INTUITIVE EATING BEHAVIOUR AND ITS ASSOCIATION WITH BODY MASS INDEX AND WEIGHT CONTROL BEHAVIOUR AMONG YOUNG CHINESE ADULTS IN UNIVERISITI TUNKU ABDUL RAHMAN

By

OON CHOY LI

A project submitted to the Department of Dietetics

Faculty of Science

Universiti Tunku Abdul Rahman

In partial fulfilment of the requirement for the degree of

Bachelor of Science (Hons) Dietetics

October 2024

ABSTRACT

INTUITIVE EATING BEHAVIOUR AND ITS ASSOCIATION WITH BODY MASS INDEX AND WEIGHT CONTROL BEHAVIOUR AMONG YOUNG CHINESE ADULTS IN UNIVERISITI TUNKU ABDUL RAHMAN

OON CHOY LI

Prevalence of obesity in Malaysia had increase over the years thus, few related journals were published on this topic. However, there were limited studies on intuitive eating concept that has been associated with weight loss. Therefore, this study determined intuitive eating behaviour (IEB) as well as its association with Body Mass Index (BMI) and weight control behaviours (WCB) among young Chinese adults in Universiti Tunku Abdul Rahman (UTAR). A cross-sectional, validated questionnaire was conducted on 436 university students through convenience sampling selection. The questionnaire used consists of BMI, Intuitive Eating Scale-2 questions and weight control behaviours questions. Data collected was analysed using SPSS version 27.0 then reported in descriptive and inferential statistics. Independent samples T test was used to determine difference among genders in terms of intuitive eating score and subscale scores. Chi-square test was used to assess association between gender and IEB, IEB and BMI also IEB and

WCB. The overall mean intuitive eating score was 3.45 ± 0.353 while highest score can be found in Reliance in Hunger and Satiety Cues subscale. Men scored higher than women in overall mean intuitive eating score and all subscale scores. However, women scored higher in intuitive eating behaviour than men by a 10% difference. Higher percentage of intuitive eating behaviour were found in underweight and normal weight individuals. In conclusion, UTAR students are not considered as intuitive eaters and there was no significant difference among genders in terms of scores (all *p*-values>0.05). A significant association was found between gender and IEB (*p*-value=0.006). No significant association found between IEB and BMI (*p*-value=0.297) as well as IEB and WCB (*p*-value=0.427). Findings gathered may be used to implement assorted programs in bringing up awareness concerning on how intuitive eating concept helps in weight loss in hopes of improving quality of life among university students.

ACKNOWLEDGEMENT

First and foremost, I am deeply indebted to my supervisor, Ms. Nurul Aimi Binti AB Kadir for her patience in guiding me, insightful feedback that she has given as well as her unwavering support throughout every stage of this study. Over the course of my academic years, she had undoubtedly executed her role as both my final year project supervisor and my lecturer perfectly by expressing her enthusiasm and dedication in leading me.

Furthermore, I would like to also express my gratitude towards all of the lecturers that had taught since the very beginning when I entered Universiti Tunku Abdul Rahman for my foundation and degree studies. It was the knowledge that these lecturers had delivered powered me enough comprehension and proficiency in finishing the project.

Lastly, I would like to appreciate all my family and friends that has been with me through all phases of my project. Their selfless love, support and motivation had helped me through all my ups and downs while completing the project. Without them, it would be a huge challenge for me to get through my challenges.

DECLARATION

I hereby declare that the project report is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

Oon Choy Li

APPROVAL SHEET

This project report entitled "**INTUITIVE EATING BEHAVIOUR AND ITS ASSOCIATION WITH BODY MASS INDEX AND WEIGHT CONTROL BEHAVIOUR AMONG YOUNG CHINESE ADULTS IN UNIVERISITI TUNKU ABDUL RAHMAN**" was prepared by OON CHOY LI and submitted as partial fulfilment of the requirements for the degree of Bachelor of Science (Hons) Dietetics at Universiti Tunku Abdul Rahman.

Approved by:

_____

(Ms. Nurul Aimi binti AB Kadir) Date: 12/9/2024

Supervisor

Department of Allied Health Sciences

Faculty of Science

Universiti Tunku Abdul Rahman

FACULTY OF SCIENCE

UNIVERSITI TUNKU ABDUL RAHMAN

Date: ___12/9/2024_____

PERMISSION SHEET

It is hereby certified that **OON CHOY LI** (ID No: **20ADB05287**) has completed this final year project entitled "INTUITIVE EATING BEHAVIOUR AND ITS ASSOCIATION WITH BODY MASS INDEX AND WEIGHT CONTROL BEHAVIOUR AMONG YOUNG CHINESE ADULTS IN UNIVERISITI TUNKU ABDUL RAHMAN" under the supervision of Ms. Nurul Aimi binti AB Kadir (Supervisor) from the Department of Allied Health Sciences, Faculty of Science.

I hereby give permission to the University to upload the softcopy of my final year project in pdf format into the UTAR Institutional Repository, which may be made accessible to the UTAR community and public.

Yours truly,

_____

(OON CHOY LI)

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

IE	Intuitive Eating
IES-2	Intuitive Eating Scale-2
BMI	Body Mass Index
NCDs	Non-communicable disease
UPE	Unconditional Permission to Eat
EPR	Eating for Physical rather than Emotional Reasons
RHSC	Reliance on Hunger and Satiety Cues
B-FCC	Body-Food Choice Congruence
IEB	Intuitive Eating Behaviour
WCB	Weight Control Behaviours

CHAPTER 1

INTRODUCTION

1.1. Introduction to Obesity

Obesity can be referred as simple as excess body weight for height which can be etiologically associated to excess adiposity which may pose tragic effects on human health (Hruby and Hu, 2015). It is a state of energy imbalance whereby energy intake is higher than energy expenditure causing positive energy balance. A few risk factors have been indicated to have a direct response on obesity such as lack of physical activity, unhealthy eating behaviours, not getting enough good-quality sleep, high stress level, genetics, health condition, medications and environment factors (National Heart, Lung and Blood Institute, 2022).

The most current updated way to classify if a person is having obesity is by looking at their Body Mass Index (BMI; body weight in kilograms, divided by height in meters squared). BMI value ranges from underweight up to severe or morbid obesity. A person is generally considered overweight when they had a BMI of 25kg/m^2 or more and will be classified as obesity when their BMI reaches 30kg/m^2 or more. Other measures include waist circumference and measure of abdominal obesity (Fruh, 2017).

1.2. Obesity Prevalence in Malaysia

Obesity has arisen to be an international public health issue which had gained a significant amount of attention. According to a nationally representative survey done by Chean et al (2023), 50.1% of Malaysian adults had obesity and has increased in percentage when compared to two surveys done in 2011 and 2015, where the rates were 44.5% and 47.7% respectively. A statement can be made whereby there is a notable increase in the obesity rate among Malaysians along the years. The study also stated that rate of obesity in Malaysia is higher than in Southern China and most of the Southeast Asian countries, except for Brunei. Some possible factors proposed were effect from rapid urbanization, higher accessibility to various food resources and sedentary lifestyles (Chean et al, 2023). Obesity is considered as a chronic disease and has been proven to be linked with the development of non-communicable diseases (NCDs) like stroke, cardiovascular diseases and diabetes. Hence, a lot of researchers in Malaysia had discussed about obesity, intervention programs and physical activity among Malaysians in hopes to attracting more attention in order to raise awareness.

According to the research done by Nor et al (2018) that identifies the obesity research pattern in Malaysia through a scoping review, most studies done in Malaysia were cross-sectional studies with a small number of systematic reviews and intervention programs. One of the nationwide surveys done in Malaysia was the National Health and Morbidity Survey (NHMS) that calculates and interprets rate of obesities in Malaysia, stating that 50.1% of Malaysian adults had obesity

and has increased in percentage when compared to two surveys done in 2011 and 2015. Moving on, another research done by Tan et al (2019), the researchers examined factors associated with BMI categories by physical activity status among Malaysian adolescents. They had found out that early and mid-stage adolescents tend to have higher BMI categories and may be linked with adult obesity. Besides, they noticed male adolescents have higher likelihoods being at the lower and higher ends of the BMI categories which causes double burden. It is suggested that parents can be educated through awareness programs on proper nutritional practices in hopes to maintain a healthy weight among their children. Furthermore, Ishak et al (2020) did a research to evaluate the efficacy of intervention program used to prevent overweight and eating disorders among Malaysian adolescents. From the results, there is a noticeable increase in knowledge score for groups that joined the intervention program however, the changes in attitudes and practices are not as significant. Suggestions given were teacher involvement, individual counselling with intervention subjects and creating a school environment that focuses on awareness raising. Finally, a food-based study that has done by Mamun, Hayat and Zainol (2020), they examined the effect of knowledge and attitudes about healthy food and intention to consume healthy food among Malaysian young adults. Results shown that young Malaysian adults that has intention in consuming healthy food portrays a positive effect on their real consumption of healthy food. Other than that, urban Malaysian respondents showed higher rate of perceived barriers on consumption of healthy food as well as a higher moderating effect.

1.3. Intuitive Eating

Despite all these studies, there is not enough established research done on intuitive eating behaviour among Malaysian young adults in which most had been done in Western countries. Intuitive eating (IE) describes a type of eating pattern that involves paying attention to body's physiological signals, for example, eating when hungry and stop eating if full (Giacone et al, 2024). IE describes about a series of dietary habits that is depending on body's ability to control its nutritional requirements (a. Keirns and Hawkins, 2019). It can also mean by having a strong link of physiological hunger and satiety cues that prompt eating. Intuitive eating also puts emphasis on reject dieting and choosing foods that one enjoys while complying with one's own hunger and satiety cues to decide on when and how much to eat (Bennett and Latner, 2022). A few subscales were found under intuitive eating that were used to determine if either the person can be classified as an intuitive eater. The four subscales were Unconditional Permission to Eat (UPE), Eating for Physical rather than Emotional Reasons (EPR), Reliance on Hunger and Satiety Cues (RHSC) and Body-Food Choice Congruence (B-FCC) (Tylka and Diest, 2013).

Firstly, UPE represents a person's willingness to eat when they are hungry and rejection of labelling certain food items as forbidden. They do not discriminate between 'good' and 'bad' foods but allows themselves to eat whatever that pleases their palate. Next, EPR reflect individuals' styles of eating, they would eat when they are physically hungry as opposed to emotional reasons like loneliness or

boredom. Furthermore, RHSC symbolizes individuals' dependence on their internal hunger and satiety cues to direct their eating habits. Reliance solely on physiological cues refers to them only eating when the body sends 'hunger' signals. Lastly, BFCC evaluates the extent to which people match foods that are appropriate to their bodies' needs. It is the measure of how individuals select nutritious foods that help their bodies function well (Tylka and Diest, 2013).

1.4. Problem Statement

Obesity has been increasing in Malaysia over the years and it is proven to be linked with developing complications like cardiovascular diseases and diabetes. It may be significant to start raising awareness among young adults on preventing obesity and stating consequences and effects of diagnosing with obesity. Malaysia has made academic actions by publishing a lot of journals and articles related to obesity such as identifying obesity research pattern, a nationwide survey calculating rate of obesity, obesity intervention programs and research testing on Malaysians' knowledge on healthy food. However, very little established studies had focused on effects of intuitive eating on helping obesity problems. Early education about intuitive eating should be encouraged among young adults.

By nature, research on intuitive eating has been focused more on females than males. According to one study done on young Malay adults in Shah Alam, 83.9% of the respondents were females. This might be due to female respondents being

more concerned on this topic as it indirectly correlates with body image. However, in the study, neither males or females scored 4 and above in overall intuitive eating score (Muhammad et al, 2023). Nevertheless, a study focused on Australian adults had results of men obtaining a higher intuitive eating score than women (Dyke and Drinkwater, 2022).

Intuitive eating has also been associated with decreased Body Mass Index (BMI) and engagement in healthy weight control behaviours. In a study that focused on general population, men are found to be more associated with overweight while women correlating more to having a history of dieting (Camilleri et al, 2017). However, when population are focused on Malaysians, neither feature of intuitive eating has been associated with decreased BMI. Weak correlation has been found to be related between intuitive eating and healthy weight control behaviours while there are no significant association between intuitive eating and unhealthy weight control behaviours (Muhammad et al, 2023).

Hence, this study was intended to evaluate the intuitive eating behaviours among UTAR undergraduate Chinese students as well as to determine the presence of gender differences, association of BMI and weight control behaviours with intuitive eating behaviours.

1.5. Research Objective

1.5.1. General Objective

To study on the intuitive eating behaviour as well as their association with Body Mass Index (BMI) and weight control behaviours among young Malaysian Chinese adults.

1.5.2. Specific Objectives

1) To determine the overall mean intuitive eating score among young Chinese adults in UTAR
2) To determine the difference between the intuitive eating score between genders among young Chinese adults in UTAR
3) To determine the association between gender and intuitive eating behaviour among young Chinese adults in UTAR.
4) To determine the association between intuitive eating behaviour and the Body Mass Index (BMI) among young Chinese adults in UTAR
5) To assess the association between intuitive eating behaviour with weight control behaviours among young Chinese adults in UTAR

1.6. Research Questions

1) What are the overall mean intuitive eating score among young Chinese adults in UTAR?
2) What is the difference between the intuitive eating score between genders among young Chinese adults in UTAR?

3) Is there any association between gender and intuitive eating behaviour among young Chinese adults in UTAR?
4) Is there any association between intuitive eating behaviour and the Body Mass Index (BMI) among young Chinese adults in UTAR?
5) Is there any association between intuitive eating behaviour with weight control behaviours among young Chinese adults in UTAR?

1.7. Hypothesis

1.7.1. Null Hypothesis

H_{01}: The overall mean intuitive eating score among young Chinese adults in UTAR is not equivalent to an intuitive eater.

H_{02}: There is no significant difference in the mean intuitive eating scores and behaviour between genders among young Chinese adults in UTAR.

H_{03}: There is no significant association between gender and intuitive eating behaviour among young Chinese adults in UTAR.

H_{04}: There is no significant association between the intuitive eating behaviour and Body Mass Index (BMI) among young Chinese adults in UTAR.

H_{05}: There is no significant association between intuitive eating behaviour with weight control behaviours among young Chinese adults in UTAR.

1.7.2. Alternative Hypothesis

H_{A1}: The overall mean intuitive eating score among young Chinese adults in UTAR is equivalent to an intuitive eater.

H_{A2}: There is a significant difference in the mean intuitive eating scores and behaviour between genders among young Chinese adults in UTAR.

H_{A3}: There is a significant association between gender and intuitive eating behaviour among young Chinese adults in UTAR.

H_{A4}: There is a significant association between the intuitive eating behaviour and Body Mass Index (BMI) among young Chinese adults in UTAR.

H_{A5}: There is a significant association between intuitive eating behaviour with weight control behaviours among young Chinese adults in UTAR.

1.8. Conceptual and Operational Definitions

1.8.1. Conceptual Definitions

1.8.1.1 Intuitive Eating Score

A score given to respondents to determine and classify them into either practicing intuitive eating or not practicing intuitive eating by participating in the Intuitive Eating Scale-2 questionnaire.

1.8.1.2. Gender

The male sex and the female sex.

1.8.1.3. Body Mass Index

Body Mass Index refers to a measurement of a person's body weight concerning to his or her height and as an indicator to classify if they are overweight (Mandal, 2023).

1.8.1.4. Weight Control Behaviours

Weight control behaviours are certain practices that one practice in order to control his or her weight to achieve a healthy body weight.

1.8.1.5. Undergraduate Students

A student registered in tertiary education which were university or college in order to pursue a degree and obtain certification.

