THE ROLE OF CELEBRITY IMAGES ON DISORDERED EATING BEHAVIOURS AND BODY DISSATISFACTION AMONG FEMALE ADOLESCENTS IN MALAYSIA

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APPROVAL FORM

This research paper entitled “The Role of Celebrity Images on Disordered Eating Behaviours and Body Dissatisfaction among Female Adolescents in Malaysia” was prepared and submitted by “LISA MARIE ANN A/P AMBROSC, RASHINI THEVI NACH A/P NACATHIRAN, and VANESSA NICOLE A/P STEPHEN DASS” in partial fulfillment of the requirement in completion of Bachelor of Social Science (HONS) Psychology is hereby accepted.

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Abstract

This study aims to identify the effect of celebrity images on disordered eating behaviours with body dissatisfaction being the covariate variable among female adolescents in Malaysia. A 2 × 3 between subjects, pretest-posttest design with semi experimental approach was used together with a purposive sampling method for the purpose of participants' recruitment. The target participants of this study are female adolescents between the ages of 14 and 19 years old. A total of 146 participants represent the sample of this study. The responses of the participants are obtained via questionnaires with them filling up their demographic information, the Eating Attitude Scale (EAT-26) for disordered eating behaviours and the Body Dissatisfaction Scale to analyse body dissatisfaction. Celebrity images (treatment group) and coke bottle images (control group) were categorized into two categories mainly thin/normal and plus size. Descriptive test, ANOVA, Linear Regression, and ANCOVA tests were utilized to analyse the data obtained. Through the analysis, this study is able to identify that there is no significant difference in terms of disordered eating behaviours between celebrity images when body dissatisfaction is controlled. This study also identifies that there is a significant difference between celebrity images, control images and body dissatisfaction especially among plus sized individuals. There was no significant difference found between celebrity images, control images and disordered eating behaviours. No statistically significant relationship was also identified between body dissatisfaction and disordered eating behaviours. Finally, there was no statistically significant difference between the BMI of the participants and the subscales of EAT-26.

Keywords: Celebrity images, body dissatisfaction, disordered eating behaviours, female, adolescents

DECLARATION

We hereby declare that the report entitled "The Role of Celebrity Images on Disordered Eating Behaviours and Body Dissatisfaction among Female Adolescents in Malaysia" was solely written under our own effort. All sections of the report that uses quotes or summaries have been duly acknowledged.

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List of Abbreviations

ANCOVA……..	Analysis of Covariance
ANOVA…….	Analysis of Variance
BDS……	Body Dissatisfaction Scale
BMI……	Body Mass Index
EAT-26……..	Eating Attitude Test-26
M…….....	Mean
n…….	Number of participants
SD……..	Standard Deviation
SPSS……..	IBM Statistical Package for Social Science

The Role of Celebrity Images on Disordered Eating Behaviours and Body Dissatisfaction Among Female Adolescents in Malaysia.

Chapter 1.0

Introduction

Background of Study

Perception towards body has been a central attraction for women ever since the Victorian era. The portrayal of females on magazines and the fashion industry has strongly influenced many young females on appearances due to the diverse sociocultural pressure. As the awareness increases, the desire to have an ideal body figure in which to be thin and to have equal proportion of body parts has become a need for many girls. According to a study, body image simply reflects our own perception and misinterpretation of our own body (Hrabosky, Cash, Veale, Neziroglu, Soll, & Garner, 2009). Hrabosky et al. (2009) also did mention that it could start off at an early age from childhood to adolescences and to adulthood due to their biopsychosocial development. Many studies prove that this phenomenon is prominent among adolescents as they are in the transitional period of their life (Hazen, Schlozman, & Beresin, 2008; Kapur, 2015; Voelker, Reel, & Greenleaf, 2015).

Adolescents are those between the stage of childhood and adulthood. At this transitional stage, one between the ages of 14 years old and 19 years old are expected to undergo puberty and maturity in order to be prepared for adulthood (Hazen, Schlozman, & Beresin, 2008). Adolescents are not only defined based on the age range given. As a matter of fact, they are bound to gradually accomplish developmental task that are required for their stage. According to Hazen et al. (2008), there are four distinct domains of development in the adolescence stage are 1. physical development; 2. social and emotional development; 3. cognitive development, and 4.

moral development. Above all domains, social and emotional development plays a crucial role in developing self-identity in which the child will evolve to create their own identity based on ego identity formation or role diffusion (Kapur, 2015). As the process takes place, the adolescents tend to detach from their parents and more attachment is developed with their peers. Also, during these process, adolescents tend to form their identities based on the role models they look up to (Hazen, Schlozman, & Beresin, 2008). In most situations, the role model figures are not their parents, but it is any other trusted authoritative figures such as celebrities, teachers, coaches or even peers. One of the primary ground for a child to seek self-image in this adolescences stage is being accepted by the people around them. Therefore, people in a teenager's social circle play a vital role to set a good example in society with positive qualities. A good exemplar fosters a positive self-image.

In this era, most of our perceptions are derived based on the products we use, the media and the content shared among our society. The diversified marketplace has influenced our minds on almost everything including our body image. Based on a study, it was suggested that international advertising in Asian countries like Malaysia are responsible for representing women in an overtly sensual manner (Sarkar, 2014). As these advertisings are so pervasive, young minds are high likely to be influenced in a short period of time. None other than those are vulnerable adolescents whom are striving to be accepted into the groups of age mates and into society. They have the tendency to conform to these figures in advertisements as they look up to those individuals in the advertisements as their role models. In most circumstances, celebrities are the represented ideal body image figure that one seeks to emulate to achieve the similar desire. Martin (2010), also argues that most of the celebrities and fashion models featured in media are 15% or less of their expected body weight. In fact, promoting thin-ideal-body sized

women over the media has been a trend since early 1900's (Martin, 2010). Thus, the inimical discrepancy that makes the media so powerful and has increased number of women with increased level of body dissatisfaction.

Moreover, over the past 25 years, about 80% of women in United States of America have been reported to dislike their own appearance (Gallivan, 2014). This is highly due to the emphasis of stereotypes on women and their appearance. Till today, physical attractiveness is the core evaluation for females as they are often linked with thinness. This similarly goes to teens in their preadolescences period. These preteens internalize these ideal body images that have been promoted throughout their life and develop their perception on their current body image. Female adolescents tend to be extremely vulnerable to body dissatisfaction as their physical growth is not similar to their perceived ideal body image. Furthermore, the consciousness about body image and physical appearance is one of the major social emotional changes that occurs during adolescence. As they compare themselves among their peers, the self-esteem is affected and this confluence their dissatisfaction towards their own body. At this point, mid-adolescents between the ages of 12 years old and 15 years old hit the lowest bar of body dissatisfaction and actively start engaging in dieting.

In addition, most studies have reported of a positive correlation between body dissatisfaction and eating disorders that prevails among adolescences. Eating disorders are defined as a consistent pattern of severe disturbance in eating behaviours. As it involves emotions, adolescents are prone to some life-threatening effects such as binge eating, bulimia, and anorexia. Neumark-Sztainer and colleagues (2011), stated that disordered eating behaviours does not only subsist during the adolescence phase, but it continues as a habit even after ten years. The 10 years' longitudinal study reported on one fifth of the women to actively engage in

unhealthy weight control behaviours from adolescence carry this on till young adulthood (Neumark-Sztainer, Wall, Larson, Eisenberg, & Loth, 2011).

