Factors That Affect Dietary Habit Among Universiti Malaysia Kelantan City Campus Students

Thulashini A/P Ramesh, Nor Syafarina Anuar, Siti Nuraisyah Binti Safri, Mohammad Sharizal Bin Ramli & *Normaizatul Akma Binti Saidi

Faculty of Hospitality Tourism and Wellness, Universiti Malaysia Kelantan

Corresponding email: akma.s@umk.edu.my

ABSTRACT

The study is about the factors that affect dietary habits among UMK City Campus Students. Dietary habits are the habitual decisions of individuals or groups of people regarding what foods to eat. However, proper dietary choices require the consumption of vitamins, minerals, carbohydrates, proteins, and fats. Dietary habits and choices play a significant role in human health. Therefore, the research seeks to identify the relationship between physical activity, social influences, environments and dietary habits among Universiti Malaysia Kelantan students. About 364 students from the UMK City Campus were polled. In conclusion, one of the most common health problems in an individual, particularly among students, is poor dietary habits. The study will provide a better understanding and knowledge of the dietary habit factors among UMK City Campus students.

Keywords: Dietary Habits, Overweight, Healthy Lifestyle, Universiti Malaysia Kelantan.

INTRODUCTION

Malaysians' lifestyles are rapidly changing in line with their country's advance and progressive growth. Financial, physical, and cultural factors, such as families eating out, skipping meals, and eating too much fast food, all influence dietary patterns (Sidiq & Rampal, 2009). The ability of people to maintain healthy eating behaviours deteriorates over time. This is evident in Malaysia, where 64% of men and 65% of women are overweight or obese, making the country the Asian country with the highest obesity and overweight rates (World Health Organization, 2019). According to the Malaysian Ministry of Health, being underweight is cause for concern because it can lead to anaemia, a decrease BMI, and a distorted view of one's own body, which can lead to anorexia and bulimia (Nor Hazwani et al, 2012).

University students have been shown to have unhealthy eating habits. Scholars have extensively researched their poor eating habits, so this is unsurprising. Huda and Ahmad (2010) found that 27% of 624 University Sains Malaysia students were underweight, while 12% were overweight or obese. Besides that, according to a study by Moy et al, (2009), 35.3 % of 2665 students at a public college in Kuala Lumpur ate fast food at least once a week. According to Gan et al, (2011), more than half of college students do not consume the recommended amounts of calories, Vitamin C, and minerals based on the Malaysian Recommended Nutrient Intake (RNI).

A 2005 report on the global obesity burden estimated that 33.0% of adults (1.3 billion people) are overweight or obese. This figure is expected to rise to 57.8 percent (3.3 billion people) by 2030 if the current trends continue (Kelly et al, 2008). Obesity prevalence in Brunei Darussalam has risen from 12% in 1996 to 27.2 % in 2011. Obesity is known to be a risk factor for a variety of noncommunicable diseases (NCDs), including diabetes, hypertension, cardiovascular disease, and stroke, so this concerning trend has piqued the public's interest (Zakaria et al,

2014). As an outcome, the goal of this research is to find out what factors influence university students' dietary habits. There are three objectives of this research:

1. To identify the relationship between physical activity and dietary habits among Universiti Malaysia Kelantan students.
2. To determine the relationship between social influences and dietary habits among Universiti Malaysia Kelantan students.
3. To examine the relationship between environments and dietary habits among Universiti Malaysia Kelantan students.

Significance of the Study

The significance of the study lies in the possibility that the findings will improve students' health and remain active. Next, the management of the Universiti of Malaysia Kelantan can then use the information to develop a programme that instils healthy eating habits among students. The results can also help students' families with good dietary habits. Additionally, the findings can benefit KKM and KPT's eating habits by at least 50%.

In order to be healthy, students must first plan and adhere to a strict diet. Such a diet needs to include all the minerals and vitamins required by the body. Moreover, consume only healthy foods and avoid the junk, high-carbohydrate, and fatty foods. Correspondingly, getting up early in the morning for a variety of reasons, the most important of which is that it is a healthy habit. Second, getting up early allows students to spend quality time with their families while also preparing for class. Furthermore, this determines when students should sleep and the significance of sleeping early because its de-stresses the body.

Exercise on a regular basis keeps the student body active and relieves muscle tension. Being healthy does not rely solely on physical fitness. Being mentally and emotionally fit is what it means to be healthy. Being healthy should be part of every student’s daily routine. Chronic diseases and long-term illnesses can be avoided with a healthy lifestyle. Feeling good about yourself and looking after your health are important for your self-esteem and self-image.