1.8.2. Operational Definition

1.8.2.1 Intuitive Eating Score

A score to determine if the respondents are intuitive eaters. It can be calculated through answering a questionnaire comprising of 23 questions with responses ranging from 'Strongly Disagree,' 'Disagree,' 'Neutral,' 'Agree' and 'Disagree'. These responses hold a score point from 1 to 5 accordingly. Respondents that scored an average score of 4 and above is considered an intuitive eater.

1.8.2.2. Gender

Both male and female respondents that participated in the questionnaire will be tested to determine if there are any differences among genders in terms of intuitive eating.

1.8.2.3. Body Mass Index

A question will be given to the respondents which is to calculate their Body Mass Index and choose if they belonged in either of the options given. Options provided were underweight, normal, overweight and obese.

1.8.2.4. Weight Control Behaviours

A section to determine if the respondents are practicing healthy or unhealthy weight control behaviours. Six close-ended questions will be given to evaluate on respondents' healthy weight control behaviours and the options provided were 'Never,' '1-4 times,' '5-10 times,' 'More than 10 times' and 'Always'. On the other hand, seven close-ended questions were asked to evaluate on respondents' unhealthy weight control behaviours. The options provided were 'Yes' or 'No'.

1.8.2.5. Undergraduate Students

A UTAR degree student aged 18 to 25 years old as the target population of this study.

1.9. Significance of Study

First of all, this study can aid the students by providing general information about intuitive eating behaviour and its association with Body Mass Index (BMI) and weight control behaviours among Chinese UTAR students. Furthermore, outcomes of this study may provide students with some information about intuitive eating behaviour and allow them to identify their intuitive eating scores, thus providing the students a chance to understand their dietary behaviour. Finally, this study may be utilized to develop a more competent intervention program and educate individuals on intuitive eating along with its advantages in the future.

1.10. Summary

This chapter concludes a background description on the topic studied, problem statement discovered and the significance of study. The researcher would determine the overall mean intuitive eating scores among UTAR Malaysian Chinese students. Following on, the researcher portrays interest in determining the association between gender and intuitive eating behaviour, association between BMI and intuitive eating behaviour as well as the association between weight control behaviours and intuitive eating behaviour. Next chapter discusses on the extensive literature review done to support the current study.

CHAPTER 2

LITERATURE REVIEW

2.1. Findings on Intuitive Eating Behaviours in Malaysia

Muhammad et al. (2023) proposed that there are lack of established studies focusing on intuitive eating behaviours in Malaysia. A cross-sectional study done by them has a result of both men and women scoring lesser than 4 in overall intuitive eating score. Gender difference can be found in both EPR and B-FCC subscale where men had a higher score than women. No association has been found between intuitive eating and decreased BMI. Weak correlation found between intuitive eating and healthy weight control behaviours and no significant correlation between intuitive eating and unhealthy weight control behaviours. Limitations found in this study were that there are an unequal proportion of female (83.9%) and male (16.1%) respondents.

Another study conducted by Swami et al. (2020) examined the psychometric properties of the translated Malay version of the Intuitive Eating Scale-2 (IES-2) Questionnaire originated from Tylka and Diest (2013). Scores obtained based on this model achieved internal consistency but evidence was mixed in terms of the construct validity of Malay IES-2 scores, especially in men. They questioned the extent to which the construct of intuitive eating was applicable to Malaysian

population. However, it was only tested among Malay and Chinese populations. Adding on, it was mainly focused on general population rather than young adults.

To test the validity and reliability of intuitive eating questionnaire towards obesity population, Nor et al. (2022) conducted a study to determine the outcomes. Using Cronbach's Alpha and Intraclass Correlation Coefficient test, the CVIs correlation coefficient was 0.89-0.99 while the Cronbach's Alpha coefficient value was 0.66-0.68. Hence, they concluded that it was a valid and reliable test towards obesity population in aspects of an intuitive eating behaviour.

2.2. Findings on Intuitive Eating Behaviours in Asia countries

A study has been conducted in China among adolescent Chinese girls to determine their intuitive eating and its correlation with beauty and body appreciation. The findings indicated that the adolescent Chinese girls that has higher levels of intuitive eating love and respect their bodies more. However, this study mainly focused on only adolescents and females but not young adults and both genders (Luo, Niu, Kong and Chen, 2019).

Furthermore, Yamamiya, Shimai and Homan (2021) conducted a study in Japan to determine the relationship between intuitive eating and body satisfaction. In the results, it was mentioned that respondents with greater intuitive eating had been

associated with lower tendency to compare their eating with others. Not only that, a significant association has been found between body satisfaction and intuitive eating whereby greater intuitive eating reports greater body satisfaction. However, this study has a target population of Japanese women aged between 15 and 69 years old rather than just young adults.

In short conclusion, most of the findings in Asian countries focuses more on the correlation between intuitive eating and body satisfaction. It may be due to present stereotypes where Asian people puts more emphasis on body image. Only a negligible number of studies are related to weight control behaviours.

2.3. Findings on Intuitive Eating Behaviours in the World

Turkey has conducted a study that determines if intuitive eating can be an approach to eating behaviours related to obesity. In the research done by Ayyıldız et al (2023), the results shown that both total IES scores and subscale scores are higher in males when compared to females. A weak correlation has been found between IES-2 with BMI. Scores on RHSC subscale were significant in both underweight and normal individuals than other groups. One of the limitations in this study was that most of the respondents fall into the adult group.

Besides, there was a cross-sectional study held in Germany that evaluates if intuitive eating has the ability to mediate the relationship between self-regulation and BMI. Only the EPR and B-FCC subscales are able to mediate the relationship between self-regulation and BMI. Next, BMI has a weak negative correlation with IES-2 total score and B-FCC subscale score while being uncorrelated with the other three subscales: EPR, UPE, RHSC (Ruzanska and Warschburger, 2019).

In Switzerland, Giacone et al. (2024) evaluated intuitive eating and its influence on self-reported weight and eating behaviours. Negative correlation was found between intuitive eating and BMI which refers to the higher the intuitive eating level, the lower the BMI. A very strong correlation was present between intuitive eating and restrained eating. Their research also studies on how intuitive eating influence weight changes. Results reported that women with higher intuitive eating scores have higher tendency to maintain their weight at ±2kg. In both male and female, lower frequency of eating disorders was predicted among those with higher baseline intuitive scores.

According to Yoon et al (2023), unhealthy weight control behaviours were more prevalent among female college students than their counterparts. The questions asked involved use of diuretics, laxatives, fasting for more than 24 hours and using a diet pill. No gender differences are found to be significant in summary scores of intuitive eating cues. However, this study consists a higher percentage of Hispanic

and non-Hispanic Asian participants which might the sample not representative enough. Another study that was conducted by Craven and Fekete (2019) examined on shame and guilt caused by weight, intuitive eating and binge eating. Their results show consistency with others whereby intuitive eating was related with greater body image acceptance. They also believe intuitive eating has the ability to attenuate binge eating since the principle focuses on relying on internal cues of hunger to direct eating. Conversely, women non-intuitive eaters seem to be more related with dysregulated eating behaviours. Despite of that, this research has majority of respondents with Caucasian descent making it less representative. Both of these studies had been conducted in the United States, Texas and Illinois respectively.

2.4. Association of IE with gender, BMI and weight control behaviours

Yilmaz and Zemzemoglu (2021) conducted a study in Turkey to find out the relationship between BMI and eating disorder risk and IE among young adults. From the results, the respondents had an overall IES-2 score of 3.26±0.35 with no significant differences between genders. From the data analysis, it had shown that there was a statistically significant negative correlation between IES-2 scores and BMI values. Not only that, respondents that fall under underweight category have higher IES-2 scores that overweight and obese respondents. The rate of eating disorders risk was also higher among obese individuals. However, the research consists of unequal proportion of gender.

Furthermore, one study conducted by Bilici et al (2018) examines the intuitive eating in youth and its influence on nutritional status. In this research, the results reported that both male and female intuitive eaters show lower weight status and lower engagement in unhealthy weight control behaviours and binge eating. In this 5-year follow-up study, intuitive eating was related to a lower risk of developing higher weight status which refers to intuitive eaters have higher weight stability. One interesting insight that the researchers reported was intuitive eating was not related to engagement in healthy weight control behaviours such as exercising, and eating more fruits and vegetables. Once again, this study consists of unequal proportion of male and female respondents.

In United States, Christoph et al (2021) did a study on determining associations between intuitive eating and weight-related behaviours. It was known that intuitive eaters had lower prevalence of higher weight status which corresponds with study by Bilici et al (2018). Not only that, respondents categorized as intuitive eater had found to relate with lower engagement in unhealthy weight control behaviours. Intuitive eating was recommended to bring potential health benefits as it was associated with better weight-related behaviours five years later. One limitation from this study is it comprises of a Western population making it difficult to generalize with young adults from other countries.

Markey et al (2022) had came up with a research of surveying the eating styles in eight countries as well as examining intuitive eating and its correlates. The eight countries involved were Australia, Belgium, Canada, China, Italy, Japan, Spain and the Unites States. Intuitive eating has found to be negatively correlated with BMI and positively correlated with body satisfaction and self-esteem. Australia, China, Spain and United States show no significant association between intuitive eating and BMI while negative association was found in countries not mentioned. For the entire sample, respondents with higher intuitive eating levels reported lower engagement in emotional eating and dietary restraint. The general patterns were mostly similar in terms of intuitive eating and BMI, except Spain.

A meta-analysis consisting of 97 studies with 89% cross-sectional studies had been conducted by Linardon, Tylka and Fuller-Tyszkiewicz (2021). In this meta-analysis, intuitive eating and its psychological correlates have been determined. Men has reported a higher level of intuitive eating than women and the differences have been found to be the largest among Caucasian participants. Besides, respondents with higher intuitive eating levels reported to be less likely associated with maladaptive eating behaviours like purging and binge eating. Intuitive eating was also significantly and negatively associated with BMI. One limitation of this study related to our study is that Malaysia is not involved as a study in this meta-analysis and there is a presence of unequal gender proportion (male: 30.9%, female: 67.6%, other gender: 1.5%).

2.5. Conceptual Framework

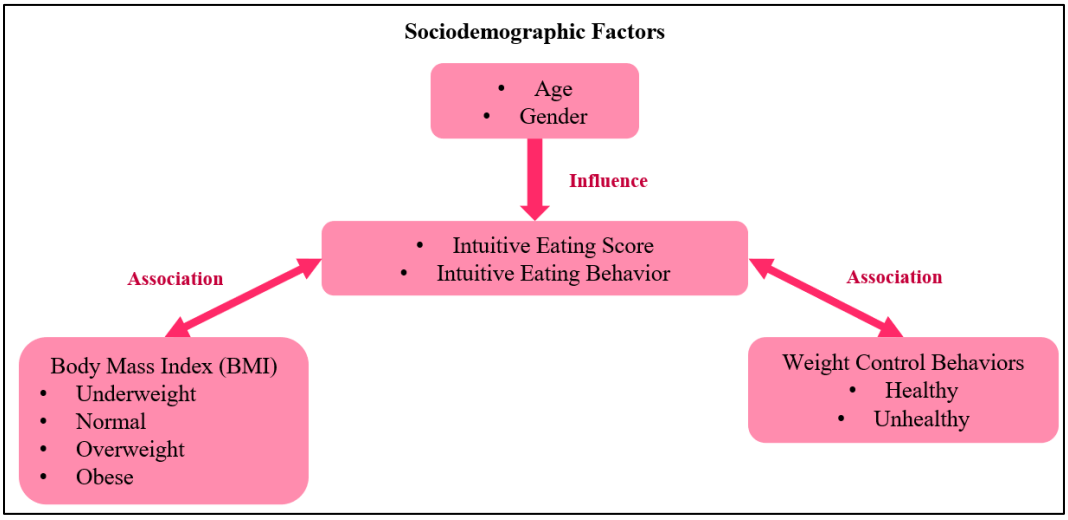


Figure 2.1: Conceptual framework between gender, intuitive eating, Body Mass Index and weight control behaviours

Table 2.1: Overview on the reviewed sources regarding the findings on Intuitive Eating behaviour in Malaysia

Authors	Country	Population	Findings
Muhammad et al. (2023)	Malaysia	Undergraduate students from Universiti Teknologi MARA (UiTM) (n=367)	• Men and women scoring lesser than 4 in IES-2 score. • No association between IE and BMI. • Weak correlation between IE and healthy weight control behaviours.
Swami et al. (2020)	Malaysia	Malaysians with Malay ancestry and Chinese ancestry (n=921)	• Internal consistency achieved in terms of construct validity when using the Malay version of IES-2
Nor et al. (2022)	Malaysia	Malaysian experts in nutrition field above 20 years old (n=23)	• It is a validated and reliable questionnaire towards obesity population in terms of IE behaviour

Table 2.2: Overview on the reviewed sources regarding the findings on Intuitive Eating behaviour in Asia countries

Authors	Country	Population	Findings
Luo, Niu, Kong and Chen (2019)	China	Adolescent girls from public schools in Wuhan City, Hubei province (n=1250)	• Adolescent Chinese girls that have higher levels of intuitive eating love and respect their bodies more.
Yamamiya, Shimai and Homan (2021)	Japan	Women aged 15-69 who lived in Japan (n=648)	• Greater intuitive eating associates with lesser comparing of eating with others. • A significant association has been found between body satisfaction and intuitive eating.

Table 2.3: Overview on the reviewed sources regarding the findings on Intuitive Eating behaviour in the World

Authors	Country	Population	Findings
Ayyıldız et al (2023)	Turkey	Individuals that live in the central districts of Ankara, Turkey (n=3742)	• Total IES-2 and subscale scores are higher in men. • There is a weak correlation between IE and BMI. • RHSC subscale score is significant in underweight individuals.
Ruzanska and Warschburger (2019)	Germany	Online questionnaire (n=530)	• EPR and B-FCC subscales mediate relationship between self-regulation and BMI. • There is a weak correlation between IES-2 and B-FCC subscale score with BMI.
Giacone et al. (2024)	Switzerland	Randomly selected residents of Switzerland (n=1821)	• There is a negative correlation between IE and BMI. • Women with higher IE scores have higher tendency to maintain their weight.
Yoon et al (2023)	United States	Undergraduate students from university in Texas (n=887)	• Unhealthy weight control behaviours are more prevalent among females. • No significant difference among genders in IES-2 scores

Table 2.3 continued: Overview on the reviewed sources regarding the findings on Intuitive Eating behaviour in the World

Craven and Fekete (2019)	United States	Undergraduate students from a private Midwestern University (n=196)	• Women non-intuitive eaters seem to be more related with dysregulated eating behaviours.

Table 2.4: Overview on the reviewed sources about the association of IE with gender, BMI and weight control behaviours

Author	Country	Population	Findings
Yilmaz and Zemzemoglu (2021)	Turkey	Students studying at the Faculty of Health Sciences of Gumuşhane University (n=1216)	• Respondents had an overall IES-2 score of 3.26±0.35 with no significant differences between genders. • There was a statistically significant negative correlation between IES-2 scores and BMI values. • Underweight respondents have higher IES-2 scores. • Obese respondents have higher eating disorders risk.
Bilici et al (2018)	Turkey	Students in Gazi University, Ankara (n=665)	• Intuitive eaters show lower weight status and lower engagement in unhealthy weight control behaviours. • IE related to higher weight stability. • IE was not related to engagement in healthy weight control behaviours.
Christoph et al (2021)	United States	Students in Minneapolis-St. Paul metropolitan area of Minnesota (n=1660)	• IE had lower prevalence of high weight status. • IE related to lower engagement in unhealthy weight control behaviours.