The substantial evidence through these studies promotes that disordered eating behaviours among females has become a serious problem that needs to be inspected in depth. It is vital to explore this issue by studying this on adolescents, especially females in Malaysia. Therefore, the aim of this study is to investigate the role of celebrity images on disordered eating behaviours of adolescents with body dissatisfaction as the covariate factor.

Problem Statement

Disordered eating behaviours is an issue that is of high concern in developed, developing and even under developed societies. Over the years, there has been an increase of individuals who are in the category of having disordered eating behaviours. In a recent survey conducted by Ivanova et al. (2017), it was identified that more than one out five adolescents of their study are at risk for development of eating disorders. This simply means that they are already at the stage of having disordered eating behaviours (Ivanova et al., 2017).

The issue of disordered eating behaviours is not only something that has been taking place outside Malaysia, but it is also something that has been occurring at the local arena. As early as 1995 Saroja and Hatta (1995), identified in a study that 7% of individuals in the study within the ages of 17 to 18 years of age showed disordered eating behaviours. This trend continued as in 2008, a study conducted by Soo et al. (2008), showed that 36% of females from their study had dietary restraints. This also comes under the umbrella of disordered eating behaviours. In another study in Kuatan, Pahang by Farah, Mohd Nasir, and Hazizi (2011), it was identified that 27.8% of their respondents were at the risk of eating disorders. Therefore, the issue of disordered eating behaviours has been occurring at a local scenario.

The problem of disordered eating behaviours has been occurring more immensely among adolescents. It was found in Dahlmann et al. (2008), that among the adolescent age groups, females had a higher tendency of being suspect of disordered eating behaviours. The same study with a sample of more than 80,000 participants brought results that 56% of 9th grade (14 to 15 years of age) females reported disordered eating behaviours while the percentage of males were only 28%. Whereby the 12th grade (17 to 18 years of age) females also reported higher in terms of disordered eating behaviours at 57% (Dahlmann et al., 2008).

Many studies identified that body dissatisfaction is one of the factors that lead to this disordered eating behaviours. Soo et al. (2008), identified that one of the main reasons why the female adolescents in their study were suspect of disordered eating behaviours was due to the dissatisfaction towards their body. Chin and Nasir (2009), suggested that Malaysian female adolescents are suspect of disordered eating behaviours due to their high level of concern towards their body image. The dissatisfaction they have towards their physical outlook leads to them altering their eating behaviours. Gan, Mohamad, and Law (2018), also highlighted that body image of female adolescents is the foremost reason of them going through disordered eating behaviours. Therefore, it is important to further understand the link between these two variables from a Malaysian viewpoint.

The feeling of dissatisfaction often occurs when there is a gap between an ideal state and the actually state in an individual (Brown & Tiggemann, 2016). Celebrity images often portrays the ideal image of how an individual should be. This leads to adolescents having a distorted perception of their body image or in other words, dissatisfaction towards their body as highlighted by DeCastro and Goldstein (1995).

Past studies were focused more towards identifying the effects of thin sized celebrity images on the body dissatisfaction and eating behaviours of females. There were limited studies tested the effects when viewing plus sized images. This study will focus both on plus sized as well as normal or thin sized images on the body dissatisfaction and disordered eating behaviours of female adolescents. This is necessary as recent trends have seen celebrities promoting and bringing back the idea that is not an issue to have curves or even a plus sized body (Khaled et al., 2018). Therefore, having a plus sized bodies may also be a desired outcome for female adolescents.

Disordered eating behaviours is something that requires attention as it can lead to both physical and psychological issues (Ortega-Luyando et al., 2015). In terms of physical health, disordered eating behaviours can lead to issues such as delayed linear growth and also delayed puberty. It can even lead to some forms of cancer such as oesophagus cancer. From a psychological viewpoint, disordered eating behaviours can cause long term effects among adolescents. This is because individuals that have disordered eating behaviours at an adolescent stage may be at risk of depression, low self-esteem, anxiety, substance abuse or suicide attempts when at a later stage of life during the phase of adulthood (Ortega-Luyando et al., 2015).

In conclusion, disordered eating attitudes such as dieting and other weight control practices that are obsessive are considered to be risk factors of eating disorder which would need medical intervention (Ivanova et al., 2017). If not looked into at the root, it could eventually lead to medical disorders that may require medical treatment. Therefore, this study aims to identify if celebrity images affects the eating behaviours among female adolescents with body dissatisfaction being the covariate between the two variables.

Research Questions

1. Is there a statistically significant difference in means between celebrity images and control images on disordered eating behaviours when body dissatisfaction (covariate) is at control among the female adolescents?
2. Is there a statistically significant difference between celebrity images and control images on body dissatisfaction among the female adolescents?
3. Is there a statistically significant difference between celebrity images and control images on disordered eating behaviours among female adolescents?
4. Is there a statistical significant relationship between body dissatisfaction and disordered eating behaviours among female adolescents?
5. Is there a statistically significant difference between categories of BMI (underweight, normal and overweight) on dieting scale among female adolescents?
6. Is there a statistically significant difference between categories of BMI (underweight, normal and overweight) on bulimia and food preoccupation scale among female adolescents?
7. Is there a statistically significant difference between categories of BMI (underweight, normal and overweight) on oral control scale among female adolescents?

Objectives

General Objective. This study aims to investigate the effect of celebrity image and body dissatisfaction towards disordered eating behaviours among female adolescents.

Specific Objectives.

1. To study the difference in mean between celebrity image and control images on disordered eating behaviours when body dissatisfaction (covariate) is at control among female adolescents.
2. To study the statistically significant difference between celebrity images and control images on body dissatisfaction among female adolescents.
3. To study the statistically significant difference between celebrity images and control images on disordered eating behaviours among female adolescents.
4. To study the relationship between body dissatisfaction and disordered eating behaviours among female adolescents.
5. To study the significant difference between categories of BMI (underweight, normal and overweight) on dieting scale among female adolescents.
6. To study the significant difference between categories of BMI (underweight, normal and overweight) on bulimia and food preoccupation scale among female adolescent.
7. To study the significant difference between categories of BMI (underweight, normal, and overweight) on oral control scale among female adolescents.

Hypotheses

H_1: There is a difference in mean between celebrity image and control images on disordered eating behaviours when body dissatisfaction (covariate) is at control among female adolescents.

According to Slevec and Tinggemann (2011), their study has suggested that when there is a body dissatisfaction, there will be a tendency for an individual to fall into disordered eating behaviours to achieve their ideal body that they desire.

H_2: There is a statistical significant difference of celebrity images and control images with body dissatisfaction.

In previous studies conducted by Aruguette, Griffith, Green, and McCutcheon (2014), it is stated that celebrity worshippers will compare themselves with celebrities and make efforts to change the outlook of their body. From this, it is explainable that celebrity images would have an effect on adolescents resulting in body dissatisfaction. Furthermore, another study conducted by Moreno-Dominguez, Servián-Franco, Reyes del Paso, and Cepeda-Benito (2018), had cited about how plus size images showed a change in body dissatisfaction is, it was said that when participants were given images of plus size models to view, it was reported that there were good changes in body image and body satisfaction. This merely means, their body dissatisfaction decreased.

H_3: There is a statistical significant difference of celebrity images and control images with disordered eating behaviours.