LITERATURE REVIEW

Dietary Habits Among University Malaysia Kelantan Students

University students have been shown to have unhealthy eating habits. Scholars have extensively researched their poor eating habits, so this is unsurprising. According to Huda and Ahmad (2010), it was discovered that 27% of 624 students at Universiti Sains Malaysia were underweight, while about 12% were overweight or obese. Furthermore, according to a study conducted by Universiti of Malaya, 35.3 percent of 2665 students at a public university in Kuala Lumpur ate fast food at least once a week (Moy et al., 2009). Gan et al., (2011) more than half of the university students did not consume the recommended number of calories, vitamin C, and minerals, as recommended by the Malaysian, Recommended Nutrient Intake (RNI).

In comparison to children and adults, university students are frequently overlooked in studies of eating behaviour. Instead, students are frequently overlooked as potential targets for promoting a healthy lifestyle. As students progress through college, their responsibilities increase. According to Khor et al, (2002), when university students are stressed due to academic challenges, their eating habits and health may be influenced. Furthermore, Nelson et al., (2008) stated that because of the numerous negative effects of negative eating behaviour on these

young people's health, promoting health and preventing diseases have been identified as critical during the transition phase of young people from adolescence to adulthood. University students must eat a well-balanced diet because well-nourished people learn better. Eating well can also help them be more alert in class and remember things better, which can help them improve their grades. Students can also avoid developing chronic illnesses later in life.

Physical Activities

Exercise can help students keep track of how much students eat (Martins et al, 2008). Donelly et al, (2013) in both men and women, guided physical exercise was found more effective than calorie reduction in causing clinically relevant fat loss and fat-free mass preservation. According to Feuerbach et al, (2015) because of an acute bout of exercise that reduced brain responses to 12 food cues, overweight teenagers ate fewer calories. Additionally, McNeil et al, (2015) acute exercise reduced hedonic liking for high-fat diets in general and strengthening exercises in particular reduced hedonic liking for high-fat foods. More research is needed to fully comprehend the long-term effects on food consumption and dietary preferences.

Food intake and physical activity are two of the most important components of weight management, as previously stated; thus, the appetite regulation's role in eating behaviour and the changes that may occur with exercise is critical. The desire to eat is referred to as appetite, which is a psychological construct. It controls energy intake in order to meet physiological demands. Physical activity levels were observed to influence dietary intake. Students who engaged in regular physical activity seemed to prefer a higher food intake than students who did not engage in any physical activity at all. Outdoor sports, bodybuilding, and regular walking all had an impact on dietary choices, with the majority of them involving more carbohydrate and protein consumption (Austin & Marks, 2009).

Social Influence

Dietary habits are influenced by the social environment. When a person eats with others, a person eats differently than when a person eats alone. A person's eating habits tend to mirror those of their closest friends. One reason for this is that we find conforming to other people's behaviour to be adaptive and rewarding. Eating habits are influenced by the actions of others, and also shared cultural perceptions and environmental cues. If a person's eating norm is perceived to be significantly created on social comparison, it is more likely that we will follow (Higgs, 2016).

A common activity is a dinner with friends, family, or co-workers (Oh et al, 2014). Given the importance of social eating, it's critical to comprehend how and why we dine with others has an impact on our food choices. Other people have a variety of effects on our food intake and decisions, according to decades of research (Herman et al, 2003). We are more likely to consume a considerable amount of food when we dine in a group rather than alone. Observational and experimental studies, as well as food diaries by Herman (2015), have all demonstrated the existence of such ‘social facilitation’ of eating. We may eat less than usual because we believe that eating a single amount will impress others (Vartanian, 2015). Other people influence our eating patterns because they serve as a model or norm for proper behaviour (Higgs, 2015). Several recent researches have added to our knowledge of the ways in which social norms influence consumption and the methods that support it.

Environment Condition

Environmental factors, as well as potential action and policy strategies to promote healthy eating, influence food choices. Residences, childcare, schools, after-school programmes,

workplaces, retail food stores (supermarkets and small grocery stores) and eating out at restaurants and fast-food outlets have all been studied. Uncontrollable indirect variables can influence food preferences (Story, 2008).