Table 2.4 continued: Overview on the reviewed sources about the association of IE with gender, BMI and weight control behaviours

Markey et al (2022)	Australia, Belgium, Canada, China, Italy, Japan, Spain and the Unites States	Participants from the 8 countries (n=6272)	• There was a negative correlation between IE and BMI. • Australia, China, Spain and United States show no significant association between IE and BMI. • Higher IE levels reported lower engagement in emotional eating and dietary restraint.
Linardon, Tylka and Fuller-Tyszkiewicz (2021)	United States	Meta-analysis (n=97 independent studies)	• Men have higher IE levels than women, Caucasian participants had the largest difference. • Higher IE levels reported to be less likely associated with maladaptive eating behaviours. • IE was also significantly and negatively associated with BMI.

CHAPTER 3

METHODOLOGY

3.1. Study Design

This study is an observational descriptive, cross-sectional study. A cross-sectional study refers to observational studies that interpret data from a population at a specific moment in time. Cross-sectional studies are usually used in researches like evaluating the prevalence of health outcomes, recognizing health factors as well as describing demographic features (Wang and Cheng, 2020). In this study, the intuitive eating behaviour and its association with Body Mass Index (BMI) and weight control behaviours among UTAR students were inspected. This is an affordable and easily conducted research design.

3.1.1. Setting of the Study

The researcher had conducted the study in UTAR, only the Kampar campus in Malaysia and was conducted between 26th April to 17th July 2024.

3.1.2. Target Population

Undergraduate students that aged between 18 – 25 years old were the target population for the study. The accessible population 447 participants and after

pertaining to the exclusion criteria which will be outlined in section 3.3.3.2, 446 participants were finally chosen as the study sample.

3.2. Variables

Variables are referred as measurable characteristics that interchanges throughout the experiment (Agravante, 2018). In this study, independent and dependent variables are utilized. Generally, when the researcher intentionally changes one variable, this would be the independent variable. When this variable changes and displays a direct effect onto another variable, the respective variable would be a dependent variable. Table 3.1 has illustrated the summary of both independent and dependent variables used in the study. When evaluating the difference between eating score and behaviour among genders, gender is the independent variable, intuitive eating score and behaviour are the dependent variables. When determining the association between intuitive eating behaviour with BMI, BMI is the independent variable whereas intuitive eating behaviour is the dependent variable. While assessing the association between intuitive eating with weight control behaviours, weight control behaviours were the independent variables and the intuitive eating behaviour is the dependent variable.

Table 3.1: Summary of independent and dependent variables in this study

Objectives	Independent variables	Dependent variables
To determine the difference between the intuitive eating score and behaviour between genders among young Chinese adults in UTAR	Gender	• Intuitive eating score • Intuitive eating behaviour
To determine the association between intuitive eating behaviour and the Body Mass Index (BMI) among young Chinese adults in UTAR	Body Mass Index (BMI)	Intuitive eating behaviour
To assess the association between intuitive eating with weight control behaviours among young Chinese adults in UTAR	Weight control behaviours	Intuitive eating behaviour

3.3. Sampling

3.3.1. Sampling Method

This study has utilized a sampling method known as convenience sampling due to a few reasons. Convenience sampling method is labour-saving, time-saving and easy to implement (Jager, Putnick and Bornstein, 2017). By complying to this sampling method, the researcher could save up time because a study list of participants is not needed. With this method, UTAR students were selected for this study as they are easily-reachable.

3.3.2. Sample Size

Results ranges accordingly to the changes in confidence level and margin of error depending on the sample size selected. When referring to the sample size table shown in Table 3.2, when the sample size (n) is 100, it is reliable, however, the margin of error is approximately 10%. When the sample size rises up to 350 participants, the margin of error will drop to only 5%. From here, we may conclude that the sample size is inversely proportional to the margin of error. A 5% margin of error is advised in a study, hence, in this study, we used a margin of error of 5% with a 95% confidence level.

Table 3.2: Sample size table

Sample size (n)	Confidence level = 95% Margin of error = 5%
50	14%
100	10%
150	8%
200	7%
350	6%
300	6%
350	5%

The sample size was calculated using Cochran's formula (1977):

$$\mathbf{n} = \left(\frac{\mathbf{z_\alpha}}{\mathbf{d}}\right) \times \mathbf{p}(\mathbf{1} - \mathbf{p})$$

$$\mathrm{n} = \frac{1.96^2}{0.05} \times 0.5(1 - 0.5)$$

$$\mathrm{n} = 384.16 \text{ @ } 385$$

With an additional 10% added to the sample for non-response rate:

$$n = 385 + 10\% = 423.5 \text{ @ } 424$$

Here, **n** is the estimated sample size;

($Z_{1-\alpha}$) is the confidence interval of 1.96;

p is the estimated proportion of an attribute (p will be considered as 0.5 if there is no estimate of proportion);

d is the acceptable sample error, d = 0.05

The estimated sample size was 385 and was added with additional 10% to comprise with turnover, the total sample size would be 424.

3.3.3. Sampling Criteria

3.3.3.1. Inclusion Criteria

- UTAR undergraduate male and female students
- UTAR undergraduate students aged 18 – 25 years old
- UTAR undergraduate students who are Malaysian Chinese
- UTAR undergraduate students who agree to give consent in participation

3.3.3.2. Exclusion Criteria

- Pregnant women

3.4. Study Instrument

An online self-administered based questionnaire was utilized for collecting data. Google forms which is a type of online survey software has been used to distribute the questionnaire through online platforms (e.g., Microsoft Teams, Instagram and WhatsApp) as well as asking physically around the campus. These actions were taken until the targeted sample size which was 424 participants has been collected. In fact, a total of sample size (n=446) has been successfully gathered. The language used in the questionnaire was English language and consists of four sections. Section I: Sociodemographic questionnaire, Section II: Body Mass Index (BMI) questionnaire, Section III: Intuitive Eating Scale-2 (IES-2) questionnaire and Section IV: Weight control behaviours questionnaire. It is shown in Appendix B. The data recorded from each participant has been kept confidential and were informed that it was used for academic purposes only. The data was sent for analysis when data collection was completed.

3.4.1. Section I: Sociodemographic Questionnaire

The sociodemographic questionnaire comprises of five questions. Three open-ended questions were the name, age and UTAR email of the respondents. The other two questions were close-ended which were gender and faculties. Data collected about gender was used to answer research question 2 to determine the difference between the intuitive eating score and behaviour between genders among young Chinese adults in UTAR.

3.4.2. Section II: Body Mass Index (BMI) Questionnaire

This part of the questionnaire consists only one question. It was a close-ended question regarding the Body Mass Index (BMI) of the respective respondent. In case there is doubt on how to know what their BMI was, a formula on how to calculate their BMI was given. The formula provided in the questionnaire is attached in Appendix C. Four options were given, which are underweight (<18.5), normal (18.5 – 24.9), overweight (25.0 – 29.9) and obese (≥30.0) (CDC, 2022). The data collected answers research question 3 in determine the association between IEB and BMI among young Chinese adults in UTAR.

3.4.3. Section III: Intuitive Eating Scale-2 (IES-2) Questionnaire

A questionnaire on intuitive eating score was adapted from a previous study which was the original creator of this questionnaire (Tylka and Diest, 2013). Respondents were required to answer 23 questions with responses of 'Strongly Disagree,' 'Disagree,' 'Neutral,' 'Agree' and 'Strong Agree' to test on their intuitive eating score. A score from 1 to 5 is appointed to each response respectively. The score points were reversed for questions 1, 2, 4, 5, 9, 10, and 11. All the score points were added up and averaged to check the intuitive eating score.

$$\text{Intuitive eating score} = \frac{\text{Total score points}}{23}$$

The respondent is considered an intuitive eater when they score 4 and above. They are not considered as an intuitive eater when they scored lesser than 4. These data

are used to answer research question 1 which is to discover the overall mean intuitive score among young Chinese adults in UTAR. An additional of 2 more questions from the original questionnaire were asked again to determine if they are an intuitive eater through checking if they possess intuitive eating behaviours. Question 8 and 23 were asked again and the responses were 'Strongly Disagree,' 'Somewhat Disagree,' 'Somewhat Agree' and 'Strongly Disagree'. Respondents that answered strongly agreed or somewhat agreed to both questions are considered as intuitive eaters. These data are used to answer research questions; 2 which is to determine the difference between the intuitive eating score and behaviour between genders among young Chinese adults in UTAR; 3 which is to determine the association between intuitive eating behaviour and the Body Mass Index (BMI) among young Chinese adults in UTAR and 4 which is to assess the association between intuitive eating with weight control behaviours among young Chinese adults in UTAR. The full questionnaire can be found in Appendix B.

3.4.4. Section IV: Weight Control Behaviours Questionnaire

This section of the questionnaire was adapted from a previous Malaysian study (Muhammad et al, 2023). This part comprises of both sections which were healthy weight control behaviours and unhealthy weight control behaviours. Six close-ended questions were based on healthy weight control behaviours and the responses provided were 'Never,' '1 – 4 times,' '5 – 10 times,' 'More than 10 times' and 'Always'. The responses collected were dichotomized to either 'Yes' or 'No' whereby 'Yes' are respondents that chose '5 – 10 times,' 'More than 10 times' and

‘Always’ while ‘No’ are respondents that chose ‘Never’ and ‘1 – 4 times.’ The respondents are considered as practicing healthy weight control behaviours if engaging in one or more of the actions. On the other hand, 7 close-ended questions were based on unhealthy weight control behaviours where a binary scale was utilized. There are two responses, ‘Yes’ or ‘No.’ The respondents are considered as practicing unhealthy weight control behaviours when engaging in one or more of the actions.

3.5. Statistical Analysis

Collected data from the questionnaire was entered and analysed using Statistical Package for Social Sciences (SPPS) version 20.0. Descriptive statistics were used to classify the categorical data in number (n) and percentage (%) while the continuous data were categorized in mean (μ) and standard deviation (σ). The normality test, skewness and kurtosis test will used to inspect the distribution of the variables that were required for further analysis: intuitive eating score, intuitive eating behaviour, BMI and weight control behaviours.

The independent samples T test was implemented to determine the mean difference among intuitive eating scores among genders. Following on, the chi-square test was adopted to examine association between gender and intuitive eating behaviour, the association intuitive eating behaviour and BMI and the association between

intuitive eating behaviour and weight control behaviour. These tests will be considered as statistically significant when *p-value* is less than 0.05.

3.6. Descriptive and Inferential Analysis

3.6.1. Descriptive Analysis

Categorical data were displayed in number (n) and percentage (%) while the continuous data were presented in mean (μ) and standard deviation (σ). Table 4.1 summarises the categorical and continuous data utilized in this study. The sociodemographic variables (gender and faculties) were displayed in number (n) and percentage (%) except for sociodemographic variable (age) was displayed in mean (μ) and standard deviation (σ). Other variables such as intuitive eating behaviour, BMI and weight control behaviour were presented in number (n) and percentage (%). The first and second objectives which includes intuitive eating score were presented in mean (μ) and standard deviation (σ). Second, third and fourth objectives involving intuitive eating behaviour, BMI and WCBs were presented in number (n) and percentage (%).

Table 3.3: Summary of categorical and continuous data

Categorical Data	Continuous Data
• Sociodemographic variables (gender and faculties) • Intuitive Eating Behaviour • Body Mass Index (BMI) • Weight Control Behaviours	• Sociodemographic variables (age) • Intuitive eating score

3.6.2. Inferential Analysis

- For the second objective, independent samples T test was performed to determine the difference between the intuitive eating score and behaviour between genders among young Chinese adults in UTAR.
- For the second, third and fourth objectives, a chi-square test was utilized to determine the difference between the intuitive eating behaviour between genders, to determine the association between intuitive eating behaviour and BMI and to assess the association between intuitive eating with weight control behaviours among young Chinese adults in UTAR.

3.7. Summary

This chapter give an explanation of how the methodology and instruments chosen was implemented in this study. Figure 3.1 displays an overview of the whole research methodology for this study. The following process will be data collection and shall be analysed and justified in the next chapter.

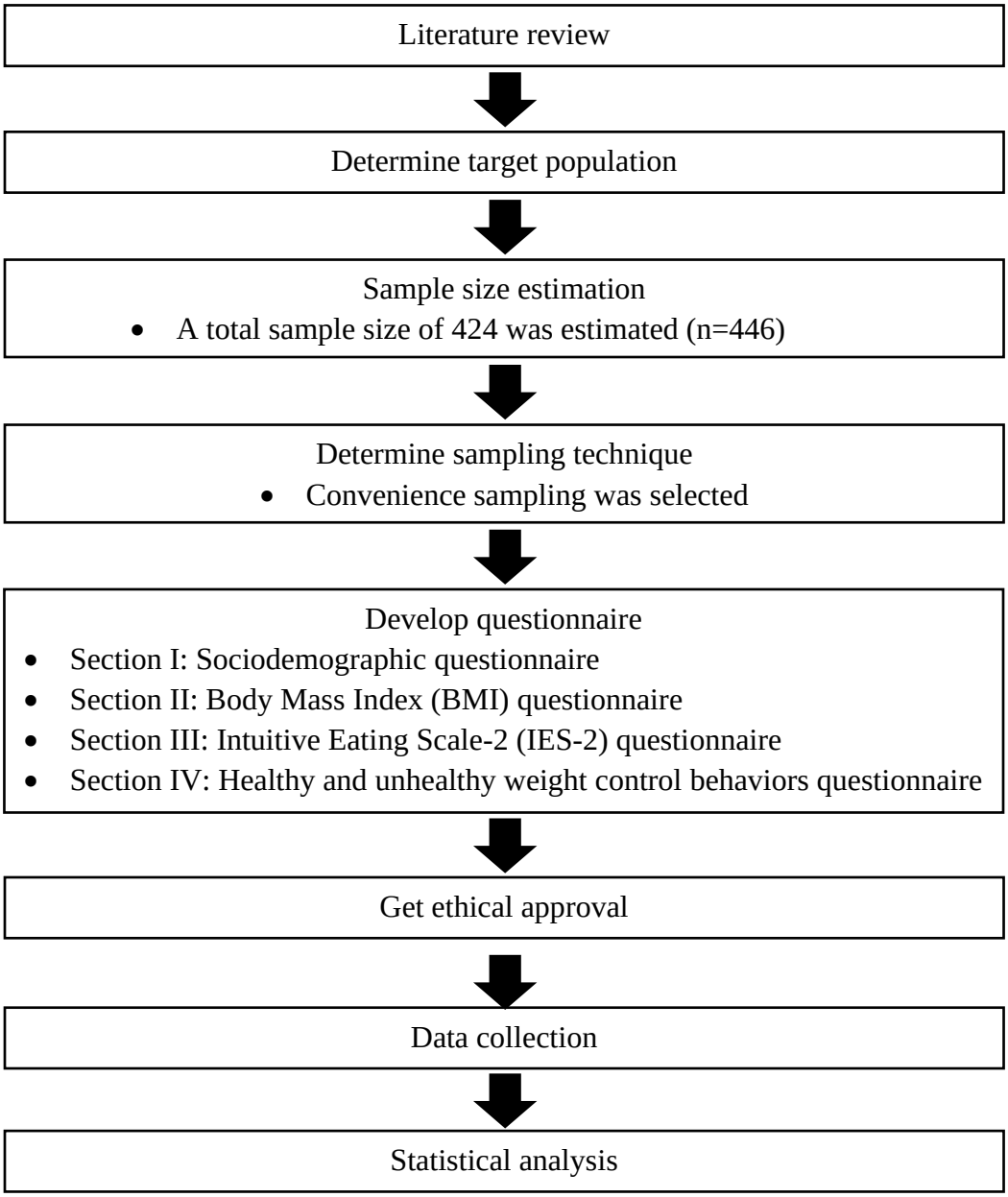


Figure 3.1: Flowchart display an overview of the research methodology

CHAPTER 4

DATA ANALYSIS AND RESULT

4.1. Results

4.1.1. Statistical Data Processing and Analysis

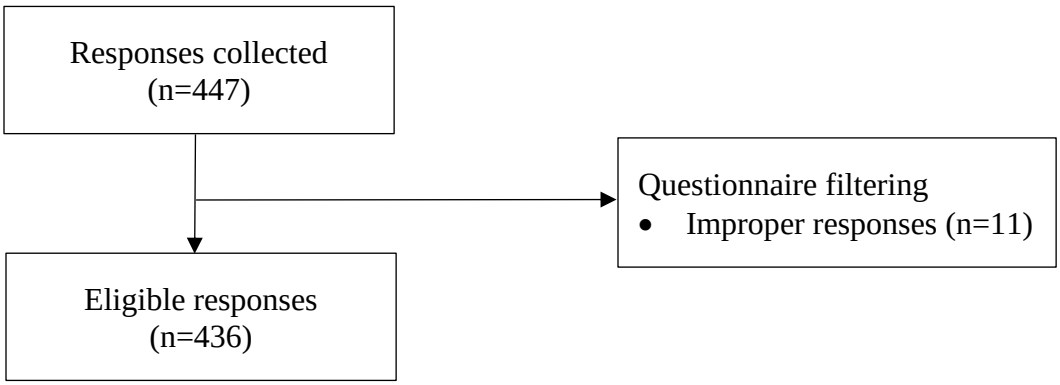


Figure 4.1: Flowchart displaying the responses clarifying process

According to Figure 4.1, a total of 447 participant were eligible for the research. However, after the questionnaire filtering process, only a final sample of 436 participants that were utilized in this study. The independent samples T test was used to test the difference among genders in terms of intuitive eating while the chi-square test was utilized for the remaining objectives. The *p*-value lesser than 0.05 confers to data being statistically significant.

