# Effect of Student Eating Habits and Implication towards their Health

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## Abstract

The emerging market of fast food industry around the world is expected to change the eating habits of the current generation, especially among students. In particular, fast food consumption is often associated with its negative impacts on one's nutrition and health compared to the traditional foods that have been consumed across different populations of varying regions over an extended period of time. Indeed, it is very important to determine food consumption behaviour among students to prevent any implications on their health and behavioural intentions. Therefore, the purpose of this paper was to identify university student knowledge of healthy food and the contributing factors towards food selection. A total of 400 students were selected using simple random sampling method, whereby the data obtained were then analysed descriptively via Statistical Package for Social Sciences (SPSS). The analysis indicated that the respondents had a high level of knowledge about healthy food, with a mean score value of 4.32. Using descriptive statistics, almost 92 per cent of the sampled students preferred choosing traditional food as their everyday meal as opposed to fast food. Meanwhile, price was the main factor that contributed to their choice of traditional food, followed by family influence and peer. Based on Multiple Regression Analysis, the overall findings indicated that 23 per cent of student health was influenced by the contributing factors towards the selection of foods and knowledge of food. In particular, the contributing factor towards food selection was identified as the dominant factor affecting student health. In conclusion, the knowledge about healthy food plays an important role to determinat the level of student and individual health as well. Awareness and knowledge of healthy eating should be disseminated to all groups, since Malaysia is the highest country in Asia with adult obesity.

**Keywords***:* eating habits, family-influenced, food selection, price, student health

## 1.0    Introduction

Changes in the world economy have made eating out a trend in the society today, especially among teenagers pursuing higher education at respective institutions. In addition to factors such as living in dormitories that renders difficulty for students to cook, eating out is seen as easier and time-saving in nature. Changes in the nutritional behaviour and supply of food variety worldwide have resulted in adolescents more likely to enjoy eating out without considering the long-term effects that they may have to face.

## 2.0    Nutrition and Health Habits

Good eating habits allow individuals to benefit from the food consumed by them. Furthermore, good nutrition contributes to the health and fitness of the body as well-balanced nutrition can provide enough energy for proper functioning of the body organs. This, in turn, can prevent one from being afflicted by dangerous illnesses and/or Non-Communicable Diseases (NCDs) like diabetes, hypertension, and heart failure. In contrast, unbalanced nutrition can cause the body's immune system to become weak and vulnerable to diseases.

Lancet Journal Report (2016) highlighted that the number of adults with diabetes in the world increased from 108 million in 1980 to 422 million in 2014 which was 28.5% due to the rise in prevalence, 39.7% due to population growth and ageing and 31.8% due to interaction of these two factors. According to World Health Organization (WHO) 2019, the number of diabetes among adults aged 18 years and above had increased from 11.6% to 17.5% over a period of 9 years from 2006 to 2015. In addition, 2019 statistics from World Population Review stated that Malaysia had the highest rate of obesity among Asian countries at 15.6 percent.

Accordingly, many factors influence food selection trends among the student population, such as environment, habits, traditions, food properties, and individual social status (Sahoo et al., 2015). According to Verma (2010), students' habits for choosing and buying food are based on several determinants, namely service quality, price, and purchase incentive. Furthermore, Bryant et al. (2020) stated that the selection of food is more psychologically-influenced, thus, encouraging individuals to make their choices. This aligns the individual psychological influences on food choices that scholars have assessed accordingly (Bryant et al., 2020). Meanwhile, Abdullah and

Ali (2011) have identified the six aspects that influence students in terms of nutritional selection, which include food menus, dining hours, dining venues, food expenses, perceptions of food purposes, and things related to eating.

Moreover, Björk and Kauppinen-Räisänen (2016) have detailed two factors that influence the selection of food, which encompass internal factors (including individual physiological needs and health level) and external factors. The findings of Li (2011) have further underlined food prices and suggestions from parents as strong factors affecting student food selection. In particular, parental attitudes that are more likely to buy food outside than opting for self-cooking at home have exposed their children to obesity. Consequently, this justifies the findings by Malaysian Children's Fund Review by United Nations Children's Fund (UNICEF) that have revealed obesity problems among children in Malaysia as the second-highest in Southeast Asia after Brunei (UNICEF Malaysia, 2018).