Researchers found that a display of thin models in magazines led to lower self-esteem, a drop in weight satisfaction (Irving, 1990), depression, stress, guilt, shame, insecurity, body dissatisfaction (Harrison, 1997).

H_4: There is a relationship between body dissatisfaction and disordered eating behaviours among female adolescents.

According to Levine and Murnen (2009), women who view magazines and glamorize the thin ideal are positively correlated with disordered eating.

H_5: There is a difference between categories of BMI (underweight, normal and overweight) on dieting scale among female adolescents.

H_6: There is a difference between categories of BMI (underweight, normal and overweight) on bulimia and food preoccupation scale among female adolescents.

H_7: There is a difference between categories of BMI (underweight, normal and overweight) on oral control scale among female adolescents.

In previous study conducted by Fan et al. (2010), it was stated that people with a high BMI, scored high for the drive or thinness, body dissatisfaction, bulimia as well as it lowered their self- esteem. Moreover, a study that was conducted by Kayano et al (2008), found that there was a positive correlation between BMI and the EAT-26 subscales of bulimia and food preoccupation. Furthermore, it was found that lower BMI scores were associated with a higher risk of purging and oral control scores (Lynch, Eppers, & Sherrodd, 2004).

Significance of Study

The first significance of this study is that it would help bridge the knowledge gap regarding the topic of celebrity image in Malaysia. This is important because most studies in the related field are carried out in Western-cultured countries and other countries outside Malaysia. Within Malaysia, very few studies in this field has been carried out and even then, they are focused more towards young adults and university students. This study can act as a point of reference for those who carry out studies in the similar field in the future particularly in Malaysia. Apart from that, it is also important to carry out this study locally to better understand how the perceived ideal celebrity images not only affect body dissatisfaction but also identify the link towards disordered eating behaviours. In other words, it is important to identify to what extent Malaysian adolescents would go to attain the perceived ideal body shape.

The second significance of this study is related to our target group which is adolescents. There are very few studies locally that use adolescents as their target groups. The stage of

adolescence is a crucial and sensitive period in the life of an individual. This is because there are vast changes in the individual both physically and psychologically at this stage of their development (Ernst, Daniele, & Frantz, 2011). Recent trend in studies also focus more towards studying this group of individuals. Therefore, this study can also add to the information and data available to help study this stage of development.

The third significance of this study is that the combination of variables used in this study is rather new in Malaysia. Although there are some studies that have been carried out related to celebrities (Swami et al., 2011; Swami, Taylor, & Carvalho, 2009), these studies were too general in nature whereby most studies used only one of the variables in their study and connected them to the topic of celebrities. The studies focus on the relationship between body dissatisfaction and disordered eating behaviours or only viewing celebrity images and body dissatisfaction. In this study, we intend to bridge the variables to see how they affect each other.

The fourth significance of this study is that most studies often only focuses on how thin ideal images affect the body dissatisfaction and eating behaviours amongst females (Groesz, Levine, & Murnen, 2001; Brown & Tiggemann, 2016; Chang et al., 2013). Using plus size celebrities is a novel method in this study. In a study by Khaled et al. (2018), it was identified that a heavier look may also be a desired outcome for females these days. Current celebrities are often seen to be reviving the curvy body shape to be the ideal body shape among younger females these days. This may lead to some females also desiring a curvier body compared to a thin or normal body.

The fifth significance is that the findings of this study may help reveal the effect of celebrity images on disordered eating behaviours with body dissatisfaction acting as the covariate. This is necessary as it would help create an awareness within society on how the

images of celebrity impact the lives of adolescence. This in return would be of aid for relevant parties to take corrective and precautionary actions to help these individuals particularly the female adolescents in Malaysia to be able to be more accepting towards their body and avoid comparing and idolizing celebrities in a negative manner.

Definition of Terms

Celebrity. Conceptual definition: A celebrity is an individual who is recognized for his or her well-knowness (Juntiwasarakij, 2018). Another way to look at it is that celebrities are individuals who receive public attention on a continuous basis. Such individuals are famous due to their attachment with fields of their career such as entertainment, sports, fashion and other similar fields (Brown & Tiggemann, 2016).

Operational definition: For the purpose of this study, celebrity images refer to photographic images of the individuals as defined above published openly on the media. The celebrity images will be categorized into two categories which are normal or thin celebrities and also plus-sized celebrities. Further details on how the celebrities were selected and categorized into the respective groups will be discussed in Chapter 3.

Disordered eating behaviours. Conceptual definition: Disordered eating behaviours can be defined as unhealthy eating habits and also body weight related attitudes and behaviours. This cannot be considered as eating disorder, but it falls either on medical or psychological concern. (Ishak et al., 2016; Gan et al., 2011)

Operational definition: For the purpose of this study, the EAT-26 scale will be used to measure the eating behaviours of the participants. A score from 20 and above will reflect a high level of concern regarding dieting, body weight or abnormal eating behaviours. This scale has three

subscales which are dieting, bulimia and food preoccupation and oral control. (Garner et al., 1982)

Body Dissatisfaction. Conceptual definition: Body dissatisfaction can be defined as the feeling of dissatisfaction that an individual may have towards their own body. The feeling of dissatisfaction is inclusive of various aspects such as judgements about size, shape, muscle tone and so on. It is identified that this feeling of dissatisfaction occurs when there is a gap between the self-perception of one's own body and an ideal perception of a body (Mutale et al., 2016).
Operational definition: For the purpose of this study, the Body Dissatisfaction scale will be used to measure the level of body dissatisfaction among the participants. Participants will be asked to pick from a set of figures their perception of their current body shape and their perceived ideal body shape. The body dissatisfaction score of participants is the discrepancy between the participants' actual state and their selected ideal state. The higher score equates to a higher discrepancy between the ideal and the actual state which in return is equated to higher levels of body dissatisfaction (Mutale et al., 2016)

Adolescents. Conceptual definition: Adolescence is considered to be the transition period that occurs between childhood and adulthood. Individuals in this stage are neither considered to be children nor adults. Kapur (2015), identified that the stage of adolescence begins around the age of 10 to 12 years and ends anywhere between the age of 18 and 21. In a study by the Centers for Disease control (as cited in Ernst, Daniele, & Frantz, 2011), it was identified that adolescence begins at the age of 10 and ends at the age of 24.
Operational definition: For the purpose of this study, adolescents between the age of 14 and 19 will be used as the target population. They will consist of only females between the stated age group.

Body Mass Index. Conceptual definition: The Body Mass Index (BMI) is a metric that is used to define the height and weight characteristics in an individual and to characterize them intro groups namely underweight, normal weight, overweight, pre-obesity, and obesity (Nuttall, 2015).

Operational definition: For the purpose of this study, the categorization of the BMI will be as depicted in the table below. The scale in the table is based on the international standards of BMI calculation obtained from the World Health Organization (World Health Organization, 2000).

Table 1.1

Body Mass Index (BMI) chart

BMI	Category
Less than 18.5	Underweight
18.5 – 24.9	Desirable weight
25 – 29.9	Overweight
More than 30	Obese

Chapter Summary

In short, the severity of the issue of disordered eating behaviours was discussed and reflected in this chapter. This issue was linked both from a global as well as a local point of view. It was identified that the exposure to celebrity images had a role in affecting the eating behaviours of female adolescents. It is necessary to conduct this study as it helps highlight that there is also a covariate (body dissatisfaction) that causes the link between celebrity images and disordered eating behaviours. A point to highlight was that many studies did not highlight the existence of the covariate especially from a local standpoint. Therefore, this study aims to close the knowledge gap as well as open up new points of views to look at how celebrity images can affect the eating behaviours of female adolescents.