4.1.2. Descriptive Statistics

4.1.2.1. Sociodemographic Characteristics

Table 4.1 illustrates the characteristics of the 436 participants who took part in this research. Gender has been categorized into two groups which were male and female. Male participants made up 39.0% of the participants (n=170) while female participants made up 61.0% of the participants (n=266). Among the 436 participants, students from the Faculty of Science made up the majority of participants which were 33.5% (n=146) followed by students in Foundation in Science and Foundation in Arts having the same second highest percentage which was 16.3% (n=71) respectively.

Table 4.1 also displays the age of the participants in mean (μ) and standard deviation (σ). The mean age of participants was 20.08 ± 1.683 years old.

Table 4.1: Sociodemographic characteristics of UTAR students (N=436)

Sociodemographic Characteristics	n	%	Mean	SD
Gender				
Male	170	39.0		
Female	266	61.0		
Faculty				
Centre of Foundation Studies	1	0.2		
CFS	2	0.5		
Faculty of Arts and Social Science (FAS)	19	4.4		
Faculty of Business and Finance (FBF)	66	15.1		
Faculty of Engineering and Information Technology (FEGT)	15	3.4		
Faculty of Information and Communication Technology (FICT)	39	8.9		
Faculty of Science (FSc)	146	33.5		
Institute of Chinese Studies (ICS)	6	1.4		
Foundation in Arts	71	16.3		
Foundation in Science	71	16.3		
Age			20.08	1.683

N = total sample size, n = number of participants, categorical data presented by n and % and continuous data presented by Mean and SD (standard deviation)

4.1.2.2. Classification of Body Mass Index (BMI)

Table 4.2 illustrates the classification of Body Mass Index of the participants in this research. Four categories were involved which were underweight (<18.5 kg/m^2), normal (18.5 – 24.9kg/m^2), overweight (25.0 – 29.9 kg/m^2) and obese (≥30.0kg/m^2). The normal category had the highest percentage which was 64.9% (n=283) followed by underweight which was 20.0% (n=87). Obese participants made up 2.3% of the participants (n=10).

Table 4.2: Classification of BMI among UTAR students (N=436)

BMI	n	%
Underweight	87	20.0
Normal	283	64.9
Overweight	56	12.8
Obese	10	2.3

N = total sample size, BMI = Body Mass Index, n = number of participants, categorical data presented in n and %.

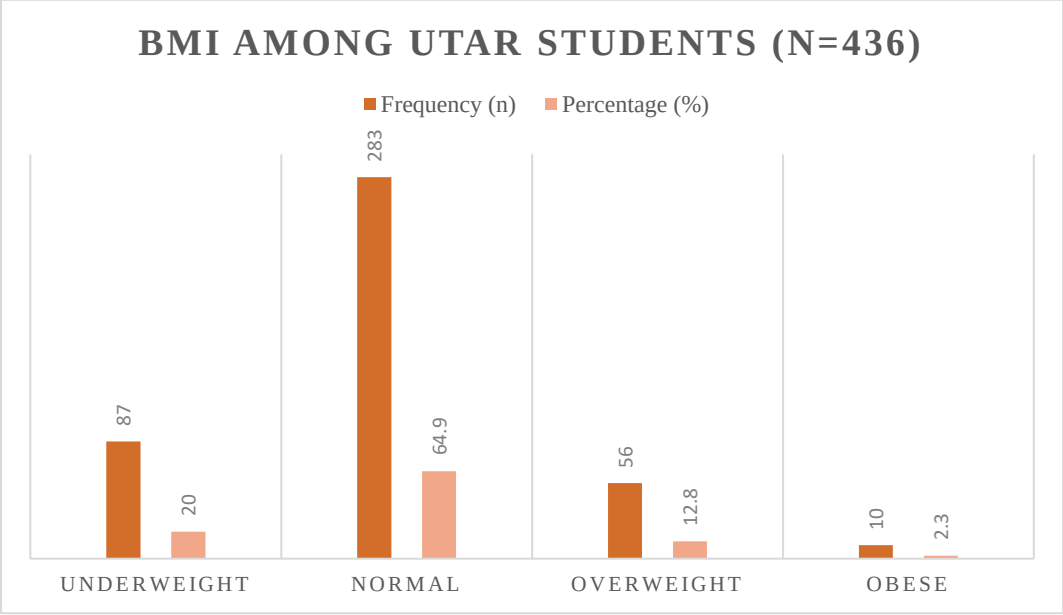


Figure 4.2: Classification of BMI among UTAR students (N=436)

4.1.2.3. Classification of Intuitive Eating Behaviour (IEB)

Table 4.3 displays classification of intuitive eating behaviour among the participants in this research. Two statements were involved when deciding if the participant is practicing intuitive eating behaviour: 8. I trust my body to tell me how much I eat and 23. I trust my body to tell when to stop eating. The options provided

for these statements were ‘Strongly Agree’, ‘Somewhat Agree’, ‘Somewhat Disagree’ and ‘Strongly Disagree’. Participants that chose ‘Strongly Agree’ or ‘Somewhat Agree’ to both statements are considered intuitive eaters. 83.3% of the participants are considered as intuitive eaters in this research (n=363).

Table 4.3: Classification of IEB among UTAR students (N=436)

Intuitive Eating Behaviour	n	%
Intuitive Eater	363	83.3
Non-Intuitive Eater	73	16.7

N = total sample size, IEB = intuitive eating behaviour, n = number of participants, categorical data presented by n and %

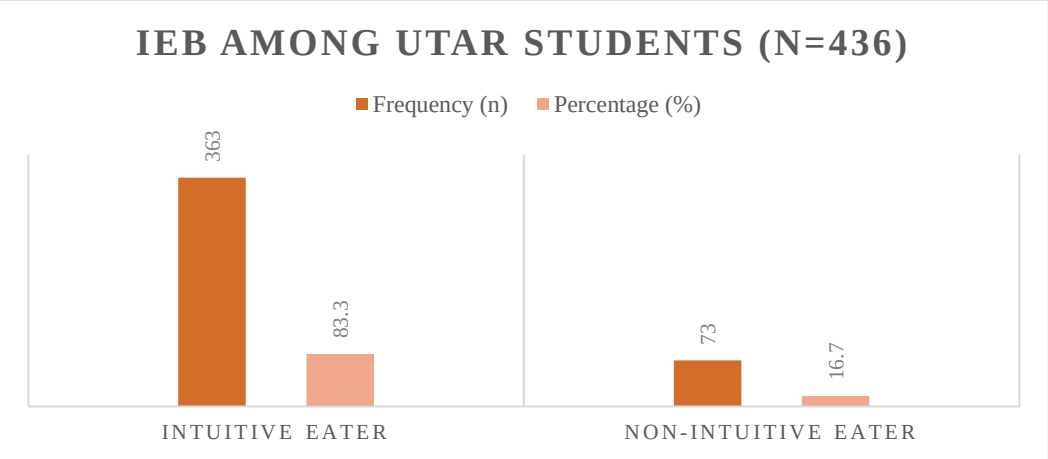


Figure 4.3: Classification of IEB among UTAR students (N=436)

4.1.2.4. Classification of Weight Control Behaviours (WCB)

Table 4.4 demonstrates the classification of weight control behaviours among the participants in this study. It has been divided into two categories, healthy weight control behaviour and unhealthy weight control behaviour. 87.6% of the participants practiced healthy weight control behaviour (n=382) while 12.4% of the participants practiced unhealthy weight control behaviours (n=54).

Table 4.4: Classification of WCB among UTAR students (N=436)

Weight Control Behaviours	n	%
Healthy	382	87.6
Unhealthy	54	12.4

N = total sample size, WCB = weight control behaviours, n = number of participants, categorical data presented by n and %

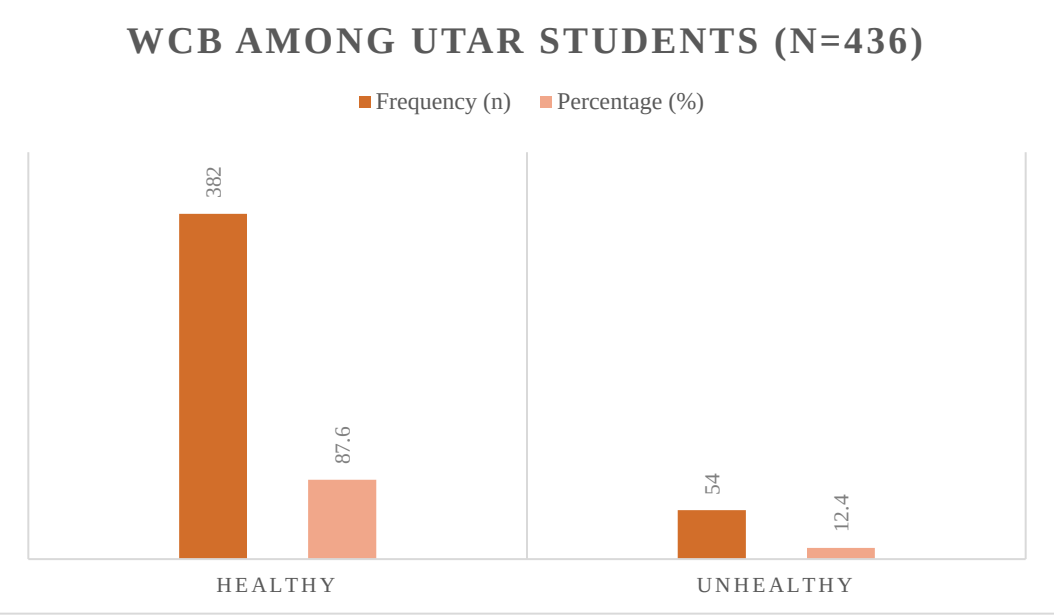


Figure 4.4: Classification of WCB among UTAR students (N=436)

4.1.2.5. Intuitive Eating Behaviour (IEB) Statements

Table 4.5 displays the responses to the intuitive eating behaviour statements among the participants. For question 8 in IES-2, more than half of the participants which was 63.5% chose somewhat agree to the statement (n=277): I trust my body to tell me how much to eat while the second highest being strongly agree making up 24.3% of the participants (n=106) followed by somewhat disagree and finally strongly disagree. For question 23, more than half of the participants which was 58.9% somewhat agreed to the statement (n=257): I trust my body to tell when to stop eating. The second highest made up 27.5% of the participants (n=120) was respondents choosing strongly agree followed by somewhat disagree then, strongly disagree.

Table 4.5: Responses to the IEB statements among UTAR students (N=436)

IEB Statements	n	%
8. I trust my body to tell me how much I eat		
Strongly Agree	106	24.3
Somewhat Agree	277	63.5
Somewhat Disagree	45	10.3
Strongly Disagree	8	1.8
23. I trust my body to tell when to stop eating		
Strongly Agree	120	27.5
Somewhat Agree	257	58.9
Somewhat Disagree	47	10.8
Strongly Disagree	12	2.8

N = total sample size, IEB = intuitive eating behaviour, n = number of participants, categorical data presented in n and %

4.1.2.6. Weight Control Behaviour (WCB) Statements

Table 4.6 demonstrates the responses to the weight control behaviours statements among the participants. Healthy weight control behaviours include exercise, ate more fruits and vegetables, ate less high-fat foods, ate less sweets, drank less soda pop and watched my portion sizes. Under this category, most of the respondents were classified under referring to practicing the respective behaviour. Especially the behaviour of eating more fruits and vegetables, around 85.8% of participants practiced the habit (n=374). Other behaviours stay at the percentage of around 60% for yes and 30% for no except for one which was watched my portion sizes. For this behaviour, 58.5% of the participants responded to yes (n=255) and 41.5% responded to no (n=181).

Unhealthy weight control behaviours include fasting to regulate body weight, consuming relatively little food, using meal-replacement products, skipping meals. Using diet pills, vomiting, using laxatives and diuretics. For most of the behaviours, the percentage was leaning against no except for one practice which was skipping meals. 60.8% of the participants chose to skip meals to control their weights (n=265). For extreme behaviours like using diet pills, vomiting and using laxatives and diuretics, more than 90% of the participants responded to no. A relatively equal proportion has been found for the practice, consuming relatively little food whereby 48.2% responded to yes (n=210) and 51.8% responded to no (n=226).

Table 4.6: Responses to the WCB statements among UTAR students (N=436)

WCB Statements	Yes n (%)	No n (%)
Healthy weight control behaviours		
Exercise	286 (65.5)	150 (34.4)
Ate more fruits and vegetables	374 (85.8)	62 (14.2)
Ate less high-fat foods	296 (67.9)	140 (32.1)
Ate less sweets	290 (66.5)	146 (33.5)
Drank less soda pop (diet pop excluded)	280 (64.2)	156 (35.8)
Watched my portion sizes (serving sizes)	255 (58.5)	181 (41.5)
Unhealthy weight control behaviours		
Fasting to regulate body weight	143 (32.8)	293 (67.2)
Consuming relatively little food	210 (48.2)	226 (51.8)
Using meal-replacement products (e.g.: powder)	91 (20.9)	345 (79.1)
Skipping meals	265 (60.8)	171 (39.2)
Using diet pills	11 (2.5)	425 (97.5)
Vomiting	43 (9.9)	393 (90.1)
Using laxatives and diuretics	13 (3.0)	423 (97.0)

N = total sample size, WCB = weight control behaviours, n = number of participants, categorical data presented by n and %

4.1.3. Inferential Statistics

4.1.3.1. Normality test

Normality test of skewness and kurtosis to determine if the data was normally distributed. Table 4.7 depicted the skewness and kurtosis values for overall intuitive eating, each subscale (UPE, EPR, RHSC, B-FCC) and weight control behaviours. When the values are between -2 and +2, the data is considered normally distributed. For all the variables, they fit in normal distribution assumptions. Hence, parametric tests such as independent sample T test and chi-square test will be used to generate assumptions needed for this study.