In short, culture is the way a group of people lives their lives. It is the accumulation of "ethnic, religious, or social values, beliefs, attitudes, and behaviours held by members of a particular community" (PG, 2011). Culture has a strong influence on a person's or a group's eating habits, which is not amazing given that different cultures have different meals and cuisine (EC, 2011). Culture can have an impact on people's eating habits and dietary beliefs (Kuhnlein VH, 2013). Eating is typically done with others at communal festivals, which fosters acceptance.

Research Hypothesis

The literature review revealed the independent variables for factors that affect dietary habits among Universiti Malaysia Kelantan City Campus students. Therefore, the study team intends to look into the relationship between these characteristics. Based on the literature evaluation and the research topic that has been discussed, the study hypotheses are as follows:

H1 There is a significant association between physical activity and dietary habits among Universiti Malaysia Kelantan City Campus students.
H2 There is a significant association between social influences and dietary habits among Universiti Malaysia Kelantan City Campus students.
H3 There is a significant association between environmental conditions and dietary habits among Universiti Malaysia Kelantan City Campus students.

Research Framework

Figure 1 below shows the research framework used for this study.

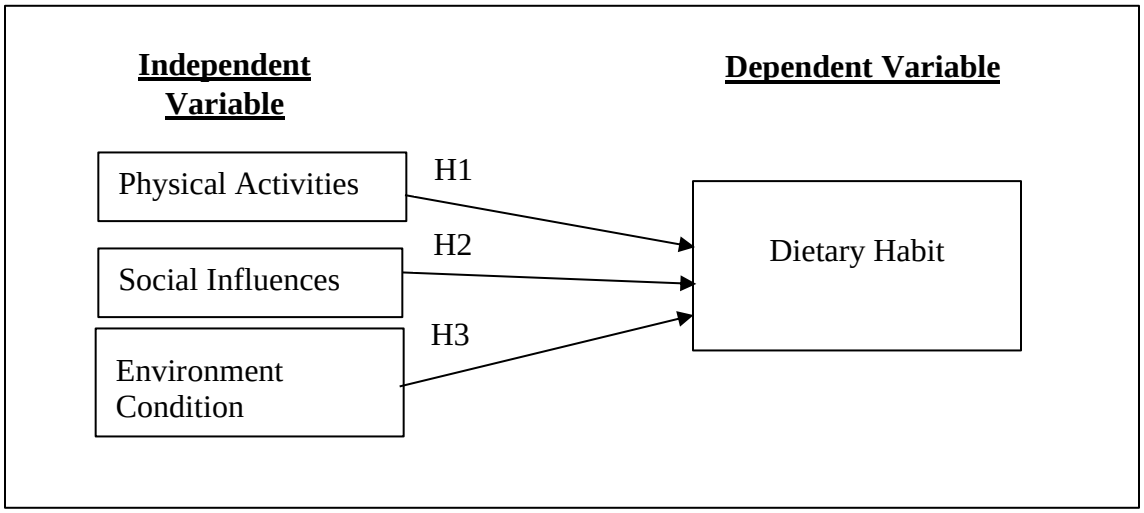

Figure 1: Research Framework

METHODOLOGY

The study used a quantitative research design to study the knowledge and perception of factors that affect dietary habits among Universiti Malaysia Kelantan students. The quantitative research approach using a cross-sectional study design was used to measure the public knowledge and perception of the effect on dietary habits and independent variables.

Data Collection

A set of questionnaires was used for data collection. A questionnaire is a type of research instrument that consists of a list of questions that are used to collect data from respondents. Respondents were sent a series of links to questions via WhatsApp and the Telegram group. The question was to be filled out using Google Forms by the respondents.

Sampling

The sampling method used in this study was non-probability sampling which is convenience sampling. The study used this method because the questionnaires were prepared and distributed online or posted to social media pages to gather information from the respondents. The questionnaire was distributed to the respondents who were among the Universiti Malaysia Kelantan City Campus students through WhatsApp and Telegram groups.

The sample for this study was the category of students studying at the UMK City Campus. The sample size was determined by using the Table of Krejcie & Morgan (1970). In this study, our population was 6365 students. Based on Krejcie & Morgan's table, there was no specific 6365 population so the researcher chose the population that was the nearest to 6365, which was a 7000 population. Thus, our sampling size was 364 respondents from Universiti Malaysia Kelantan Campus City students that were selected to answer the questionnaires.

Data Analysis

There are four types of data analysis used in the study, namely frequency analysis, descriptive analysis, reliability test and Pearson correlation analysis. The data obtained was analysed by using SPSS version 26.