Chapter 2.0

Literature Review

Introduction

This chapter will discuss the current issues within the scope of this study. This will be done by analyzing literatures from various past studies to highlight the topics of celebrity images, body dissatisfaction and disordered eating behaviours. This chapter will also discuss the relationship between the three variables of the study. Next, the theoretical and conceptual framework of this study will be presented in the final part of this chapter.

Celebrity

Before moving into the concept of celebrity in the context of an individual, it is necessary to understand the concept of celebrity. Celebrity in terms of the concept is seen as a performative practice that is ever changing and has a continuous maintenance in terms of the fan-base, the activity or field which is involved as well as the authenticity and access of a persona (Marwick & Boyd, 2011). When looking at celebrities from an individual point of view, they can be can be differentiated into various categories based on the origination of their status such as heroes, idols or even superstars (Juntiwasarakij, 2018).

Boorstin (1962), identified celebrities as a person who is known for being famous. It was further iterated that a celebrity becomes famous or become celebrities via a pseudo-event which he highlighted has two characteristics (as cited in Arakaki & Cassidy, 2014). Firstly, this event does not occur in a spontaneous manner. It occurs through intense planning initiated by an individual or a specific party. The second characteristic highlighted is that these events are initiated mainly for the purpose of being published or reproduced (Arakaki & Cassidy, 2014). In other words, these events are planned with a specific purpose of publicity in mind.

It is also common that there is an element of influencing decisions when celebrities are published in the media. The goal of the publishing is often to influence what the viewer thinks or does (Milner, 2010). These decisions are said to sometimes have an impact be it on political, economic or even more on a personal level (Milner, 2010). Hoffman et. al. (2017), provided further justification by iterating that celebrities have a huge amount of influence on the knowledge that we retain, the attitudes that we often adopt as well as the decisions that we make be which may even include those related to our health (Hoffman, et al., 2017). Rojek (2001), stated that celebrities are able to influence others easily due to their ability to grab the attention and loyalty of the public whilst maintaining a perception of a social distance that exists between the regular public and the celebrity (as cited in Milner, 2010).

Brown and Triggemann (2016), identified that celebrities are individuals who are well-known and receive a high amount of attention from public. It was also identified that celebrities often receive the fame due to their involvement in the world of entertainment as well as sports (Brown & Tiggemann, 2016). These celebrities are often commonly found to have their images published on the media be it in magazines, television, social media and other forms of media that would get the attention of the common public (Brown & Tiggemann, 2016). This use of media acts as a medium of interaction between the celebrity and their fan base or in other words it is the celebrity management method (Marwick & Boyd, 2011). Therefore, when comparing the views of Marwick & Boyd (2011) and Hoffman et. al. (2017), it can be said that the use of images of celebrities in the media is a medium that is used to influence the decisions of the public viewers.

Body Dissatisfaction

Bell, Lawton, and Ditmar (2007), carried out an experimental research with 87 girls with their age ranging from 16 to 19 years old from the Catholic Sixth Form College in North East of

England. This research was carried out to scrutinize the effect of thin models in music videos on the body dissatisfaction of the adolescents. The findings of this study were that there was a significantly large growth in body dissatisfaction. It shows that students who were exposed to thin ideal from viewing the music video will have an increase in body dissatisfaction. From the same research it was stated that high body dissatisfaction makes an individual prone to low self-esteem.

Adding onto the next findings by Chang et al (2013), that was conducted in Taipei City and New Taipei City, Taiwan, a total of 72,327 of students in 10^{th} grade was recruited for this research. 52% of the participants were males and 48% of them were females. This study found that adolescents with a high number of BMI and people who idealize someone who is thin were more likely to have body dissatisfaction. In this same research study, it was indicated that thin-ideal media display and disordered eating behaviours are mediated by body dissatisfaction.

A cross sectional study involving 370 adolescents was carried out in the Greater Accra Metropolitan Area in Ghana by Amenyah and Michels (2016). The target participant of this study were adolescents of 11 to 18 years old where 53% of them were girls. 56% of the participants were under the age of 24 years. This study was carried out to range over the body size beliefs and its determinants among Ghanaian adolescents with the interconnection of ideals with body dissatisfaction. The findings showed that an individual's body dissatisfaction could lead to psychosocial health issues especially in adolescents. This shows that both plus size and thin adolescents can suffer from body dissatisfaction especially the overweight ideal body size might increase dissatisfaction.

In addition to that, there was a study conducted by Tiggemann and Pickering (1996) where 94 students from year 11 from metropolitan state high school in Adelaide, South Australia

were recruited with the mean age being 15.5 years (*SD* = 0.56). From the findings it was stated that there is large degree of body dissatisfaction displayed by girls, and this study found that certain types of programs viewed was correlated with body dissatisfaction.

Bearman, Martinez, Stice, and Presnell (2006), carried out a longitudinal study among 428 adolescent girls and boys, where 247 of them were girls and 181 of them were boys from four public and private middle schools in Southwestern United States. The participants age ranged from 12 to 16 with a mean age of 13.57. This study was designed to explore the developmental course of body dissatisfaction and test whether ideal body internalization, body mass index, negative affect, deficits in social support, self-reported dietary restraint, and eating pathology predicted increases in body dissatisfaction. Gender differences were examined in relation to risk factors to body dissatisfaction. From the findings of this study it was stated that, an increase in age brings an increase in body dissatisfaction.

Hargreaves and Tiggemann (2003), conducted a study to look into the effects of viewing televised images of female attractiveness on the body dissatisfaction of young adolescent girls and boys. 357 adolescent school students from South Australia were recruited aged between 13 and 15 years old. From this finding, it was stated that early adolescent girls who view commercials where thin ideals are presented showed greater body dissatisfaction than girls who were conditioned in the non-appearance.

Disordered Eating Behaviours

A longitudinal study was administered to determine whether the predicting factors of dieting and different weight-control behaviours contributes to increased levels in BMI, overweight, binge eating, extreme weight control behaviours and eating disorders after five years (Neumark-Sztainer et al., 2006). About 2516 respondents both male and females from junior and

senior high schools in the state of Minnesota participated in this study. The mean age of participants at the initial study was 15.8 years and 20.4 years in the second study. A survey was completed in both times with parental consent for those below 18 years old. The findings stated that weight gain, overweight, disordered eating and eating disorders were predicted by dieting behaviours. Whereas, different weight control behaviours did not predicted any of those outcomes. Along that, dieting habit greatly predicts disordered eating behaviours after five years.

In a sample of multinational Europeans, Bartholdy and fellow authors (2017), conducted a study to investigate the prevalence of disordered eating cognitions and behaviours among mid-adolescents. This study also focuses on identifying to what extent of prevalence rating was affected by informants such as parents or adolescents and sex or age of the adolescents. Interviews, and questionnaires were carried out to all the participants with an equal proportion between males and females in this study. This longitudinal study was first carried out when the participants were at the age of 14 years old. Required data was obtained from both adolescents and from the informants, parents. After two years, when the participants were at the age of 16 years old, interviews and questionnaires were again distributed via online means to obtain the necessary data. Overall, the findings indicated that disordered eating behaviours are prevalent among girls and adolescent's reports seem to be more accurate rather than the parents'. However, the function of age did not vary widely.