Table 4.7: Skewness and kurtosis test for normality distribution

Variable	Skewness	Kurtosis
IE	.172	.394
UPE	.185	.428
EPR	.278	.139
RHSC	-.469	1.321
B-FCC	.109	.410
Healthy WCB (%)	-.654	-.566
Unhealthy WCB (%)	.573	.332

IE = intuitive eating, UPE = Unconditional Permission to Eat, EPR = Eating for Physical rather than Emotional Reasons, RHSC = Reliance on Hunger and Satiety Cues, B-FCC = Body Food Choice Congruence, WCB = Weight Control Behaviours

4.1.3.2. Overall mean intuitive score and subscale score

Table 4.8 depicts the scores calculated after analysing data collected. Scores were calculated for variables: Intuitive Eating Score (IES), subscales scores which was Unconditional Permission to Eat (UPE), Eating for Physical rather than Emotional Reasons (EPR), Reliance on Hunger and Satiety Cues (RHSC) and Body-Food Choice Congruence (B-FCC). The values involved were mean score, median score and standard deviations for each respective variable.

The overall mean intuitive eating score is 3.45 ± 0.353. Neither any subscales scored higher than or equal to 4. The highest score obtained among subscales is the RHSC subscale having a score of 3.69 ± 0.590. Following RHSC is B-FCC subscale scoring 3.58 ± 0.664. Next, it is the overall intuitive eating score then, EPR and finally, UPE. Participants will be considered as an intuitive eater when they scored 4 or above in the overall mean intuitive score. Hence, the null hypothesis (H_{01}) is accepted. Therefore, the overall mean intuitive eating score among young Chinese adults in UTAR is not equivalent to an intuitive eater.

Table 4.8: Overall mean intuitive score and subscale score (N=436)

Variables	Mean	Median	SD
IE	3.45	3.43	.353
UPE	3.30	3.33	.532
EPR	3.33	3.25	.604
RHSC	3.69	3.67	.590
B-FCC	3.58	3.67	.664

SD = standard deviation

4.1.3.3. Difference among genders for IES

Independent samples T test was used to determine the mean difference between intuitive eating score among genders. According to Table 4.9, male (n=170) scored higher in overall intuitive eating score and all subscale scores when compared to female (n=266). Male scored 0.047 points than female in overall intuitive eating, 0.005 points higher in UPE subscale, 0.113 points higher in EPR subscale, 0.009 points higher in RHSC subscale and finally, 0.037 points higher in B-FCC subscale. The difference in scores among gender is slightly more significant in EPR subscale while the *p*-value is also the closest to the significance value which was 0.05. The mean difference in intuitive eating score and subscale score among genders was not statistically significant as all *p*-values are greater than 0.05. Thus, the null hypothesis (H_{02}) is accepted.

Table 4.9: Mean difference of IE score and subscale among genders (N=436)

Variable	Gender	n (N=436)	Mean	Mean Difference	S.E.	t	p
UPE	Male	170	3.303	.005	.043	.102	.919
	Female	266	3.298		.031		
EPR	Male	170	3.402	.113	.050	1.913	.056
	Female	266	3.289		.035		
RHSC	Male	170	3.695	.010	.049	.166	.868
	Female	266	3.686		.034		
B-FCC	Male	170	3.602	.037	.054	.564	.573
	Female	266	3.565		.039		
IE	Male	170	3.478	.048	.028	1.389	.253
	Female	266	3.431		.021		

* Independent samples T test was performed, level of significance at $p < 0.05$

4.1.3.4. Association between gender and IEB

Chi-square test was used to determine the association between gender and intuitive eating behaviour. Table 4.10 showed the association between gender and intuitive eating. When participants chose 'somewhat agree' or 'strongly agree' to statement 8 and statement 23 in IES-2 questionnaire, they will be classified as practicing intuitive eating behaviour (IEB). For both genders, more than 50% of the participants practiced IEB. 87.2% of female respondents (n=232) and 77.1% of male respondents (n=131) practiced IEB. Female respondents are higher in intuitive eating behaviour. The association between gender and intuitive eating behaviour was statistically significant (*p*-value=0.006). Thus, the null hypothesis (H_{03}) was rejected. Hence, there is a significant association between gender and intuitive eating behaviour.

Table 4.10: Association between gender and IEB (N=436)

Variable	**Gender**	**IEB [n (%)]**		χ^2	***p***
		No	**Yes**		
Gender	Male	39 (22.9)	131 (77.1)	7.679[a]	.006**
	Female	34 (12.8)	232 (87.2)		

* Chi-square test was performed, level of significance at $p < 0.05$, ** indicates $p < .01$.

4.1.3.5. Association between IEB and BMI

Chi-square test was used to determine the association between intuitive eating behaviour and Body Mass Index (BMI). According to Table 4.11, among all four BMI categories, the percentage distributions are quite similar and has no huge differences. More than half of the participants practiced intuitive eating behaviour in all four classifications of BMI. Largest difference can be found in underweight respondents (n=87) whereby 89.7% of them practiced intuitive behaviour (n=78). The descending sequence after underweight respondents will be normal weight respondents, obese respondents and finally overweight respondents. The association between intuitive eating behaviour and body mass index was not statistically significant since the *p*-value was greater than 0.05 (*p*-value=0.297). Thus, the null hypothesis (H_{04}) is accepted.

Table 4.11: Association between IEB and BMI (N=436)

Variable	Comparison	IE Behaviour [n (%)]		χ^2	*p*
		No	Yes		
BMI	Underweight	9 (10.3)	78 (89.7)	3.687[a]	.297
	Normal	50 (17.7)	233 (82.3)		
	Overweight	12 (21.4)	44 (78.6)		
	Obese	2 (20.0)	8 (80.0)		

* Chi-square test was performed, level of significance at $p < 0.05$

4.1.3.6. Association between IEB and WCB

Chi-square test was used to determine the association between intuitive eating behaviour and weight control behaviours (WCB). Table 4.12 displayed the association between intuitive eating behaviour and weight control behaviours. From the table, there was no significant difference between groups that practiced healthy WCBs or unhealthy WCBs in terms of intuitive eating behaviour. Since the p-value is greater than 0.05 (*p*-value=0.427), the association between intuitive eating behaviour and weight control behaviours are not statistically significant. Hence, the null hypothesis (H_{05}) is accepted stating that there is no significant association between intuitive eating behaviour and weight control behaviour.

Table 4.12: Association between IEB and WCB (N=436)

Variable	Comparison	IE Behaviour [n (%)]		χ^2	*p*
		No	Yes		
WCB	Healthy	66 (17.3)	316 (82.7)	.632[a]	.427
	Unhealthy	7 (13.0)	47 (87.0)		

* Chi-square test was performed, level of significance at p < 0.05

4.2. Summary

The results from the analysis reported that 64.9% have normal weight. Majority which was 83.3% are considered as an intuitive eater and 87.6% of the participants practiced healthy weight control behaviours. The overall mean intuitive eating score is 3.45 ± 0.353 and the subscale with the highest score is RHSC subscale

scoring 3.69 ± 0.590. Participants are not considered as intuitive eaters as they scored mean overall intuitive score of 4 or lesser. Furthermore, males scored higher than females in overall intuitive eating score and all subscale scores. The difference of intuitive eating scores among genders are not statistically significant. Next, there is a significant association between gender and intuitive eating behaviour whereby female has a higher intuitive eating behaviour than male. Following on, underweight individuals have the highest percentage of practicing intuitive eating behaviour. However, there was no significant association between intuitive eating behaviour and body mass index. Lastly, there was no significant association between intuitive eating behaviour and weight control behaviour.

CHAPTER 5

DISCUSSION

5.1. Discussion of Major Findings

5.1.1. Mean IE Score and Subscale Score among Genders

The overall mean intuitive eating score was 3.45 ± 0.353 and did not surpass the score 4. When the intuitive eating score obtained from Intuitive Eating Scale-2 (IES-2) questionnaire is lesser than 4, the participants are considered non-intuitive eaters. Male participants scored 3.478 ± 0.028 while female participants scored 3.431 ± 0.021 in intuitive eating scores.

This is in accordance with a study done by Malaysia focusing on Malay undergraduate students whereby the intuitive eating scores for both males and females were 3.52 ± 0.32 and 3.47 ± 0.35 respectively (Muhammad et al, 2023). Comparing to another study that surveyed intuitive eating of eight countries where Asian countries include China and Japan. China and Japan had intuitive eating scores of 3.09 ± 0.73 and 3.11 ± 0.81 respectively which corresponds with results from this study (Markey et al, 2022). It might be due to the lack of research done on intuitive eating behaviour among young adults leading to lesser exposure and awareness on intuitive eating topic (Muhammad et al, 2023). In study done by Muhammad et al (2023) and the current study, both studies shown that women

scored lower in intuitive eating compared to men. These results may suggest that women displayed difficulties in being aware of internal experiences like thoughts, emotions and interlinking them with physiological hunger and satiety cues resulting in altered regulation of eating behaviours (Denny et al, 2013 ; Duarte et al, 2016). Other than that, the reasons behind this sex discrepancy might be sociocultural pressures, dieting, women's higher perception towards body image and others (Smith et al, 2021).

In overall mean score, Reliance on Hunger and Satiety Cues (RHSC) subscale had the highest score which was 3.69 ± 0.590. Breaking down to genders, both genders also scored highest in RHSC subscale which was 3.695 ± 0.049 (male) and 3.686 ± 0.034 (female). Although in the study done by Muhammad et al (2023), the highest score was from Body-Food Choice Congruence (B-FCC) subscale, the scores obtained from their participants in RHSC subscale also had the same score range like our study. Another study done by Bennett and Latner (2022) also corresponds to the findings in our study where the scores in RHSC subscale was 3.60 ± 0.73. The questions from RHSC subscale were mostly about relying on how the body signals us on when to eat, what to eat, how much to eat and when to stop eating. Participants having high scores in this subscale may convey that they had trust in depending on their body to direct their eating habits.

The largest difference in scores among genders can be found in the Eating for Physical rather than Emotional Reasons (EPR) subscale. Male participants scored 3.402 ± 0.050 while female participants scored 3.289 ± 0.035 making them having difference of 0.113 points. Results presented in this study consonants with the study done by Ayyıldız et al (2023) where the scores obtained in EPR subscale has the greatest difference. Questions in EPR subscale include eating when emotional, lonely, stressed out and bored. The results from a study done by Horwath, Hagmann and Hartmann (2019) on Swiss population corresponds with results in current study where men scored higher than women and in difference of 0.22 points in EPR subscale. Hence, men seem to be less likely to eat foods for purpose of regulating emotional statuses. Women that scored lower than men in EPR subscale also scored lower in Body-Food Choice Congruence (BFCC) subscale than men. Questions in B-FCC subscale asked on the desire to eat nutritious foods, eating foods that helped body work efficiently and provides stamina. The results were in tune with results done by Anglin et al (2013) on university students in Gumushane University's Faculty of Health Sciences in Turkey. The above-mentioned may mean that men had higher devotion in eating nutritious food and more prone to eating nutritious foods in hopes of enhancing body's stamina.

5.1.2. Association between gender and IEB

The results in this current study were statistically significant showing that there is a significant association between gender and intuitive eating behaviour (IEB). Intuitive eating behaviour is analysed based on two statements from the IES-2

questionnaire which was 8. I trust my body to tell me how much to eat and 23. I trust my body to tell me when to stop eating. More women (87.2%) have shown to acquire higher intuitive eating behaviour than men (77.1%). It may be due to women focusing more on body image, leading to them having more knowledge on ways to maintain body image and have heard about intuitive eating.

The results obtained in current study corresponds with study by Muhammad et al (2023) where more women (71.8%) trusted their bodies on telling them how much to eat than men (64.4%). Their study was also the first study in Malaysia to examine intuitive eating elements across sociodemographic variables as to the best of their knowledge. In resonance with another study done in Minneapolis by Dominé et al (2009), more men (61.3%) were less likely to quit eating when they are full. When individuals did not follow body's cues in eating habits due to environmental structure (e.g.: habit of not wasting food, frequent snacking, having more food as usual during celebrations), there is a high chance of them eating whatever they want and can without contemplating about if they are hungry or full which results in weight gain over time. Other results that correspond with current findings were studies from Vintilă et al, (2020), Gödde et al, (2022) and Da Silva et al, (2020). However, according to Chean et al (2023), the prevalence of overweight is higher in women than men which contraindicated with findings in current study.

Although current study shows that there is gender difference in intuitive eating behaviours and has corresponded to few other studies, some studies had found to contraindicate the current results. A study held in United Kingdom involving over 500 participants aged 19 years old and above was done by Murray et al (2023). Their results had shown that there was no gender difference in terms of intuitive eating behaviour. Not only this, Carbonneau et al (2016) had done a study on 149 Canadian participants using a French-Canadian adaptation of IES-2 questionnaire. Their study displayed results of no gender difference in terms of intuitive eating from aspects of intuitive eating score and subscale scores.

These contraindicated findings may reflect differences in countries having possibilities in varying food habits, unalike perceptions on healthy eating and gender discrimination . The statement may be supported by a study that focused on eating styles in eight countries where the intuitive scores varied across countries with highest in Italy (3.29 ± 0.79) and lowest in Australia (3.00 ± 0.92) (Markey et al, 2023). Thus, more research is required to determine the interrelation between intuitive eating behaviour among the two genders in Malaysia to support current findings.

5.1.3. Association between IEB and BMI

Results are not statistically significant referring to there is no significant association between intuitive eating behaviour (IEB) and Body Mass Index (BMI). From the

results, the percentage distribution across four groups of BMI were quite similar. Percentage of people practicing intuitive eating behaviour in the four groups are: underweight (89.7%), normal weight (82.3%), overweight (78.6%) and obese (80.0%). Highest percentage can be found in underweight individuals followed by, normal weight individuals. Current findings matched with A Malaysia study done by Muhammad et al (2023) where it was stated none of the features in intuitive eating was associated with a decreased BMI. Not only this, another study from Horwath, Hagmann and Hartmann (2019) also displayed similar results where they had found an inconsequential association between intuitive eating and status of body weight.

However, according to a meta-analysis done by Linardon, Tylka and Fuller-Tyszkiewicz (2021), most of the studies reviewed had found a significant association between intuitive eating behaviour and BMI. For example, in Smith et al (2020) study, 478 university students from University of New Mexico were involved in the research. Their findings indicated that BMI was significantly inversely related to intuitive eating with *p-value* < 0.01. Males and females present with same strength of negative correlation between intuitive eating and BMI (r= -0.33). Besides that, another study done by Van Dyck et al (2016) on 1134 university students from University of Luxembourg in German also showed similar results. Their results showed significance at *p-value* < 0.01 that there is a negative correlation between intuitive eating and BMI with the *r value* of -0.11 showing weak negative correlation.

The creator of the IES-2 questionnaire has stated that supposedly people with higher intuitive eating scores will be negatively related to BMI (Tylka and Diest, 2013). The findings that matched the statement were in accordance to theories that people who follow restricted diets are more likely to engage in behaviours that caused them to gain more weight, such as binge eating and eating when they are not physically hungry. However, on the other hand, people that pay attention to their body's hunger cues to eat and satiety cues to stop eating are less likely to involve in these behaviours. Atrocious weight watchers may be unable to rely or recognise if they are hungry or full through body signals as they were restricted to external eating guidelines (Maden et al, 2012). Some other findings that conflict current results were research done by Webb and Hardin (2016), b. Keirns and Hawkins (2019), Ramalho (2022) and Caferoglu and Toklu (2021).

One of the contributing factors leading to current findings not corresponding to world findings might be intuitive eating concept is still new to Malaysia and not a notable amount of people knew about this principle leading to insignificant results. More research and attention on this topic are needed as a remarkable number of studies had proven the strong association between intuitive eating behaviour with BMI.