FINDINGS

Result of Frequency Analysis

Table 1 below shows the frequency analysis of this research.

Table 1: Frequency Analysis

Characteristic	Frequency	Percentage (%)
Gender		
Male	158	43.3
Female	206	56.7
Age		
18-20 years	36	9.9
21-23 years	246	67.6
24-26 years	67	18.4
27 years old and above	14	3.8
Race		
Malay	195	53.6
Indian	90	24.7
Chinese	59	16.2
Others	20	5.5
Year of Studying		
Year 1	65	17.9
Year 2	69	19.0
Year 3	168	46.3

Year 4	61	16.8
Faculty		
FHPK	197	54.1
FKP	167	45.9
Course		
SAW/SAS	93	25.6
SAH	62	17.1
SAP	46	12.7
SAK	22	6.1
SAE	30	8.3
SAL	26	7.2
SAB	29	8.0
SAR	24	6.6
SAA	22	6.1
JSD	9	2.5
Accommodation Status		
On-campus	129	35.5
Off-campus	235	64.5
State		
Perlis	27	7.4
Perak	30	8.3
Kelantan	46	12.7
Pahang	33	9.1
Terengganu	33	9.1
Melaka	19	5.2
Negeri Sembilan	27	7.4
Kedah	25	6.9
Johor	29	8.0
Selangor	21	5.8
Kuala Lumpur	18	5.0
Sabah	14	3.9
Sarawak	16	4.4
Pulau Pinang	25	6.9
Residence		
City	216	59.3
Rural	98	26.9

The respondents' profile is summarized in Table 1. The total number of male respondents was 158, while the number of female respondents was 206. The highest percentage of respondents are those within the age range of 21-30 years old with 67.6%, followed by 24-26 years old with 18.4%, 18-20 years old with 9.9%, and lastly 27 years and above with 3.8%. Based on the responses, the overall 364 respondents are Malay (195 respondents), Indian (90 respondents), Chinese (59 respondents), and others (20 respondents). Therefore, the highest percentage of respondents in terms of the race is Malay with 53.6%, followed by India with 24.7%, Chinese with 16.2%, and "Others" with 5.5%.Subsequently, in terms of year of study, the overall 364 respondents involved are Year 1(65 respondents), Year 2 (69 respondents), Year 3 (168 respondents), and Year 4 (61 respondents). Based on the table, the highest percentage of the respondents in terms of year of studying is Year 3 with 46.3%, followed by Year 2 with 19.0%, Year 1 with 17.9%, and Year 4 with 16.8%. Based on the table, in terms of faculty, most of the respondents are from FHPK (54.3%, n=197) and followed by FKP (45.7%, n=166).Next, the number of respondents by course consist of SAW/SAS (93 respondents), SAH (62 respondents), SAP (46 respondents), SAK (22 respondents), SAE (30 respondents), SAL (26

respondents), SAB (29 respondent), SAR (24 respondent), SAA (22 respondent) and JSD (9 respondent). Subsequently, it shows the percentage of the respondents by course which were SAW/SAS (25.6%), SAH (17.1%), SAP (12.7%), SAK (6.1%), SAE (8.3%), SAL (7.2%), SAB (8.0%), SAR (6.6%), SAA (6.1%) and JSD (2.5%).In terms of the total frequencies based on states, Perlis recorded 27 respondents, followed by Perak with 30 respondents, then Kelantan with 46 respondents, Pahang and Terengganu with 33 respondents, Melaka with 19 respondents, followed by Negeri Sembilan with 27 respondents, Kedah with 25 respondents, Johor with 29 respondents, Selangor with 21 respondents, followed by Kuala Lumpur with 18 respondents, Sabah with 14 respondents, Sarawak with 16 respondents, and lastly followed by Pulau Pinang with 25 respondents.Lastly, residence categories are city and rural areas. The total number of respondents are 364 respondents. The frequency in terms of residence is the city with 216 respondents followed by rural area with 98 respondents. Meanwhile, for the percentage of respondents by residence, the percentage for the city is 59.3% and for rural areas is 26.9%.

Result of Descriptive Analysis

Table 2 below shows the descriptive analysis of this research.