Besides, a study by Al Shabbah and Muhniseh (2017), in Dubai targeting the Middle East population also investigated college students' disordered eating attitudes and its correlation towards exercising behaviours. Students with a mean age of 19 years participated in this cross-sectional study. It was found that college students had a higher risk of developing disordered eating behaviours when there is a rise in their BMI. Moreover, dieting behaviours is highly

influenced by hours spent to exercise. Respondents of this study also further indicate higher risk of eating disorders as they are prompt to negative evaluations of their weight from their social circle, which indirectly feeds their pressure.

A similar study was also administered in Hong Kong. This study aimed to understand the prevalence of disordered eating attitudes and behaviours in adolescents. Along that, the researchers also examined the correlation between disordered eating behaviours, sociodemographic, and behaviours (Tam, Ng, Yu, & Young, 2007). Some total of 2382 school students between the age ranges of 10 and 21 years were recruited and 65.5% of them were from the middle socioeconomic class. The prevalence of disordered eating attitudes and behaviours among female adolescents were higher compared to the male respondents of the study. Besides, poor academic performance and overweight teenagers were presented with higher risk of disordered eating attitudes and behaviours. On the other hand, beauty magazine reading and disordered eating behaviours were positively associated in this study.

Looking into the Malaysian context, we seem to be not far away from the Western culture. A study carried out in Kuantan, Pahang with a total of 360 participants aimed to determine the association between physical activity, eating behaviours, body weight management knowledge, perception of body image and body weight status of adolescents in Malaysia (Farah, Mohd Nasir, & Hazizi, 2011). All participants were aged between 13 and 14 years (M = 13.23, SD = 0.31). This multiethnic sample indicated that about 27.8% were at risk of eating disorders and there were no significant differences between male and female adolescents on eating behaviours.

In addition, another study at Klang by Nur Syuhada and fellow authors (2011), also examined the body image, BMI and eating attitudes among adolescents. In this cross-sectional

study all teenagers participated were aged between 13 and 17 years. About 356 students participated in this study. This study showed differences in gender on eating behaviours. Female adolescents were found to be more engaged in meal skipping compared to males who favored to adopt snacking and convenience eating behaviours due to cultural and lifestyle effects. Furthermore, male adolescents indicated higher level of emotive response towards food. Whereas, females were less happy when presented with food.

In conclusion, various studies indicate that prevalence of unhealthy eating habits are at rise among female adolescents despite the cultural background. In a recent study, Malaysian adolescents were accounted for 16.5% of variance in prevalence of binge eating behaviours (Wan, Normasliana, & Leh, 2018). Although, Malaysian samples indicated lower level of prevalence compared to Western countries, the existing behaviours is growing in an alarming rate. Therefore, the purpose of this research is to investigate the effect of celebrity images on disordered eating behaviours, mediated by body dissatisfaction among female Malaysian adolescents.

The Effect of Celebrity Images on Body Dissatisfaction

In Sri Lanka, a study was conducted to identify the relationship between the thin-ideal internalization, self-esteem and the element of body dissatisfaction among the adolescents in Sri Lanka. In this study conducted by Omori, Yamazaki, Aizawa, and Zoysa (2016), the age group of participants for the purpose of this study were those between the ages of 12 and 18 years of age where the mean age is 15.52 years (SD = 1.56). The breakdown of participants in this study was 1066 males and 863 female participants (N = 1929). For the purpose of this study, the hierarchical linear multiple regression was carried out. It was identified in this study that the female participants scored lower as compared to the male participants in terms of thin-ideal

internalization (Omori et. al., 2016). This simply means that the female participants were more satisfied with their bodies and were not suspect to higher levels of body dissatisfaction due to the displaying of the thin-ideal images in the media.

Another study was conducted in Taiwan to study how the exposure to thin ideal media images would affect the body dissatisfaction of individuals and also how it would affect their eating behaviours (Fong et al., 2013). This study was conducted using some total of 2992 participants which were 10th Graders (15 to 16 years of age). The participants were selected randomly from 26 schools in Taipei. The breakdown according gender was 52% and 48% for males and females respectively. Out of the 2992 participants, the response rate of the study was 80%. This study was able to conclude that exposure to thin ideal images in the media caused body dissatisfaction regardless of the BMI of participants (Fong et al., 2013). However, the impact differed. For those with a higher BMI, there was a higher level of body dissatisfaction as compared to those with a lower BMI when exposed to thin ideal images in the media. It was also noted that female participants were more sensitive towards the thin ideal images as compared to the male participants. In short, it was identified that those with higher BMIs showed a greater body dissatisfaction when exposed to media images (Fong et al., 2013).

Along the same lines of the study by Fong et al (2013), there was a study by Brown and Tiggemann (2016), to identify how the exposure of captivating celebrity images, peer images and Instagram images would affect the body dissatisfaction levels of females. A total of 138 female candidates from Flinders University, South Australia were the participants for this study (Brown & Tiggemann, 2016). They ranged between the age of 18 and 30 years of age with the mean age being 20.1 (*SD* = 2.61). An experimental method of study was used for the purpose of this study. The findings of this study were in line with most other studies whereby the results

portrayed that when the participants were exposed to media images, they experienced increased negative mood and body dissatisfaction (Brown & Tiggemann, 2016). The study also identified that women felt a feeling of dissatisfaction when viewing thin-ideal images regardless of whether it was a celebrity image, peer image or even Instagram images.

Besides that, there was also another study to identify the how the exposure towards thin celebrity images and overweight individual images would affect the body dissatisfaction of adolescent females in London (Champion & Furnham, 1999). A number total of 203 female participants was identified for the purpose of this study. They were divided into three age groups which are 12 to 13 years of age (n = 66), 14 to 15 years of age (n = 80), and also 16 to17 years of age (n = 57) (Champion & Furnham, 1999). These participants were mostly from middle class family backgrounds. From the study, it was identified that when individuals who were satisfied with their own body were exposed to plus sized images, they were less concerned about their own body weight. However, when those who were less satisfied with their body were exposed to plus sized images, it was identified that there was an increased concern about their own body weight. Another key finding from this study was that the base body size of the participants affects how the participant would react towards the exposure towards different types (thin or plus sized) of celebrity images (Champion & Furnham, 1999).

To further solidify the findings of Champion and Furnham (1999), we also look at the study by Dalley, Buunk, and Umit (2009), to identify whether the difference in BMI of individuals and neuroticism levels can affect the Body Image Dissatisfaction of individuals when exposed to overweight and thin media images. This study was conducted in the Netherlands using university students as their target participants. The mean age of the participants was 21.21 years. The study identified that it is common that some female individuals have higher levels of

vulnerability towards their body image dissatisfaction when exposed to overweight media images as compared to thin media images. It was also identified that regardless of the BMI of the individual, there was an element of body dissatisfaction when exposed to both set of images (Dalley, Buunk, & Umit, 2009). However, there was a variance in the severity of the dissatisfaction. It was identified that higher levels of BMI led to higher levels of body image dissatisfaction when exposed to overweight images and although the media portrays thin images as the ideal image, they had lesser impact on the body image dissatisfaction of the participants based on this study (Dalley, Buunk, & Umit, 2009).