5.1.4. Association between IEB and WCB

Current findings indicated that there is a non-significant association between intuitive eating behaviour (IEB) and weight control behaviour (WCB). From the results, we can notice that both groups that practiced intuitive eating behaviour possess similar percentages in range of 80% to 90% (healthy WCB: 82.7% ; unhealthy WCB: 87.0%). An interesting result from the findings is the percentage of unhealthy WCBs are higher than percentage of healthy WCBs among participants that practiced intuitive eating behaviour. According to the Malaysian study done by Muhammad et al (2023), it contraindicates with current findings as it stated that there is presence of weak positive correlation between intuitive eating behaviour with healthy WCBs. Addition to that, there are no presence of correlation between intuitive eating behaviour with unhealthy WCBs. The two conflicting findings might be explained by current findings involved only Chinese participants while study by Muhammad et al (2023) involved only Malay participants.

Among the healthy weight control behaviours, 85.8% of the participants practiced behaviour 2: Ate more fruits and vegetables while the least was only 58.5% of the participants practicing behaviour 6: Watched my portion sizes (serving sizes). Among the unhealthy weight control behaviours, the highest was behaviour 4: Skipping meals making up 60.8% of the participants and the least was behaviour 5: Using diet pills and 7: Using laxatives and diuretics which was 2.5% and 3.0% respectively. In the group of healthy WCBs, eating more fruits and vegetables was the easiest to practice hence obtaining the highest percentage. The respective

practice displayed the awareness of practicing a healthy diet among participants which increases possibility of them directing to intuitive eating as an alternative. On the other hand, most of the people that tried to lose weight may have a perception of losing weight by eating lesser hence skipping meals ranked first among unhealthy WCBS while using diet pills, laxatives and diuretics are some extreme ways when compared to others thus, ranked last among all.

Most of the available findings concluded that there is a positive correlation between intuitive eating behaviour and healthy WCBs while there is a negative correlation between intuitive eating behaviour and unhealthy WCBs. For example, a study done by Duran et al (2022) stated that intuitive eating was negatively related with confined eating practices such as little or no eating. Apart from this, their results reported that participants that scored high in intuitive eating scored lower in eating disorder questionnaire. They had concluded that intuitive eaters are more likely to have a nutritious diet and more constructive eating patterns.

Aside from that, Hazzard et al (2022) had done a follow-up study on 1491 participants on intuitive eating predicts disordered eating behaviours. From their results, higher intuitive eating among adolescences present lower prevalence of disordered eating habits eight years later in young adulthood. The unhealthy WCBs in their study includes fasting, skipping meals, taking diet pills and vomiting which

were list of behaviours included in present study as well. However, present findings contraindicated with findings from Hazzard et al (2022).

One of the possible reasons why study by Duran et al (2022) and Hazzard et al (2022) conflicts with current findings were that the both studies are not held in Malaysia. They were held in Ankara, Turkey and Minneapolis, United States respectively. Differences in culture, body image perception, social criticism may affect their eating habits. For the reason that none of the participants in this study was considered as an intuitive eater hence, there might be a higher possibility of them being disengaged from internal hunger and satiety cues leading to unhealthy weight control behaviours may present. Since present findings does not resonate with the principle of intuitive eating positively related to healthy WCBs and negatively related to unhealthy WCBs, there should be more attention focused in order to conduct more research to gain better inspect on this field.

5.2. Strengths and Limitations of the Study

5.2.1. Strengths

The Intuitive Eating Scale-2 questionnaire and weight control behaviours questions used in this study had been used by a Malaysian study done by Muhammad et al (2023) and had proven reliability and validity. Next, the number of participants recruited in this study was large enough to allow 5% of margin of error making the data collected a little more convincing. Finally, this study only recruited Chinese

participants eliminating racial differences which often becomes an issue for Malaysians that tried to do an unbiased research. As UTAR composed mainly of Chinese students thus, making it challenging for researchers to do a research based on UTAR with equal proportion of races involved.

5.2.2. Limitations

A few limitations had been identified related to methodology in this study while carrying on with the research. Firstly, the study instrument utilized was an online questionnaire. Such procedure allows participants to simply fill in the survey and submitting it causing the researcher unable to observe and confirm if it was a genuine answer given resulting in unreliable results. Besides, convenience sampling is implicated in this study. Such sampling method may indirectly increase the likelihood of introducing bias during the participant selection process resulting in reduced representativeness of the UTAR population. Finally, the participants in this study consist of 61.0% female participants resulting in unequal proportion of gender. Such fraction makes the data collected a little less convincing and reduced in general applicability.

5.3. Implications for Future Research

Since UTAR participants in study had no intuitive eaters, programs or events related to how intuitive eating benefits our health and wellbeing should be frequently implemented. Addition to that, the programs organized should be

conducted by expertise or people that has extensive knowledge on intuitive eating such as researchers, lecturers or dietitians. Knowledge that can be conveyed include principle of intuitive eating, benefits of intuitive eating, ways to engulf in the habit, its association with BMI and weight control behaviours and etc. Moreover, intuitive eating concept can be introduced to the general population as a preventive measure for preventing weight gain and engaging in disordered weight control behaviours.

5.4. Future Recommendations

Future recommendation can implement a face-to-face interview-based survey whenever possible. Although it may be labour-intensive and extremely time consuming, results and data obtained improves reliability and validity while at the same eliminating any possible bias since participants are more attentive and serious during these surveys. Besides, a simple random sampling is recommended rather than convenience sampling. Such sampling method allows every participant in UTAR to have an equal chance to be selected hence, avoiding selection bias. Lastly, for the data to be able to represent Malaysian population more, it is suggested that the participants are multi-ethnic to enhance generalization assumptions.

CHAPTER 6

CONCLUSION

In conclusion, the present study showed that none of the undergraduate students in UTAR are considered as intuitive eaters as the overall mean score stays at 3.45 ± 0.353 and did not surpass score 4 and above. It may be because intuitive eating can still be considered a relatively new concept in Malaysia and has not been widely introduced. There is no significant difference between genders in terms of overall mean intuitive eating score and subscale where males and females scored 3.478 ± 0.028 and 3.431 ± 0.021 respectively. Both genders scored highest in Reliance on Hunger and Satiety Cues (RHSC) subscale while males scored lowest in Unconditional Permission to Eat (UPE) subscale and females scored lowest in Eating for Physical rather than Emotional Reasons (EPR) subscale. One of the contributing reasons might be women are more restrained to sociocultural opinions and body image perception leading to them scoring low in EPR subscale. However, there is a significant association between intuitive eating behaviour and gender where females scored slightly higher males on engaging in intuitive eating behaviours. This may be a result of females caring more about body image perception, leading to them having possibilities engaging in behaviours that can be classified as intuitive eating behaviour. Furthermore, there was no significant association between intuitive eating behaviour and BMI which contraindicated with most of the world findings. Thus, more research will be needed to study on this area focusing on Malaysian population. Lastly, there was no found association between

intuitive eating behaviour and weight control behaviours no matter healthy or unhealthy. Once again, it had contraindicated with studies that found correlation between intuitive eating behaviour with healthy weight control behaviours. The fact that our target population focuses only one race and one institution, it is unable to represent the entire community. However, it may provide a baseline for future researches. Intuitive eating concept should be spread among university students through programs and events in hopes that it can be used as a prevention measure in preventing obesity prevalence.

REFERENCES

Anglin, J.C., Borchardt, N., Ramos, E. and Mhoon, K., 2013. Diet quality of adults using intuitive eating for weight loss—Pilot study. *Nutrition and Health*, [e-journal] 22(1), pp. 255–264. https://doi.org/10.1177/0260106015601943

Ayyıldız, F., Akbulut, G., Ermumcu, M.S.K., Tek, N.A., 2023. Emotional and intuitive eating: an emerging approach to eating behaviours related to obesity. *Journal of Nutritional Science*, [e-journal] 12. https://doi.org/10.1017/jns.2023.11

Agravante, M., 2018. *What Is the Meaning of Variables in Research?* [online] 13 April. Available at: <https://sciencing.com/meaning-variables-research-6164255.html> [Accessed 23 July 2024]

Bennett, B.L., Latner, J.D., 2022. Mindful eating, intuitive eating, and the loss of control over eating. *Eating Behaviors*, [e-journal] 47. https://doi.org/10.1016/j.eatbeh.2022.101680

Bilici, S., Kocaadam, B., Mortas, H., Kucukerdonmez, O., Koksal, E., 2018. Intuitive eating in youth: Its relationship with nutritional status. *Revista de Nutrição*, [e-journal] 31(6), pp. 557-565. https://doi.org/10.1590/1678-98652018000600005

Caferoglu, Z. and Toklu, H., 2021. Intuitive eating: associations with body weight status and eating attitudes in dietetic majors. *Eating and Weight Disorders*, [e-journal] 27, pp. 683-692. https://doi.org/10.1007/s40519-021-01206-4

Camilleri, G.M., Caroline, M., France, B., Andreeva, V.A., Kesse-Guyot, E., Serge, H. and Sandrine, P., 2017. Intuitive Eating Dimensions Were Differently Associated with Food Intake in the General Population–Based NutriNet-Santé Study. *The Journal of Nutrition*, [e-journal] 147(1), pp. 61-69. https://doi.org/10.3945/jn.116.234088

Carbonneau, E., Carbonneau, N., Lamarche, B., Provencher, V., Bégin, C., Bradette-Laplante, M., Laramée, C. and Lemieux, S., 2016. Validation of a French-

Canadian adaptation of the Intuitive Eating Scale-2 for the adult population. *Appetite*, [e-journal] 105(1), pp. 37-45. https://doi.org/10.1016/j.appet.2016.05.001

Centre for Disease Control and Prevention, 2022. About Adult BMI. [online] Available at: <https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html> [Accessed 23 July 2024]

Chean, T.C., Wai, K.L., Sallehudin, S.M., Ganapathy, S.S., 2023. Prevalence of overweight and its associated factors among Malaysian adults: Findings from a nationally representative survey. PLOS ONE, [e-journal] 18(8). https://doi.org/10.1371%2Fjournal.pone.0283270

Christoph, M., Järvelä-Reijonen, E., Hooper, L., Larson, N., Mason, S.M., Neumark-Sztainer, D., 2021. Longitudinal associations between intuitive eating and weight-related behaviors in a population-based sample of young adults. *Appetite*, [e-journal] 160. https://doi.org/10.1016/j.appet.2021.105093

Cochran, W., 1977. *Sampling Techniques*. 3rd ed. New York: John Wiley & Sons, p. 76

Craven, M., Fekete, E.M., 2019. Weight-related shame and guilt, intuitive eating, and binge eating in female college students. *Eating Behaviors*, [e-journal] 33, pp. 44-48. https://doi.org/10.1016/j.eatbeh.2019.03.002

Da Silva, W. R., Neves, A. N., Ferreira, L., Duarte Bonini Campos, J. A., and Swami, V., 2020. A psychometric investigation of Brazilian Portuguese versions of the caregiver eating messages scale and intuitive eating Scale-2. *Eating and Weight Disorders*, [e-journal] 25, pp. 221–230. https://doi.org/10. 1007/s40519-018-0557-3

Denny, K.N., Loth, K., Eisenberg, M.E. and Neumark-Sztainer, D., 2013. Intuitive eating in young adults: Who is doing it, and how is it related to disordered eating behaviors? *Appetite*, [e-journal] 60(1), pp. 13-19. https://doi.org/10.1016%2Fj.appet.2012.09.029

Duarte, C., Gouveia, J. P., and Mendes, A., 2016. Psychometric properties of the intuitive eating Scale-2 and association with binge eating symptoms in a Portuguese community sample. *International Journal of Psychology and Psychological Therapy*, [e-journal] 16(1), pp. 329–341.

Duran, S., Bozkurt, G., Doğan, D., Aygen, S. and Yıldırım, E., 2022. The effects of intuitive eating on mental well-being and eating behaviors of health workers. *Ankara Medical Journal*, [e-journal] 22, pp. 172–181. http://dx.doi.org/10.5505/amj.2022.99897

Dyke, N.V. and Drinkwater, E.J., 2022. Intuitive eating is positively associated with indicators of physical and mental health among rural Australian adults. *Australian Journal of Rural Health*, [e-journal] 30(4), pp. 468-477. https://doi.org/10.1111%2Fajr.12856

Fruh, S.M., 2017. Obesity: Risk factors, complications, and strategies for sustainable long‐term weight management. *Journal of the American Association of Nurse Practitioners*, [e-journal] 29(Suppl 1), pp. 3 – 14. https://doi.org/10.1002%2F2327-6924.12510

Giacone, L, Sob, C., Siegrist, M. and Hartmann, C., 2024. Intuitive eating and its influence on self-reported weight and eating behaviors. *Eating Behaviors*, [e-journal] 52 (1). https://doi.org/10.1016/j.eatbeh.2024.101844

Gödde, J.U., Yuan, T.Y., Kakinami, L. and Cohen, T.R., 2022. Intuitive eating and its association with psychosocial health in adults: A cross-sectional study in a representative Canadian sample. *Appetite*, [e-journal] 168. https://doi.org/10.1016/j.appet.2021.105782

Hazzard, V.M., Telke, S.E., Simone, M., Anderson, L.M., Larson, N.I. and Neumark-Sztainer, D., 2022. Intuitive Eating Longitudinally Predicts Better Psychological Health and Lower Use of Disordered Eating Behaviors: Findings from EAT 2010–2018. *Eating and Weight Disorders*, [e-journal] 26(1), pp. 287-294. https://doi.org/10.1007%2Fs40519-020-00852-4

Horwath, C., Hagmann, D. and Hartmann, C., 2019. Intuitive eating and food intake in men and women: Results from the Swiss food panel study. *Appetite*, [e-journal] 135(1), pp. 61-71. https://doi.org/10.1016/j.appet.2018.12.036

Hruby, A. and Hu, F.B., 2015. The Epidemiology of Obesity: A Big Picture. *Pharmacoeconomics,* [e-journal] 33(7), pp. 673 – 689. https://doi.org/10.1007%2Fs40273-014-0243-x

Ishak, S.I.Z.S., Chin, Y.S., Taib, M.N.M., Chan, Y.M., Shariff, Z.M., 2020. Effectiveness of a school-based intervention on knowledge, attitude and practice on healthy lifestyle and body composition in Malaysian adolescents. *BMC Pediatrics*, [e-journal] 20(122). https://doi.org/10.1186/s12887-020-02023-x

Jager, J., Putnick, D.L. and Bornstein, M.H., 2017. More than Just Convenient: The Scientific Merits of Homogeneous Convenience Samples. *Monographs of the Society for Research in Child Development,* [e-journal] 82(2), pp. 13-30. https://doi.org/10.1111%2Fmono.12296

a. Keirns, N.G. and Hawkins, M.A.W., 2019. The relationship between intuitive eating and body image is moderated by measured body mass index. *Eating Behaviors*, [e-journal] 33, pp. 91-96. https://doi.org/10.1016/j.eatbeh.2019.04.004

b. Keirns, N.G. and Hawkins, M.A.W., 2019. Intuitive eating, objective weight status and physical indicators of health. *Obesity Science and Practice*, [e-journal] 5(5), pp. 408-415. https://doi.org/10.1002/osp4.359

Linardon, J., Tylka, T.L., Fuller-Tyszkiewicz, M., 2021. Intuitive eating and its psychological correlates: A meta-analysis. *International Journal of Eating Disorders*, [e-journal] 54(7), pp. 1073-1098. https://doi.org/10.1002/eat.23509

Luo, Y.J., Niu, G.F., Kong, F.C., Chen, H., 2019. Online interpersonal sexual objectification experiences and Chinese adolescent girls' intuitive eating: The role of broad conceptualization of beauty and body appreciation. *Eating Behaviors*, [e-journal] 33, pp. 55-60. https://doi.org/10.1016/j.eatbeh.2019.03.004