Besides, Oti (2018) has identified the three main factors that influence the selection of food among students, which are: demographics, food character, and frequency of food menus offered. The scholar has further indicated that the total revenue under the demographics factor is deemed non-influential for food selection purposes, whereas food characters such as food size, food presentation, cooking preparation, and value for money affects the process (Oti, 2018). In line with the above, Blažková and Dvouletý (2018) have also detailed factors like food quality, served food appearances, menu options, food hygiene, service provided, and distance and close proximity to food are factors that influence individual food choices.

Alternatively, Yang et al. (2020) have stated that one's knowledge of nutrition is closely related to their attitudes towards it, suggesting that a person who practices good eating habits will have good health. In the context of students, balanced nutrition choices need to be emphasised as they can affect their quality of life in the long run. Similarly, poor eating habits can cause them to be weaker and less energetic while attending college (Al-Shehri et al., 2017). Food selection habits, in particular, are influenced by a number of factors, such as media exposure, family role, and breakfast habit (Manggabarani et al., 2020). According to Sogari et al. (2018), eating habits among adolescents are influenced by home and school tendencies, such as cultural, religious, economic, tradition, and social

status. For example, Individuals who choose modern food at high prices and fast food options are said to have high social status.

A study conducted by Fitzgerald et al. (2010) has found that factors influencing food choices among children include food type, time spent with parents, food benefits, mood, finances, convenience, and media. In support of this finding, Suswanti (2013) has reiterated that most students are more likely to choose fast food due to the convenience provided. Despite the correlation between health level and colour of the food selected, the findings still show a higher selection of fast food than the nutrients obtained from fast food. These indirectly indicate that although the students know the lack of nutrition in fast food meal, many of them are still interested in getting the fast food meal than nutritious meal.

Furthermore, Azeman (2017) has revealed that respondents from a Malaysian college displayed good knowledge and awareness of proper eating habits. They selected food based on the three factors of food price, food knowledge, and food quality, wherein these elements were collectively believed to contribute to good health. Meanwhile, the study by Abdullah and Ali (2011) has focused on student knowledge and awareness of proper and healthy eating habits. It involved a total of 102 respondents consisting of undergraduate students from various faculties in the main campus of Universiti Kebangsaan Malaysia (UKM). In general, the study revealed that the respondents depicted good knowledge and awareness of proper and healthy eating habits. However, the findings also suggest that respondents skip their breakfast and late-night meals in addition to snacks, whereby these imbalances may contribute side effects to student health status. Therefore, it can be concluded that educational efforts are needed to improve the dietary intake of Malaysian adults (Kasim et al., 2018).

## 2.1    Problem Statement

Life at the university changes student's lifestyles, whereby they are responsible for determining their nutrition intake patterns to ensure consumption of healthy food. This is attributable to the practice of food intake among students that will affect their level of health and academic achievement (Abdullah & Ali, 2011). In fact, the practices of unbalanced nutrition may yield unfavourable psychological effects in addition to causing chronic diseases (Ha & Caine-Bish, 2009) and NCDs such as obesity, diabetes, high blood pressure, and weak heart. Besides, unhealthy nutrition consumption patterns will result in students

becoming lethargic and having difficulties in focusing during their learning sessions (Azeman, 2017).

Previously, Malaysia displayed an increased obesity percentage from 10.5 per cent in 2010 to 13.3 per cent in 2014, whereas its percentage in 2015 was as high as 18 per cent. Furthermore, the National Health and Morbidity Study (NHMS) statistics in 2015 classified Malaysia as an obese nation in which one out of two adults would be overweight or obese. Meanwhile, in 2018, 5.5 million or 30.6 per cent of Malaysians suffered from obesity. The reports from the World Health Organisation (WHO, 2011) have thus, listed Malaysia as the most obese country in Southeast Asia, whereby 44.2 per cent of its male and female citizens have a Body Mass Index (BMI) of over 25kg / m2 (Lum, 2018).

This is even more alarming as a report by UNICEF (2016) has revealed that Malaysia is a Southeast Asian nation with prevalent nutritional problems such as overweight and malnutrition among its adolescents and children (Bernama, 2019). It is especially worrying if the statistics continues to show rising patterns. This may suggest that the country will be filled with dense obese population and face the highest risks of NCDs.