Apart from that, Groesz, Levine, and Murnen (2001), also conducted a study using female participants related to the body dissatisfaction of females. This study was conducted to identify the effect of thin ideal images portrayed in the media towards the body image of female participants. The participants of this study were divided into two age groups. The first group consisted of females younger than 19 years of age while the second group consisted of females older than 19 years of age (Groesz, Levine, & Murnen, 2001). The results of this study were rather different when compared to other studies in the related field. It was identified that the participants recorded higher levels of body image dissatisfaction when exposed to plus sized or averaged sized model images. This trend was seen to occur more severely among the participants who were in the age category of less than 19 years old (Groesz, Levine, & Murnen, 2001).

Next, Moreno-Domínguez, Servián-Franco, Paso, and Cepeda-Benito (2018), conducted a study with 145 Spanish females to study the same field too. This study was conducted to test the upward (viewing thin images) and downward (viewing plus sized images) social comparison effect towards the evaluation of one's self. This study was conducted in Spain with 145 females. The participants consisted of individuals that ranged between the ages of 18 and 41 years of age

with the mean age being 20.6 years (*SD* = 2.5). The results from the study pointed out that when the participants were exposed to images of thin models, the levels of their body dissatisfaction showed an increase (Moreno-Domínguez et al., 2018). However, when exposed to images of overweight models, the body dissatisfaction level decreased among the participants. It can be said that when individuals are exposed towards thin images, their body dissatisfaction increased and when they were exposed to overweight models, the levels of their body dissatisfaction reduced.

In addition to Moreno-Domínguez et al. (2018), Glauert, Rhodes, Byrne, Fink, and Grammer (2009), is another study that is in the field of body dissatisfaction. This study was conducted to identify how women's idea of body ideal and normality affected their levels of body dissatisfaction. This study was conducted using participants from the University of Western Australia. The participants consisted of 62 female students between the ages of 17 and 31. The mean age of the participants was 19.8 years with the standard deviation at 3.6 (Glauert et al., 2009). The results of this study helped to explain why generally women's levels of dissatisfaction increased when comparing with media images. It was identified through this study that the greater the BMI of the participant, the greater was the BMI that she perceived as a normal BMI level (Glauert et al., 2009). Exposure to thin-ideal images also shifted the participant's perception of a normal body size towards the thinner side. However, when women were exposed to fat body images, what they considered to be a normal body size increased.

The Effects of Body Dissatisfaction on Disordered Eating Behaviours

A Malaysian study conducted by Tan and Yew (2012), showed a relationship between body dissatisfaction and eating disorder among exercisers. This study was conducted at Segi University Kota Damansara and True Fitness, Subang. A total of 100 young adult participants

with 54% of females and followed by 46% of male participants were recruited. The participants chosen for this research were aged between 20 and 40 years, with a mean age of 25.73 years (*SD* = 5.35). The largest part of participants in this study were about 21 years old, which was 19% of the total 100 participants. The lowest number of participants in the research was 30 to 37 years which was about 1% of the 100 participants. From this study, it was stated that body dissatisfaction correlated with the tendency of developing an eating disorder. The main ways of controlling the weight was dieting, where in the present study, subscales of dieting were the highest occurrences compare to other subscales. Therefore, in this research the scholars enhanced their findings by stating that, when an individual is dissatisfied with their body, they have a high tendency of developing a disordered eating behaviours.

Furthermore, a study conducted by Wang, Byrne, Kenardy, and Hills (2005), recruited students from three primary schools and high schools with multicultural diversity in Brisbane, Australia. About 768 school children were recruited where they were aged from 10 to 18 years old with a mean age of 13.8 years (*SD* = 2.0). In this research they aimed to study the correlation between socioeconomic status, ethnicity and body dissatisfaction and eating problems. The findings were as per, in which females who are about to reach the stage of preadolescence and the ones who have reached puberty tend to have an unhealthy eating behaviours, tendency to lose weight and also have body dissatisfaction together with weight concerns.

Ferreiro, Seoane, and Senra (2014), conducted a longitudinal study towards an interpretation on the role of body dissatisfaction in gender differences in depressive symptoms and disordered eating among adolescence in Galicia, Spain. This longitudinal study was conducted in 12 public and private school in province of A Coruña with 2106 participants. Adding to that, it is said that gender difference in disordered eating, the intervening role of body

dissatisfaction contoured in with both mediating and moderation process. With that the result stated that body dissatisfaction may promote an escalation of disordered eating among females. From this statement, it also says that disordered eating behaviours would have a negative impact of body dissatisfaction in girls.

In addition, the relationship among body image, eating behaviours and psychological health among undergraduate students of University of Ghana, where 140 students were recruited with 70 females and 70 males through convenience sampling techniques. The students were aged between 18 and 28 years old, with a mean age of 22.13 (*SD* = 2.18). The design in this research was a cross-cultural survey research. In this study, it has been stated that a positive relationship between eating behaviours and body image suggested that whenever people have a good control over their diet, they begin to feel satisfied with their body image. On the other hand, individuals who are not able to control their eating behaviours ends up undergoing lower body image satisfaction (Amissha, Student, Nyarko, Gyasi-gyamerah, & Anto-winne, 2015).

Association between Celebrity Images and Disordered Eating Behaviours

Past researches highlighted the differences in mass media exposure towards disordered eating behaviours in which the idealization of celebrities and exposure of their images were an existing component in mass media exposure. Most studies are looking into western culture and provides limited resources on South East Asian population.

A study conducted in Fiji by Becker, Burwell, Gilman, Herzog, and Hamburg (2002), aimed to access the influence of exposure to television on disordered eating attitudes and behaviours among adolescent girls. The initial cross-sectional study was carried out in 1995, whereby the population at Nadroga were introduced with the television. After 3 years of exposure, a detailed analysis was carried out in 1998 with about 65 respondents participating in

it. This study's finding proves that respondents with a TV set are three times likely to have disordered eating behaviours compared to those households without a TV set. Besides, the statistical analysis strongly advocates the influence of television on body image. This was highly due to repercussion of TV characters that increases their desperation to lose weight or the reshape their body. Respondents with body dissatisfaction was in accordance with self-induced vomiting and scored high in EAT-26 score.

In addition, the study by Calado, Lameiras, Sepulveda, Rodriguez, and Carreva (2010), the aim was to further comprehend on the alliance between disordered eating behaviours and exposure towards mass media. This cross-sectional study was carried out among 1165 Spanish male and female adolescents between the ages of 14 and 16 years. The findings of this study is similar with the previous study discussed above. Participants with disordered eating behaviours and attitudes were significantly affected by high level of exposure towards media such as television, body dissatisfaction, internalization of thin-ideal and lower self-esteem. Moreover, the female adolescents showed television, magazine dieting, fashion and sports aspects of mass media exposure equates with disordered eating behaviours.

Along that, a cross-sectional design study was conducted on a wider age range of younger women to identify the relationship between body-shape discrepancies with favoured celebrities and disordered eating behaviours (Shorter, Brown, Quintion, & Hinton, 2008). The 159 participants recruited in this study were age ranged from 18 years old to 27 years old (MD = 21.0, SD = 2.28) also showed a similar results as previous studies. Higher the level of self-celebrity discrepancy the higher the scores achieved in diet and oral control subscale of EAT-26 scale; equating that both variables are positively correlated. This also further indicated that women who are idealizing thin personal ideal as their favourite celebrity are prone to have

disordered eating patterns. This study also further explained the prior reason of individuals to validate and adopt the disordered eating behaviours to minimize the gap between their self-perception by developing a new social comparison standard based on their favored celebrity.