Maden, C.E.L., Leong, S.L., Gray, A. and Horwath, C.C., 2012. Eating in response to hunger and satiety signals is related to BMI in a nationwide sample of 1601 mid-age New Zealand women. *Public Health Nutrition,* [e-journal] 15(12), pp. 2272-2279. https://doi.org/10.1017%2FS1368980012000882

Mamun, A.A., Hayat, N., Zainol, N.R., 2020. Healthy Eating Determinants: A Study among Malaysian Young Adults. *Foods 2020,* [e-journal] 9(8), pp. 974. https://doi.org/10.3390/foods9080974

Mandal, A., 2023. What is Body Mass Index (BMI)? *News-Medical.Net*, [online] 23 January. Available at: <https://www.news-medical.net/health/What-is-Body-Mass-Index-(BMI).aspx> [Accessed 9 August 2024]

Markey, C.H., Strodl, E., Aimé, A., McCabe, M., Rodgers, R., Sicilia, A., Coco, G.L., Dion, J., Mellor, D., Pietrabissa, G., Gullo, S., Granero-Gallegos, A., Probst, M., Maïano, C., Bégin, C., Alcaraz-Ibáñez, M., Blackburn, M.E., Caltabiano, M.L., Manzoni, G.M., Castelnuovo, G., Hayami-Chisuwa, N., He, Q.Q., Fuller-Tyszkiewicz, M., 2022. A survey of eating styles in eight countries: Examining restrained, emotional, intuitive eating and their correlates. *British Journal of Health Psychology*, [e-journal] 28(1), pp. 136-155. https://doi.org/10.1111/bjhp.12616

Muhammad, R., Ismail, W., Firdus, S., Hamid, S.B., Asmawi, U.M.M., Nor, N.M., 2023. Intuitive Eating Behaviour among Young Malay Adults in Malaysian Higher Learning Institutions. *Nutrients*, [e-journal] 15(4), pp.869. https://doi.org/10.3390/nu15040869

Murray, K., Rieger, E., Brown, P.M., Brichacek, A. and Walker, I., 2023. Body image explains differences in intuitive eating between men and women: Examining indirect effects across negative and positive body image. *Body Image*, [e-journal] 45(1), pp. 369-381. https://doi.org/10.1016/j.bodyim.2023.03.018

National Heart, Lung and Blood Institute, 2022. *Overweight and Obesity: Causes and Risk Factors*. [online] Available at: < https://www.nhlbi.nih.gov/health/overweight-and-obesity/causes> [Accessed 28 July 2024]

Nor, N.M., Firdus, S., Ismail, W., Fitriani, D.Y., 2022. Questionnaire Validity and Reliability of Intuitive Eating Behaviour towards Obesity: Behavioural perspective. *Environment-Behavior Proceedings Journal*, [e-journal] 7(21). https://doi.org/10.21834/ebpj.v7i21.3678

Nor, N.S.M., Ambak, R., Zaki, N.M., Aziz, N.S.A., Cheong, S.M., Razak, M.A.A., Yusof, M., Ahmad, M.H., Baharuddin, A., Radzi, M.R.M., Kozil, W.N.K.W., Ishak, I.H., Aris, T., 2018. An update on obesity research pattern among adults in Malaysia: a scoping review. *BMC Women's Health*, [e-journal] 18(114). https://doi.org/10.1186/s12905-018-0590-4

Ramalho, S.M., Saint-Maurice, P.F., Félix, S. and Conceição, E., 2022. Intuitive eating Scale-2: Factor structure and associations with disordered eating, impulsivity and quality of life in adolescents with overweight/obesity. *Eating Behaviors*, [e-journal] 44. https://doi.org/10.1016/j.eatbeh.2021.101593

Ruzanska, U.A., Warschburger, P., 2019. Intuitive eating mediates the relationship between self-regulation and BMI - Results from a cross-sectional study in a community sample. *Eating Behaviors*, [e-journal] 33, pp. 23-29. https://doi.org/10.1016/j.eatbeh.2019.02.004

Smith, J. M., Serier, K. N., Belon, K. E., Sebastian, R. M., and Smith, J. E., 2020. Evaluation of the relationships between dietary restraint, emotional eating, and intuitive eating moderated by sex. *Appetite,* [e-journal] 155. https://doi.org/10.1016/j.appet.2020.104817

Swami, V., Todd, J., Zahari, H.S., Khatib, N.A.M., Toh, E.K.L., Barron, D., 2020. Dimensional structure, psychometric properties, and sex and ethnic invariance of a Bahasa Malaysia (Malay) translation of the Intuitive Eating Scale-2 (IES-2). *Body Image*, [e-journal] 32,pp. 167-179. https://doi.org/10.1016/j.bodyim.2020.01.003

Tylka, T.L., Diest, K.V., 2013. The Intuitive Eating Scale–2: Item refinement and psychometric evaluation with college women and men. *Journal of Counselling Psychology*, [e-journal] 60(1), pp. 137-153. https://psycnet.apa.org/doi/10.1037/a0030893

Van Dyck, Z., Herbert, B. M., Happ, C., Klevernan, G. V. and Voegele, C., 2016. German version of the intuitive eating scale: Psychometric evaluation and application to an eating disordered population. *Appetite,* [e-journal] 105, pp. 798–807. https://doi.org/10.1016/j.appet.2016.07.019

Vintilă, M., Todd, J., Goian, C., Tudorel, O., Barbat, C.A. and Swami, V., 2020. The Romanian version of the Intuitive Eating Scale-2: Assessment of its

psychometric properties and gender invariance in Romanian adults. *Body Image*, [e-journal] 35, pp. 225-236. https://doi.org/10.1016/j.bodyim.2020.09.009

Wang, X. and Cheng, Z., 2020. Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations. *CHEST*, [e-journal] 158(1), pp. 565-571. https://doi.org/10.1016/j.chest.2020.03.012

Webb, J. B., and Hardin, A. S., 2016. An integrative affect regulation process model of internalized weight bias and intuitive eating in college women. *Appetite*, [e-journal] 102, pp. 60–69. https://doi.org/10.1016/j.appet.2016. 02.024

Yamamiya, Y., Shimai, S., Homan, K.J., 2021. Exploring the gratitude model of body appreciation and intuitive eating among Japanese women. *Body Image*, [e-journal] 36, pp. 230-237. https://doi.org/10.1016/j.bodyim.2020.12.005

Yılmaz, H.O., Zemzemoglu, T.E.A., 2021. The Relationship between Body Mass Index and Eating Disorder Risk and Intuitive Eating among Young Adults. *International Journal of Nutrition Sciences*, [e-journal] 6(4), pp. 180-188. https://doi.org/10.30476/ijns.2021.91438.1138

Yoon, C., Mai, D., Kinariwala, K., Ledoux, T., Betts, R., Johnston, C., 2023. Sex and ethnic/racial differences in disordered eating behaviors and intuitive eating among college student. *Frontiers in Psychology: Eating Behavior*, [e-journal] 14. https://doi.org/10.3389/fpsyg.2023.1221816

APPENDICES

APPENDIX A

ETHICAL APPROVAL SHEET

UNIVERSITI TUNKU ABDUL RAHMAN (DU012(A))
Wholly owned by UTAR Education Foundation (Co. No. 578227-M)

Re: U/SERC/78-252/2024

22 March 2024

Dr Teh Lai Kuan
Head, Department of Allied Health Sciences
Faculty of Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Teh,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research projects from Bachelor of Science (Honours) Dietetics programme enrolled in course UDDN3108. We are pleased to inform you that the application has been approved under Expedited Review.

The details of the research projects are as follows:

No	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	Level of Knowledge and Practice Regarding Osteoporosis Among Working Adults in Kampar, Perak	Tuong Ke Hui	Ms Nurul Aimi Binti AB Kadir	22 March 2024 – 21 March 2025
2.	Intuitive Eating Behavior among Young Chinese Adults in UTAR	Oon Choy Li		
3.	Osteoporosis Knowledge, Health Beliefs and Calcium Intake Among Malaysian Chinese Adults in Kampar, Perak	Thean Hui Ru		

The conduct of this research is subject to the following:

(1) The participants' informed consent be obtained prior to the commencement of the research;

(2) Confidentiality of participants' personal data must be maintained; and

(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

(4) Written consent be obtained from the institution(s)/company(ies) in which the physical or/and online survey will be carried out, prior to the commencement of the research.

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605) 468 8888 Fax: (605) 466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,

Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

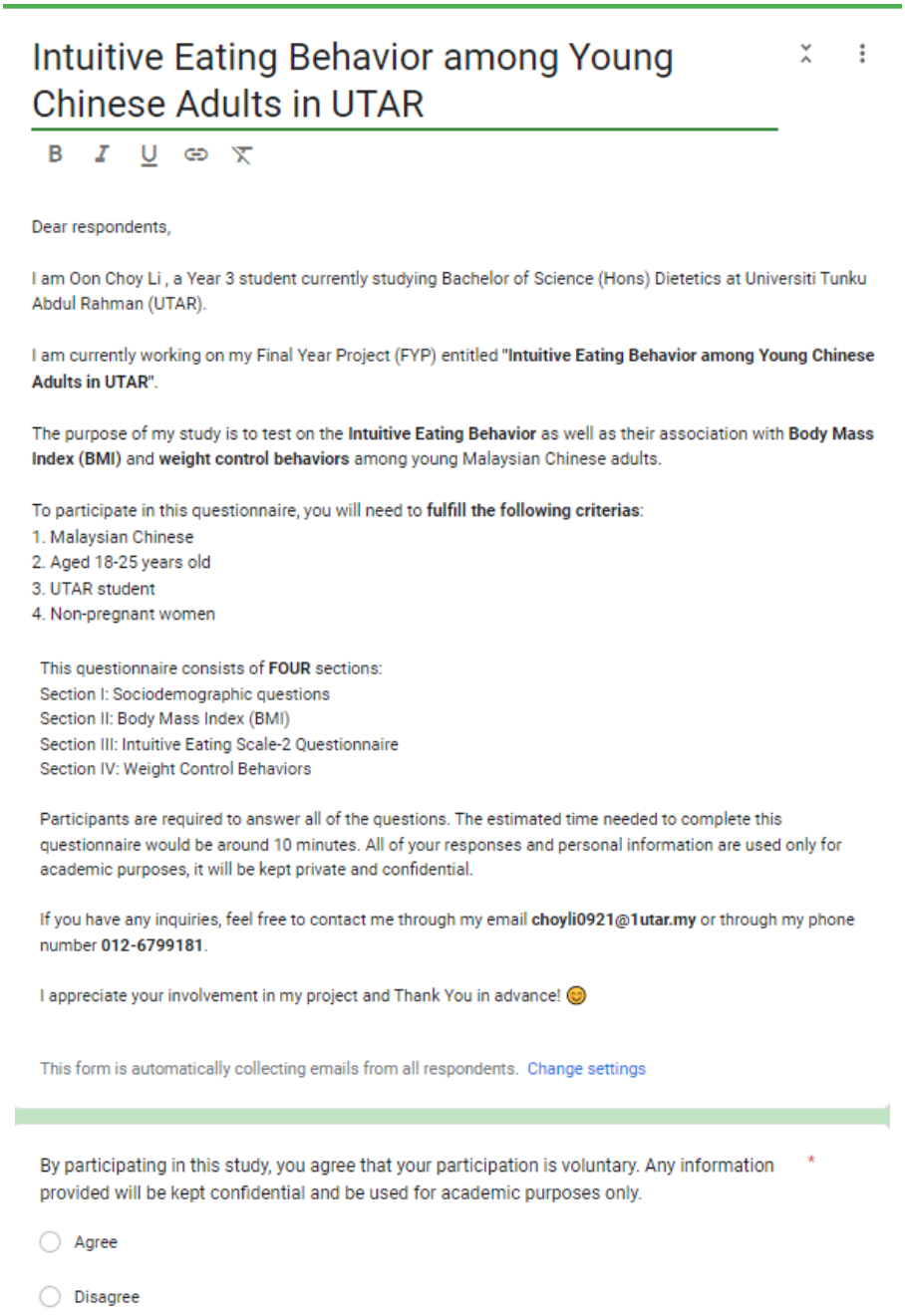
c.c Dean, Faculty of Science
Director, Institute of Postgraduate Studies and Research

Kampar Campus : Jalan Universiti, Bandar Barat, 31900 Kampar, Perak Darul Ridzuan, Malaysia
Tel: (605)-468 8888 Fax: (605)-466 1313
Sungai Long Campus : Jalan Sungai Long, Bandar Sungai Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868
Website: www.utar.edu.my

APPENDIX B

QUESTIONNAIRE

I. Research Informed Consent Form



Intuitive Eating Behavior among Young Chinese Adults in UTAR

Dear respondents,

I am Oon Choy Li , a Year 3 student currently studying Bachelor of Science (Hons) Dietetics at Universiti Tunku Abdul Rahman (UTAR).

I am currently working on my Final Year Project (FYP) entitled **"Intuitive Eating Behavior among Young Chinese Adults in UTAR"**.

The purpose of my study is to test on the **Intuitive Eating Behavior** as well as their association with **Body Mass Index (BMI)** and **weight control behaviors** among young Malaysian Chinese adults.

To participate in this questionnaire, you will need to **fulfill the following criterias**:
1. Malaysian Chinese
2. Aged 18-25 years old
3. UTAR student
4. Non-pregnant women

This questionnaire consists of **FOUR** sections:
Section I: Sociodemographic questions
Section II: Body Mass Index (BMI)
Section III: Intuitive Eating Scale-2 Questionnaire
Section IV: Weight Control Behaviors

Participants are required to answer all of the questions. The estimated time needed to complete this questionnaire would be around 10 minutes. All of your responses and personal information are used only for academic purposes, it will be kept private and confidential.

If you have any inquiries, feel free to contact me through my email **choyli0921@1utar.my** or through my phone number **012-6799181**.

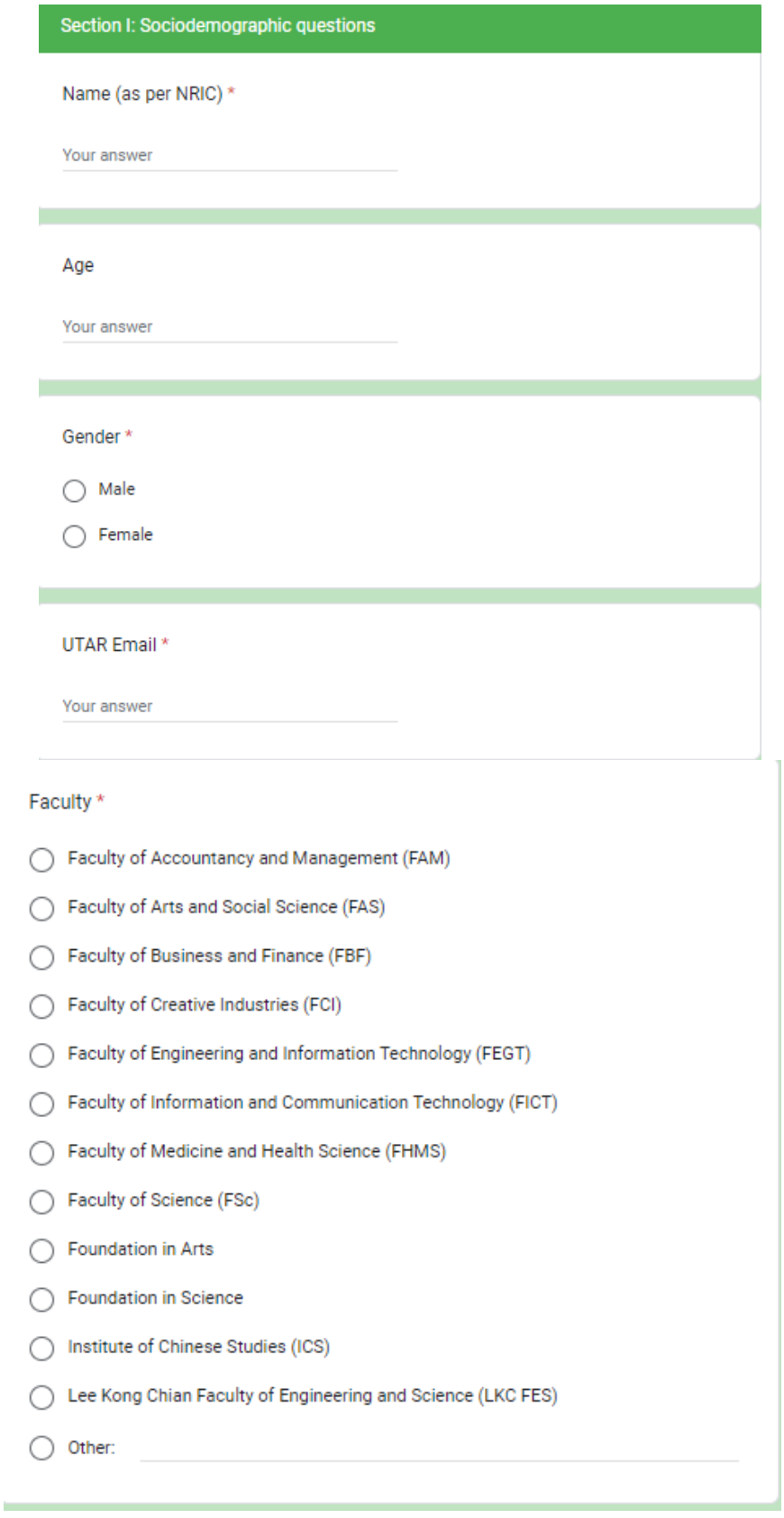
I appreciate your involvement in my project and Thank You in advance!