Table 2: Descriptive Analysis

Variables	Statement	Mean	Standard Deviation
Physical Activities Factors	Do you do exercise?	4.16	0.895
	Do you usually practice physical activity?	3.39	1.083
	How frequently do you exercise in a week?	3.84	1.067
	Do you like to spend your time exercising?	3.57	1.363
	I always do the regular physical activities in a week?	3.81	1.057
	I always exercise in the area close to where I live.	3.51	1.345
Social Influences Factors	Do you prepare/cook meals together with your friends?	3.80	1.082
	Do you usually eat meals such as rice, meals, vegetables and fruits?	3.58	1.116
	Do you often eat out in restaurants with friends?	3.74	1.040
	Do you often order food takeaways/deliveries when I am with my friend?	3.43	1.091
	In my family, a large portion of food is served.	4.00	1.026
	My family members suggest eating when I seem stressed out or upset.	3.32	1.230
	How often do you eat with your family at home?	3.83	1.062
	How often does your family eat in restaurants or use ready-made fast food?	3.66	1.243

Environment Condition Factors	Are you attracted to foods that are often viral?	4.05	1.056
	I know about viral foods from social media such as Tik Tok, Facebook, Youtube, Instagram and WhatsApp.	3.77	1.189
	The food ads displayed on social media made me interested in eating.	3.95	1.136
	There are many eateries around the university/home.	3.47	1.080
	There are many eateries around the university/home I always go to.	3.64	1.079
	Food promotions held around the university/home attracted my attention to buy.	3.73	1.038
Dietary Habits Among Students	I often take heavy meals every day?	4.15	1.015
	I often eat 3 times a day?	3.52	1.130
	Do you eat breakfast every day?	3.52	1.371
	Do you eat snacks between regular meals?	3.60	1.094
	How often do you eat fruit?	3.60	1.345
	How often do you eat vegetables?	3.58	1.133
	How much is your daily water intake?	3.76	1.124

Table 2 represents the mean and standard deviation analysis for an independent variable which is “Physical Activities Factors”. The highest mean value is item 1 which was 4.16 whereby most respondents answered almost frequently for “Do you do exercise?” question followed by the question of “How frequently do you exercise in a week?” which is item 3 with the mean value of 3.84. Next, the question is item 5 which is “I always do the regular physical activities in a week?” statement with the mean value of 3.81. Furthermore, the mean value was 3.57 for “Do you like to spend your time exercising?” is item 4 in our research. Then, for item 6 the mean value was 3.51 which was “I always do exercise in the area close to where I live.” statement. Lastly, the lowest mean value was 3.39 which is “Do you usually practice a physical activity?” question in item 2 in our result.

Next, the mean and standard deviation analysis for the independent variable of “Social Influences Factors”, item 5 scored the highest mean value which was 4.00, where most respondents responded frequently for “In my family, large portions of food are served.” statement. After that, item 7 which is “How often do you eat with your family at home?” statement with a mean value of 3.83 followed by the question of “Do you prepare/cook meal together with your friends?’’ which is item 1 with the mean value of 3.80. Next, the mean value was 3.74 for item 3 which is “Do you often eat out in restaurants with friends.” statement. Furthermore, the mean value was 3.66 for “How often does your family eat in a restaurant or use ready-made fast food.” is item 8 in our research. Then, for item 2 the mean value was 3.58 which is “Do you usually eat meals such as rice, meat, vegetables and fruits.” question. Followed by the question of “Do you often order food takeaways/deliveries when I am with my friend?” which is item 4 with the mean value of 3.43. Lastly, the lowest mean value was 3.32 which is “My family members suggest eating when I seem stressed out or upset.” for item 6.

Next is the mean and standard deviation analysis of respondents on the independent variable which is Environment Condition Factors. Based on the table, the highest mean value is item 1 which was 4.05 with the respondent answered almost frequently for the “Are you attracted to

foods that are often viral?" question. The second mean value was 3.95 in item 3 which is "The food ads displayed on social media made me interested in eating.". Furthermore, item 2 with a mean value of 3.77 which is "I know the viral foods from social media such Tik Tok, Facebook, Youtube Instagram and WhatsApp.". Next, the mean value was 3.73 which is item 6 with the respondent frequently saying that "Food promotions held around the university/home attracted my attention to buy.". Then, for item 5 the mean value was 3.64 for the "There are many eateries around the university/home I always go to." statement. Lastly, the lowest mean value was 3.47 for item 4 which means that "There are many eateries around the university/home.".