Moreover, Field et al., (1999), also did discover on the alliance between media on girls' weight concerns, weight controls or weight loss behaviours and their perception of body weight and shape. A larger sample was recruited for this research as the populations was diversified all around the European countries. It was found that, 69% of the girls indicated to be inspired by magazine pictures to have their desired and ideal body shape and 47% of them were influenced by the fact of magazine pictures contributes to weight loss.

Overall Interaction between Variables

Past studies have indicated that when individuals are exposed to celebrity images, there is a tendency for their levels of body dissatisfaction to increase. Slevec and Tiggemann (2011), identified that exposure to media images or in the case of our study, celebrity images lead to body dissatisfaction among individuals. This is a trend that is seen to occur more rampantly among females as compared to male individuals. This finding was also somewhat solidified in the study by Dalley, Buunk, and Umit (2009) whereby they correlated the feeling of dissatisfaction to the process of social comparison. It was highlighted that the process of social comparison is something that occurs on a spontaneous manner and it is unintentional. A key point from Dalley, Buunk, and Umit (2009), was that they did not only focus on thin ideal images, but they also identified that exposure to overweight images in the media could also affect the body dissatisfaction levels of individuals.

The chain of events does not end with just body dissatisfaction. When there is the element of dissatisfaction, individuals tend to take action to close the gap between their

perceived ideal state and their actual state. Slevec and Tiggemann (2011), in their study brought to light that when body dissatisfaction occurs, there is a tendency for individuals to fall into disordered eating behaviours to attain their perceived ideal body state. It was identified that individuals tend to attach themselves with those they look up to and this is a normal tendency in the process of development (Shorter et al., 2008). When there is an attachment to celebrities in this case, the female adolescents will alter their behavioural patterns to achieve a certain level of similarity with the celebrities (Shorter et. al., 2008). The behavioural changes in this case is the eating behaviours.

Therefore, it can be concluded that the three variables are interrelated. The exposure to the celebrity images leads to body dissatisfaction among individuals. This body dissatisfaction leads to individuals taking action to close the gap between their desired states. Therefore, they tend to turn to disordered eating behaviours to close this gap and to attain their perceived ideal body state.

BMI and Subscales of EAT-26

With relation to BMI and the EAT-26, there was a study conducted by Cheah, Hazmi, & Chang (2015), in the state of Sarawak, Malaysia. This study was conducted to identify the occurrence of eating disorders and its relationship with BMI, body part dissatisfaction as well as the perception of body weight. This study was a cross-sectional study with 329 participants consisting of both male and female adolescents. The respondents were recruited from four public schools to ensure proper representation. The breakdown according to gender was 135 males and 194 female participants. The study was able to identify that respondents with higher BMI were found to be at higher risk of eating disorders and were found to be of higher likeliness to engage in dieting as well as extreme weight loss behaviours (Cheah, Hazmi, & Chang, 2015).

There was also another study conducted in China by Fan et al. (2010). This study was conducted to identify the occurrence of overweight and obesity, weight control concerns and behaviours, as well as eating disorder symptoms with the mediating factor of weight control concerns on the association between BMI and eating disorder symptoms. The target participants for this study were adolescents from 56 schools among seven cities in China. 3685 questionnaires were distributed and a total of 3544 were used for data analysis. Out of the 3544 questionnaires, 1525 (43%) were males and 2019 (57%) were female participants. The age range of the participants were between the ages of 14 and 18 years of age (M = 15.6) (Fan, et al., 2010). The study was a cross sectional survey. The results of the study were able to identify that individuals with higher BMI had a higher score for the drive or thinness, body dissatisfaction, bulimia as well as lower self-esteem. When the mediating factor of weight concerns was added into the equation, it was identified that there was a lower association between BMI and drive for thinness and bulimia, but it remained at a significant level (Fan et al., 2010).

In line with Fan et al. (2010) there was another study conducted by Buckingham-Howes, et al. (2018), to examine the role of body dissatisfaction as a mediating role between BMI and disordered eating. This target for this study consisted of 701 females who were early adolescents in the 6th and 7th grade (12 to 14 years of age) with the mean age being 12.15 (SD= 0.72) years. This study was a longitudinal study. The data analysis produced a finding that 51.5% of the participants were overweight or obese and 60.4% of the participants were dissatisfied with the current state of their body (Buckingham-Howes et al., 2018). From this, the study was able to conclude that an increase in body dissatisfaction was linked with an increase in disordered eating behaviours. Apart from that, the study was also able to identify than an increase in body

dissatisfaction acts as a mediating link between BMI and the increase in dieting behaviours among the sample of the study however this does not include restricting or purging behaviours.

There was another study conducted by Kayano et al. (2008), to come up with a comparison of attitudes towards body weight and shape, and the desire for thinness among Japanese participants with participants from other countries and ethnicities. The sample of the study included 411 Japanese, 130 Indian, 135 Omani, 113 Euro-American and 196 Filipino participants. These participants consisted of adolescents between the mean ages of 14.61 and 18.73 across the five different ethnicities. There were both male and female participants in this study and the breakdown was 357 and 628 respectively (Kayano et al., 2008). The study identified the correlation between BMI and the EAT 26. The results of female participants are given more priority here as the sample group of the current study is also female adolescents. Among the Japanese participants it was identified that the oral control score of the EAT-26 was negatively correlated with the BMI. Apart from that, Indian females score negatively in terms of the correlation between BMI and all the subscales of EAT-26. In terms of the of the dieting score, the Japanese female participants showed a positive correlation with BMI while the European female participants showed a positive correlation in terms of the dieting subscale and BMI. The Filipino female participants score identified that there is a positive correlation between BMI and the EAT-26 subscale of bulimia and food preoccupation. In short, the study was able to identify that a correlation does exist between BMI and the EAT-26 subscales, but this may differ across individuals from different ethnicities and cultural groups (Kayano et al., 2008).

Finally, there was a study conducted in the United States of America by Lynch, Eppers, & Sherrodd (2004), in order to identify if there are differences in eating behaviours among groups of Native Americans and white female adolescents using the EAT-26 test with BMI being

a contributing factor. This study consisted of participants between the ages of 10 and 18 years of age with the mean age being 14.09 years. A total of 104 female adolescents were involved in this study. The results of this study were able to identify that BMI has a positive association with greater food preoccupation regardless of the ethnicity. Another key finding was that Native Ethnicity individuals with lower BMI scores were associated with higher restricting or purging and social pressure or oral control scores (Lynch, Eppers, & Sherrodd, 2004).

Theoretical Framework

In this research, Festinger's (1954), social comparison theory was used to guide the framework of this study. According to social psychology it is stated that social comparison theory suggests that we compare ourselves to others because, there is no objective yardstick to evaluate ourselves against other people. This theory by Festinger (1954), has been divided into two categories which are the downward social comparison and the upward social comparison. The downward social comparison is where a comparison of the self to another who is less likely better than or is inferior to us whereas the upward social comparison is a comparison of the self to another who is better than or superior to us.

From this research study, the main focus of this theory would be the upward social comparison, as looking into someone who is more superior to us by comparing the individual's body image to a particular celebrity. Feeling unsure about ourselves or more likely feeling unusual about our body or certain body parts is one of the main state that makes people to engage in social comparison (Wood, 1989).