This form is automatically collecting emails from all respondents. Change settings

By participating in this study, you agree that your participation is voluntary. Any information provided will be kept confidential and be used for academic purposes only. *

- Agree
- Disagree

II. Section I: Sociodemographic Characteristics



Section I: Sociodemographic questions

Name (as per NRIC) *

Your answer

Age

Your answer

Gender *

- Male
- Female

UTAR Email *

Your answer

Faculty *

- Faculty of Accountancy and Management (FAM)
- Faculty of Arts and Social Science (FAS)
- Faculty of Business and Finance (FBF)
- Faculty of Creative Industries (FCI)
- Faculty of Engineering and Information Technology (FEGT)
- Faculty of Information and Communication Technology (FICT)
- Faculty of Medicine and Health Science (FHMS)
- Faculty of Science (FSc)
- Foundation in Arts
- Foundation in Science
- Institute of Chinese Studies (ICS)
- Lee Kong Chian Faculty of Engineering and Science (LKC FES)
- Other:

III. Section II: Body Mass Index (BMI)

Section II - Body Mass Index (BMI)

The body mass index (BMI) is a measure that uses your height and weight to work out if your weight is healthy.

Body Mass Index (BMI) *

$$BMI = \frac{weight\ (in\ kg)}{height^2\ (in\ m)}$$

(Eknoyan, 2008)

- ◯ < 18.5 (Underweight)
- ◯ 18.5 - 24.9 (Normal)
- ◯ 25.0 - 29.9 (Overweight)
- ◯ ≥ 30.0 (Obese)

IV. Section III: Intuitive Eating Scale-2 Questionnaire

Section III - Intuitive Eating Scale-2 Questionnaire

Intuitive eating is an approach to food and nutrition that encourages individuals to listen to their body's signals and trust their internal cues regarding hunger, fullness, and satisfaction, rather than relying on external rules or diet plans.

Under this section, the questions will allow you to identify your intuitive eating scores and identify if whether you are an intuitive eater.

1. I try to avoid certain foods high in fat, carbohydrates, or calories. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

2. I find myself eating when I'm feeling emotional (e.g., anxious, depressed, sad), even when I'm not physically hungry. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

3. If I am craving a certain food, I allow myself to have it. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

4. I get mad at myself for eating something unhealthy. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

5. I find myself eating when I am lonely, even when I'm not physically hungry. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

6. I trust my body to tell me when to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

7. I trust my body to tell me what to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

8. I trust my body to tell me how much to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

9. I have forbidden foods that I don't allow myself to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

10. I use food to help me soothe my negative emotions. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

11. I find myself eating when I am stressed out, even when I'm not physically hungry. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

12. I am able to cope with my negative emotions (e.g., anxiety, sadness) without turning to food for comfort. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

13. When I am bored, I do NOT eat just for something to do. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

14. When I am lonely, I do NOT turn to food for comfort. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

15. I find other ways to cope with stress and anxiety than by eating. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

16. I allow myself to eat what food I desire at the moment. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

17. I do NOT follow eating rules or dieting plans that dictate what, when, and/or how much to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

18. Most of the time, I desire to eat nutritious foods. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

19. I mostly eat foods that make my body perform efficiently (well). *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

20. I mostly eat foods that give my body energy and stamina. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

21. I rely on my hunger signals to tell me when to eat. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

22. I rely on my fullness (satiety) signals to tell me when to stop eating. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

23. I trust my body to tell me when to stop eating. *

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

PLEASE CHOOSE AGAIN *

1. I trust my body to tell me how much to eat.

- ◯ Strongly Disagree
- ◯ Somewhat Disagree
- ◯ Somewhat Agree
- ◯ Strongly Agree

PLEASE CHOOSE AGAIN *

2. I trust my body to tell me when to stop eating.

- ◯ Strongly Disagree
- ◯ Somewhat Disagree
- ◯ Somewhat Agree
- ◯ Strongly Agree

V. Section IV: Weight Control Behaviours

Weight Control Behaviors (Healthy and Unhealthy)

Weight control behaviors refers to the habits that someone practiced to control their weight. However, these habits can be categorized into healthy and unhealthy. From this section, you are able to check if you practiced healthy weight control behaviors or unhealthy weight control behaviors.

This section requires you to choose if you had practiced any of those actions in the past 12 months

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Exercise

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Ate more fruits and vegetables

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Ate less high-fat foods

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Ate less sweets

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Drank less soda pop (diet pop excluded)

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Watched my portion sizes (serving sizes)

- ◯ Never
- ◯ 1-4 times
- ◯ 5-10 times
- ◯ More than 10 times
- ◯ Always

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Fasting to regulate body weight

- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Consuming relatively little food

- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Using meal-replacement products (e.g.: powder)

- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Skipping meals

- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Using diet pills

- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Vomiting

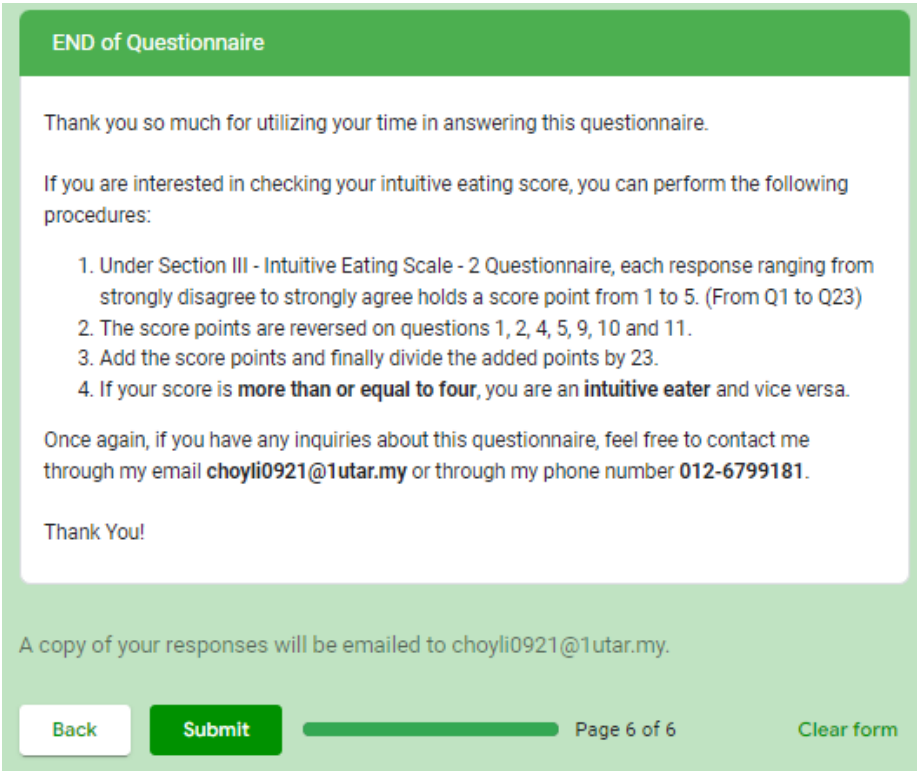
- ◯ Yes
- ◯ No

PLEASE CHOOSE IF YOU HAD PRACTICED THIS ACTION IN THE PAST 12 MONTHS *

Using laxatives or diuretics

- ◯ Yes
- ◯ No

VI. End of questionnaire



APPENDIX C

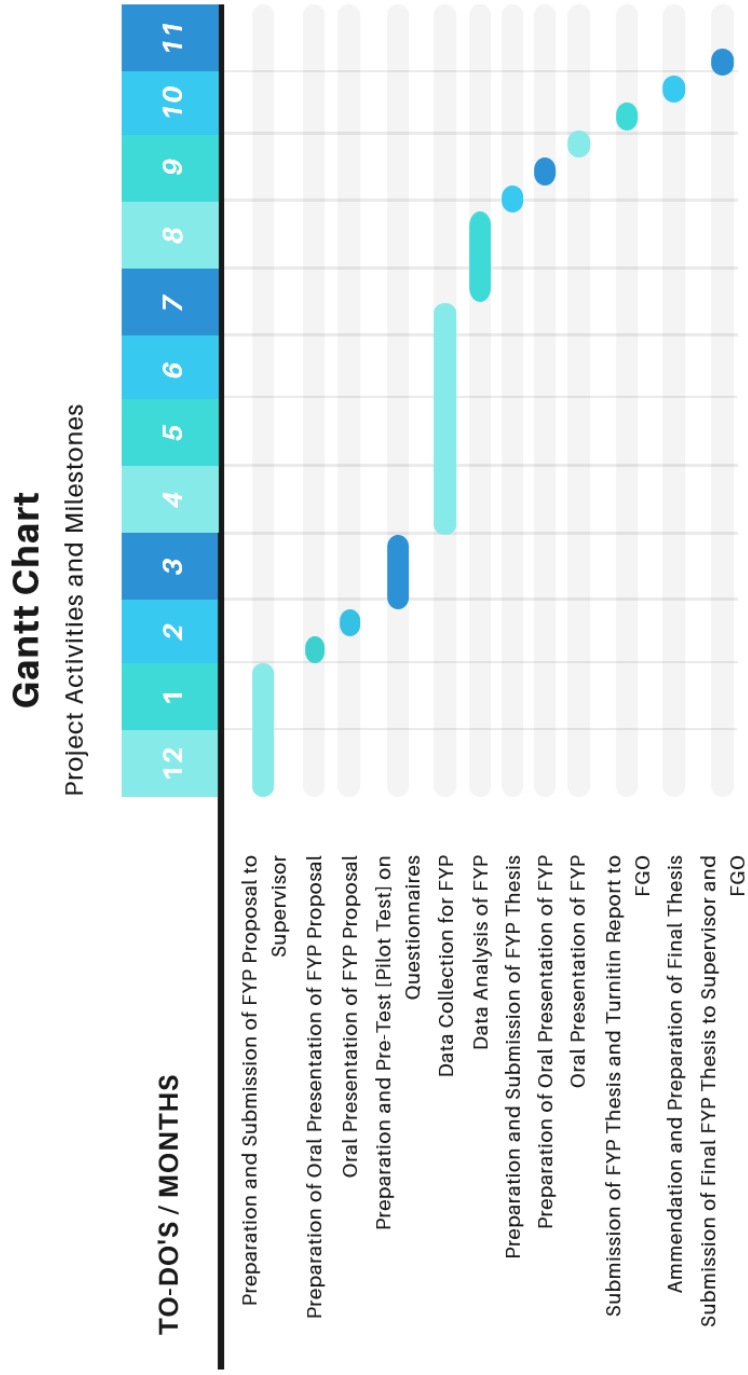
BODY MASS INDEX FORMULA

$$BMI = \frac{weight\ (in\ kg)}{height^2\ (in\ m)}$$

(Eknoyan, 2008)

APPENDIX D

GANTT CHART



APPENDIX E

SUPERVISOR'S COMMENT ON ORIGINALITY REPORT GENERATED BY TURNITIN FOR SUBMISSION OF FINAL YEAR PROJECT REPORT

Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 1	Effective Date: 3/10/2019	Page No.: 1of 1

UTAR
UNIVERSITI TUNKU ABDUL RAHMAN
Wholly owned by UTAR Education Foundation
(Co. No. 578227-M)

FACULTY OF SCIENCE

Full Name(s) of Candidate(s)	**OON CHOY LI**
ID Number(s)	**20ADB05287**
Programme / Course	**BACHELOR OF SCIENCE (HONOURS) DIETETICS**
Title of Final Year Project	**INTUITIVE EATING BEHAVIOUR AND ITS ASSOCIATION WITH BODY MASS INDEX AND WEIGHT CONTROL BEHAVIOUR AMONG YOUNG CHINESE ADULTS IN UTAR**

Similarity	**Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index: 18 % **Similarity by source** Internet Sources: **16** % Publications: **13** % Student Papers: **N/A** %	
Number of individual sources listed of more than 3% similarity: **-**	
Parameters of originality required and limits approved by UTAR are as follows: **(i) Overall similarity index is 20% and below, and** **(ii) Matching of individual sources listed must be less than 3% each, and** **(iii) Matching texts in continuous block must not exceed 8 words** ***Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.***	

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

Signature of Supervisor
Name: **MS. NURUL AIMI BINTI AB KADIR**
Date: **13/9/2024**

N/A
Signature of Co-Supervisor
Name: N/A
Date: N/A

APPENDIX F

TURNITIN ORIGINALITY REPORT

Turnitin Originality Report

Processed on: 12-Sep-2024 01:26 +08
ID: 2449775843
Word Count: 12547
Submitted: 7

FYP Thesis Submission By Oon Choy Li

Similarity Index	Similarity by Source	
18%	Internet Sources:	16%
	Publications:	13%
	Student Papers:	N/A

3% match ()
Rosmaliza Muhammad, Wan Nur Diana Rajab aka Wan Ismail, Syauqina Firdus, Syahrul Bariah Abdul Hamid et al. "Intuitive Eating Behaviour among Young Malay Adults in Malaysian Higher Learning Institutions", Nutrients

2% match (Internet from 28-Oct-2022)
http://eprints.utar.edu.my/3260/1/FYP_September_2018.pdf

1% match (Internet from 03-Oct-2022)
https://www.researchgate.net/publication/302981690_Validation_of_a_French-Canadian_adaptation_of_the_Intuitive_Eating_Scale-2_for_the_adult_population

1% match (Internet from 20-Mar-2022)
https://www.researchgate.net/publication/298897886_Intuitive_Eating_is_Inversely_Associated_with_Body_Weight_Status_in_the_General_Population-Based_NutriNet-Sante_Study

1% match (Internet from 04-Nov-2020)
https://www.degruyter.com/view/journals/ijamh/32/2/article-20170095.xml

1% match (Internet from 05-Mar-2023)
https://www.science.gov/topicpages/e/eating+questionnaire+tfeq

< 1% match (Internet from 20-Sep-2023)
http://eprints.utar.edu.my/5293/1/Low_Xin_Yuen_1903908_Finalized_Thesis.pdf