Table 2 represents the mean and standard deviation analysis for dependent variable which is "Dietary Habits Among Students". Item 1 scored the highest mean value which was 4.15, where most respondents stated almost frequently for "I often take heavy meals every day" statement. After that, item 7 which is "How much is your daily water intake?" scored a mean value of 3.76. Next, items 4 and 5 their mean value was 3.60 which was "Do you eat snacks between regular meals?" and "How often do you eat fruit?" respectively. Furthermore, the mean value of 3.58 for the "How often do you eat vegetables?" statement for item 6. Lastly, the lowest mean value was 3.52 for item 2 and 3 which are "I often eat 3 times in a day?" and "Do you eat breakfast every day?" respectively.

Result of Reliability Analysis

Table 3 below shows the result of reliability analysis of this research.

Table 3: Reliability Analysis

Variable	Number of Items	Cronbach Alpha
Physical Activity	6	0.481
Social Influences	8	0.730
Environment Condition	6	0.779
Dietary Habits	7	0.280

Table 3 shows the results of the reliability test for all variables. The reliability test for physical activities, Cronbach's Alpha, showed a value of 0.481. In the reliability test for social influences, Cronbach's Alpha obtained a value of 0.730. The reliability test for Cronbach's Alpha environment condition showed a value of 0.779. While for the dietary habits' reliability test, Cronbach's Alpha obtained a value of 0.280. The value of Cronbach's Alpha should be acknowledged by HR-Guide, LLC (2018). If the alpha value is below 0.50 it cannot be accepted but if the value is 0.60 and above, it is considered the normal value. Meanwhile, if the value of alpha is 0.70, it is considered more than normal, 0.80 is a good value and 0.90 is better.

Result of Pearson Correlation Analysis

Table 4 below shows the results of correlation analysis.

Table 4: Pearson Correlation Analysis

Variable		Dietary Habits
Physical Activities	Pearson correlation	.224**
	Sig. (2-tailed)	.000
	N	364

Social Influences	Pearson correlation	.318**
	Sig. (2-tailed)	.000
	N	364
Environment condition	Pearson correlation	.242**
	Sig. (2-tailed)	.000
	N	364

Table 4 indicates the relationship between physical activities, social influences, environmental conditions and dietary habits. Based on the result, the significant value for physical activities was below 0.05, and when the P-Value was less than 0.05 it means the study rejects the null hypothesis. For H1, the Pearson Correlation was 0.224, showing that there is a significant relationship between physical activities and dietary habits among Universiti Malaysia Kelantan City Campus students. For H2, the Pearson Correlation was 0.318 showing a relationship between social influences and dietary habits. For H3, the Pearson Correlation was 0.242 indicating the low related relationship between environmental conditions and dietary habits.

DISCUSSION AND RECOMMENDATION

The researchers recommend several suggestions to improve the results of the study. The first recommendation in this study is for the university works with food service companies to offer a wider variety of foods and more dietary options for students. Instead of distributing the online survey, which is Google Form, it may be necessary for the responses on feedback on dietary habits among students. As for the second recommendation, the researcher also suggests for the university to educate students on dietary guidelines. Dietary guidelines are defined as a set of guidelines or qualitative statements that help a person or population make food choices that will help them live a healthy life, maintain an optimal weight, and reduce the risk of chronic diseases. This is due to a study that found increased knowledge of dietary guidelines to be positively related to healthy eating habits (Kolodinsky et al, 2007). These dietary guidelines would help students remember when they could obtain healthy food, and it would also encourage the merchants to devote one day per week to the success of this endeavour. It is important that UMK City Campus students are educated and knowledgeable in healthy eating behaviours and be able to choose healthy food choices in the future. This method is more subjective as it requires the researcher to observe and add the answers to the data. Lastly, the suitable recommendation is that students should change their lifestyle toward a healthier one. It is because adopting a healthy lifestyle and eating healthy foods can help to maintain health. The development of healthy lifestyle behaviours can have a long-term impact on their health and the health of future generations (Moy FM et al, 2009).

CONCLUSION

The purpose of the study is to identify the factors that affect dietary habits among Universiti Malaysia Kelantan City Campus students. In the study, the dietary habits of city campus students were affected by their lifestyles. As a result, students' lifestyles were represented by city campus students at the Universiti Malaysia Kelantan, which served as the independent variable. Furthermore, there were three independent variables: physical activity, social influences, and environmental conditions. Pearson Correlation Coefficient was used to analyse the relationships between independent and dependent variables. The result shows that the correlation between physical activity, social influences, and environmental conditions is highly significant. In conclusion, the findings of the study show that there is a link between dietary habits, physical activity, social influences, environmental conditions, and the lifestyle of city campus students at the Universiti Malaysia Kelantan.

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