Meanwhile, QSR Brand has planned to open at least 127 new fast food outlets throughout Malaysia by 2021, as well as 50-speedboat restaurants at PETRONAS stations nation-wide around the same period (The Star Online, 2018). This is feared to potentially increase the percentage of malnutrition, obesity, diabetes, and stroke cases. Therefore, the knowledge of good eating habits should be emphasised, especially among children and adolescents. According to Fieldhouse (2013), the knowledge of healthy eating habits can enhance student's self-confidence to counteract the unhealthy influences of their eating habits and diet.

Furthermore, factors associated with the college life that causes difficulty for students to consume nutritional food as it is a period of lifestyle changes for adolescents. In line with adolescent self-esteem and growth in appetite, the consumption of dietary intake during this period should be maintained as it can influence the long-term health of students. Eating unhealthy food during one's college life can lead to unhealthy psychological effects thus, linked with chronic illnesses (Ha & Caine-Bish, 2009). Adverse effects may also be seen with student's thinking processes (Abdullah & Ali, 2011), whereby they tire more easily and have difficulties in focusing during learning sessions. The

intake of balanced food pattern is similarly highly influential on their level of health, thereby affecting the development of their physical and mental reactions during the process. Thus, this study is conducted to identify the knowledge of healthy food possessed by university students and the contributing factors towards their food selection.

## 3.0    Methodology

The study involved 400 students who were randomly selected from University A. A questionnaire was used as the instrument to explore student knowledge of healthy food and identify the factors that contributed to the selection of food among them. It was divided into three sections: section A measured the respondent's demographic information, section B measured university student's knowledge of healthy food, and section C to identify the contributing factor towards of the selection of foods. A five-point Likert Scale was used in sections B and C, which are as follows: 1- Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; and 5 - Strongly Agree. All data were analysed descriptively using SPSS version 20.

The reliability test showed that the alpha value for the study variables were 0.768 (i.e. knowledge of food) and 0.783 (i.e. factor contributing). According to Sekaran (2009), the value is deemed acceptable and reliable if it is more than 0.7. Next, the respondent's level of knowledge about healthy eating habits and food selection factors was analysed descriptively, whereby correlation tests were used to determine the relationship between dietary habits and respondent health. Meanwhile, Multiple Regression Analysis was utilised to determine the major determinants of student health. Figure 1 shows the framework of the independent and dependent variables of the study.
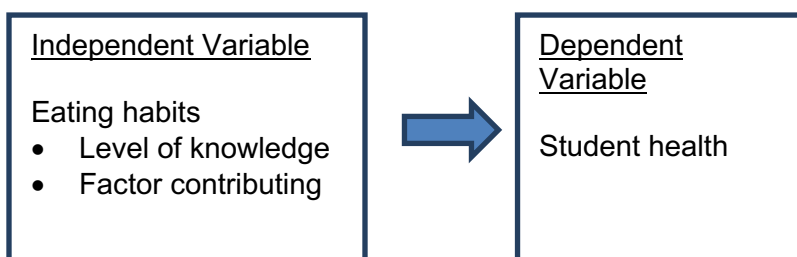
Independent Variable

Eating habits
• Level of knowledge
• Factor contributing

Dependent Variable

Student health

Figure 1 : Conceptual framework on the effect of student eating habits and the implication towards their health

## 4.0    Findings

A total of 400 students consisting of 61.5 per cent females and 38.5 per cent males were involved in the study. More than half of the respondents (62.3%) were between 21 to 26 years old, while 36.2 per cent were below 20 years old. A majority of them were staying in the residential college equipped with a cafeteria. Table 1 below shows the demographic analysis of the respondents.

Table 1 : Respondent's demographic analysis

| | Item | Percentage (100%) |
|---|---|---|
| 1. | **Gender** | |
| | Female | 75.0 |
| | Male | 25.0 |
| 2 | **Age** | |
| | < 20 years old | 1.8 |
| | 21 - 26 years old | 86.2 |
| | $\geq$ 27 years old | 12.0 |
| 3 | **Living Area** | |
| | College with cafeteria | 78.0 |
| | College with no cafeteria | 10.0 |
| | Outside (rental house) | 12.0 |

The analysis results revealed that student's knowledge on healthy food was high with a mean value of 4.32, whereby 89.0% students stated that fast food posed a negative impact on health. Furthermore, most respondents agreed that fast food such as snacks or junk food could contribute to kidney damage (77.7%) and dementia (36.2%). Meanwhile, a majority of them (90.1%) agreed that carbonated drinks could lead to diabetes.

