and prepared fruits for their children and asked them to consume them since childhood. In general, all the respondents agreed that parental control had strong influence on their consumption of vegetables. Vegetables such as kale, bitter melon, and mustard leaf were known to have bitter taste. Thus, as children, they started avoiding these vegetables. Therefore, parents can play an important role to educate their children on the benefits of consuming fruits and vegetables during their childhood. They can show good examples and use their creativity in presenting the fruits or preparing vegetable dishes to influence their children to eat fruits and vegetables during childhood.

The reasons for consuming fruits and vegetables were different for everyone. Each person had different factors that influenced their fruit and vegetable consumption. Some of them preferred the taste of a particular fruit or vegetable, while others were influenced by knowledge on the benefits of consuming fruits and vegetables, the availability of fruits and vegetables around them, and parental control during their childhood. Findings from this study emphasized that factors that affect the consumption of fruits and vegetables are sensory appeals (behavioural factor), health consciousness (knowledge), and environment (availability and parental control). In this respect, it can be said that respondents consumed fruits because of the taste (behavioural factors), having knowledge (personal factors) and suitable environmental factors (availability, quality, and parental control). Besides that, some of them only consumed fruits because of the knowledge about the benefits of fruits (personal factors). However, both these factors influenced them to consume fruits and vegetables.

Therefore, the findings obtained in this study support the relationships among all the factors as discussed by Bandura (1989) in Social Cognitive Theory (SCT). The arrows in Process A in Figure 1 illustrate the single relationship whereby each of the factors can affect the consumption of fruits and vegetables. Parental control has a huge influence on respondents' consumption patterns, and this is followed by the taste of the fruits and vegetables. Furthermore, availability of fruits and vegetables may affect them to consume more fruits and vegetables.

From the factors identified in this research, it was found that environmental factors (availability, quality and parental control) were the most important factors for respondents to consume fruits compared to behavioural (taste) and personal (knowledge) factors. Table 3 showed that the freshness aspect of fruits is higher compared with appearance, colour and quality. However, for vegetables, the behavioural and environmental factors were important factors that influenced vegetable consumption. Therefore, the Malaysian government should focus on how to increase the consumption of fruits and vegetables of the Malay community using environmental factors which include quality, freshness, colour and appearance of fruit and vegetables. In addition, respondents' knowledge on the benefits of consuming fruits and vegetables was limited, and in some cases, inaccurate. If the respondents were more knowledgeable about the benefits of consuming fruits and vegetables, this may help to increase their consumption of fruits and vegetables in the future. Thus, by using the results obtained in this study, measures to increase the consumption of fruits and vegetables can be implemented.

## CONCLUSIONS

The consumption of fruits and vegetables among Malay adult consumers in Subang Jaya is influenced by various factors. Among the factors that have been identified were taste, health-consciousness, availability and also parental control. The findings obtained in this study provide a better understanding of the factors affecting the consumption of fruits and vegetables among Malays. This research could be more meaningful if comparisons are carried out with the Chinese and Indian ethnic groups. It is recommended that for future studies, the factors found in this research can be tested by using the quantitative approach to generate more information on Malay consumption patterns of fruits and vegetables. The findings of this research can only be used as exploratory information and should not be generalized to the whole population in Selangor, as it used only 10 participants during the in-depth interviews. Finally, this study is expected to enrich the documentation about fruit and vegetable consumption behaviour among the Malay ethnic group in Malaysia since data on these aspects is still very scarce.

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