Nevertheless, more than half of the respondents (80.7%) preferred traditional food and were likely to choose menus (75.0%) like *nasi lemak, yee sang,* and *roti canai* as their meal during breakfast, lunch, and dinner compared to burgers and pizza. However, the findings also indicated that most of the respondents agreed that healthy food referred to balanced diet intake, which contained all nutrients needed by the body (mean = 4.20).

In the context of factors that contributed to the habit of food selection, half of the respondents agreed that price was the main factor influencing students to choose food, with the score mean value of 3.32. This was followed by peer (score mean value = 3.27) and family (score

mean value = 3.25). The finding is in line with Medeiros and Salay's (2013) outcomes, whereby price has been shown to be important for the student population, as well as lower-income population and individuals who eat out less frequently. According to Thiruselvakumar et al. (2014), eating patterns and behaviours of adolescents are influenced by many factors, including peer influence. Therefore, the current study supported the finding in which the habits of food selection among students were influenced by their peers. Similarly, the influence of family life also affected their choice of food even if they lived in hostels. This parallels the findings of Berge et al. (2010), whereby families play an important role in adolescent food choices during their stay at home as food is usually provided by the parents. Furthermore, the findings of the current study showed that the influence of food price was the main factor that contributed to food selection. According to Abdullah and Ali (2011), some students would be willing to save money in terms of buying food as they want to buy other necessities. Supporting the findings of peer influence on food selection, Higgs and Ruddock (2020) have previously found that eating with friends is a social activity, rather than a routine.

Table 2 : Cronbach's alpha value

| Variable | Cronbach's Alpha Value |
|---|---|
| Factor contributing | 0.783 |
| Knowledge of food | 0.768 |

Table 2 shows that the food selection factor yields a high Alpha Cronbach's alpha value at 0.783, followed by the knowledge of food (0.768). A high reliability coefficient value typically indicates high instrument reliability. In determining the relationship between the two variables, the analysis yielded correlation values for student health and the factors of knowledge and food selection as seen in Table 3.

Table 3 : Pearson correlation value

| Variable | Pearson Correlation | Level |
|---|---|---|
| Factor contributing | 0.455** | medium correlation |
| Knowledge of food | 0.455** | |

Note: ** significant at 0.05

Table 3 indicates that both study variables are positively related to student health by a measurement of the Pearson correlation value.

It is typically measured to test the association between two items' scores (Inukai et al., 2010). Here, the contributing factor towards the selection of foods had a stronger significant relationship with student health level (r = 0.455, p = 0.000) than the relationship between knowledge of food and respondent health (r = 0.407, p = 0.000).

Table 4 : Multiple regression analysis

Model summary

| Model | R | R Square (R$^2$) | Adjusted R Square (R$^2$) | Std. Error of The Estimate |
|---|---|---|---|---|
| 1 | .515 | .265 | .235 | 12.613 |

| Model | Unstandardised Coefficients | | Standardised Coefficients | t | Sig. |
|---|---|---|---|---|---|
| 1 (Constant) | B | Std | Beta | | .000 |
| Factor contributing | .804 | .236 | .542 | 3.410 | .001 |
| Knowledge of food | .096 | .132 | .191 | .726 | .469 |

Lastly, Multiple Regression Analysis outcomes in Table 4 reveal that the R$^2$ for both independent variables (i.e. factor contributing and knowledge of food towards student health) is .235. Meanwhile, factor contributing was identified as the only predictive factor affecting student health, yielding a beta value of .542 at a significance level of p less than 0.05. Therefore, it could be summarised that the factor contributing and knowledge of food contributed only 23 per cent on student health, whereby the contributing factor towards the selection of foods was the dominant factor affecting student health. Besides, the findings showed that one (1) or every single choice that the students made to choose food would have an impact on their level of health.

## 5.0    Conclusion and Recommendations

In conclusion, the contributing factor towards the selection of foods was the dominant element that ultimately determined student's health. Meanwhile, their food choices were influenced by price, peer, and family, whereby price was particularly important in the selection process. However, the knowledge level also revealed its relationship with student health. This was reflected in the way the length of stay with

family affected students as they were able to maintain the concept of healthy eating being practised in the family. Therefore, families, especially the parents, need to emphasise the right kind of nutrition to ensure perfect growth processes for their children. In addition to selection factors, families and parents also influenced the level of knowledge about nutrition held by students; during their stay with family members, parents were the ones providing direct and indirect education regarding good food choices. Thus, this further contributed to the level of knowledge and habits of food selection held by these students.

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