According to Maltby, Giles, Barber, and McCutcheon (2005), it is suggested that celebrity interest may form part of normal development process of individuation whereby teenagers or adolescents use celebrities as role models. With regard to this theory, young people

tend to compare themselves with their favored celebrity in terms of body size and weight. While celebrities might evoke esteem for a several reasons, they often have significantly lower body mass than age and gender relevant norms.

In a previous study done by Gibbons and Gerrard (1995) it was suggested that in order to be a part of certain social categories, people engage themselves in unhealthy behaviours. It has also been well established that people make strategic upward social comparisons to level up their personal enhancement (Gibbons and Gerrard, 1995; Wood, 1989). From the theory, by having an upward social comparison with a favored celebrity is a normal development process (Giles & Maltby, 2004).

In this research, the embedded theory of social comparison was used as an explanatory of the celebrity image and body dissatisfaction with covariate factor of eating behaviours. Heinberg and Thompson (1992), found after adolescence compared themselves with thin celebrities, there was a raise in body dissatisfaction. This process seems to begin around the age of 12 and 13. At this age of time, the eating disorders are most likely to overt themselves (Martin & Kennedy, 1993).

In a study conducted by Brown and Tiggemann (2016), it is stated that the harmful outcome of exposure to thin idealized media images on woman's body satisfaction has generally been attributed to the process of social comparison (Levine & Murnen, 2009; Want, 2009). Using this theory, when an individual compares themselves to someone who is attractive or a model, they will fail to meet, resulting in feeling negative about themselves and their bodies. Strahan, Wilson, Cressman, and Buote (2006), said that when cultural norms come in hand, woman tend to make comparisons of themselves towards a model or celebrity as these are the

people that had set certain standards where women acknowledge the fact that they will be judged against them.

In addition to this, it is said that exposing facade of thin model may not provoke upward social comparison, instead the exposure of images normal/overweight models may cause a downward social comparison (Moreno-Dominguez, Servián-Franco, Reyes del Paso, & Cepeda-Benito, 2018).

In a study conducted by Myers and Crowther (2009), using upward social comparison, it is found that both men and women when comparing themselves to someone who is superior than they are; found to be experiencing an increased level of body dissatisfaction and further research has been made in this study, where showcasing media images, does brings a dissatisfaction towards their body.

According to Kalin and Morrison (2004), they have stated that, upward comparison is generally made by woman in the naturalistic environment, where women compare themselves to an individual who they deem to be much more attractive than they are or are somewhat better than them in different aspects. Comparing oneself to someone who is much superior would result in feelings of discontent and they would be dissatisfied with themselves (Thompson, Heinberg, Altabe, & Tantleff, 1999).

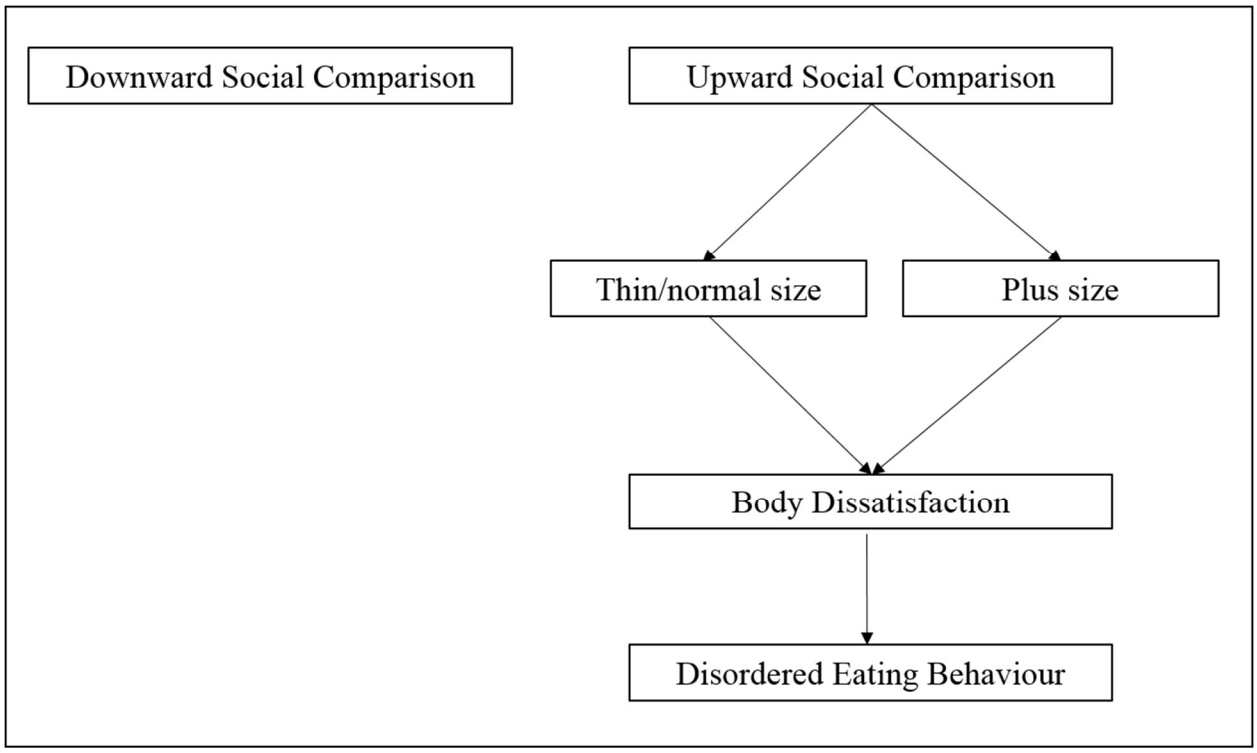

Figure 2.1. Theoretical Framework of Social Comparison Theory

Conceptual Framework

Our research study is about the effects of celebrity images on disordered eating behaviours with body dissatisfaction being a covariate among female adolescents. The demographic information of this study is inclusive of the age, ethnicity, height, and weight of the participants. The height and weight will be used to compute the Body Mass Index (BMI). The independent variable for this study is celebrity images which is divided into two categories which is thin or normal sized image and plus sized images. A control group was also used for this study whereby coke bottle images were shown to participants.

The dependent variable is disordered eating behaviours amongst participants and the covariate variable is body dissatisfaction. Body dissatisfaction is selected as the covariate variable because body dissatisfaction is considered to be a contributing factor towards excessive dieting as

well as contributing towards eating behaviours that are considered to be abnormal (Chang et al., 2013; Rukavina & Bulian, 2006). Brown and Tiggemann (2016), also highlighted that those suffering from higher level of body dissatisfaction tend to be more prone towards eating disorders.

The social comparison theory brings to the forefront that people have the drive to often compare themselves with others when making evaluations regarding themselves (Tiggemann et al., 2018). When there is a difference between what an individual is comparing with and what they actually are, individuals tend to have a negative feeling about themselves. In the context of this study, when the female adolescents view the images of celebrity, they would have the tendency to compare themselves with the images and the gap that exists between their perceived idea of themselves and what is on the image leads to body dissatisfaction (Brown and Tiggemann, 2016). When body dissatisfaction is a factor, past studies (Slevec & Tiggemann, 2011; Dalley, Buunk, & Umit, 2009) have identified that more often than not, disordered eating behaviours becomes a concern.

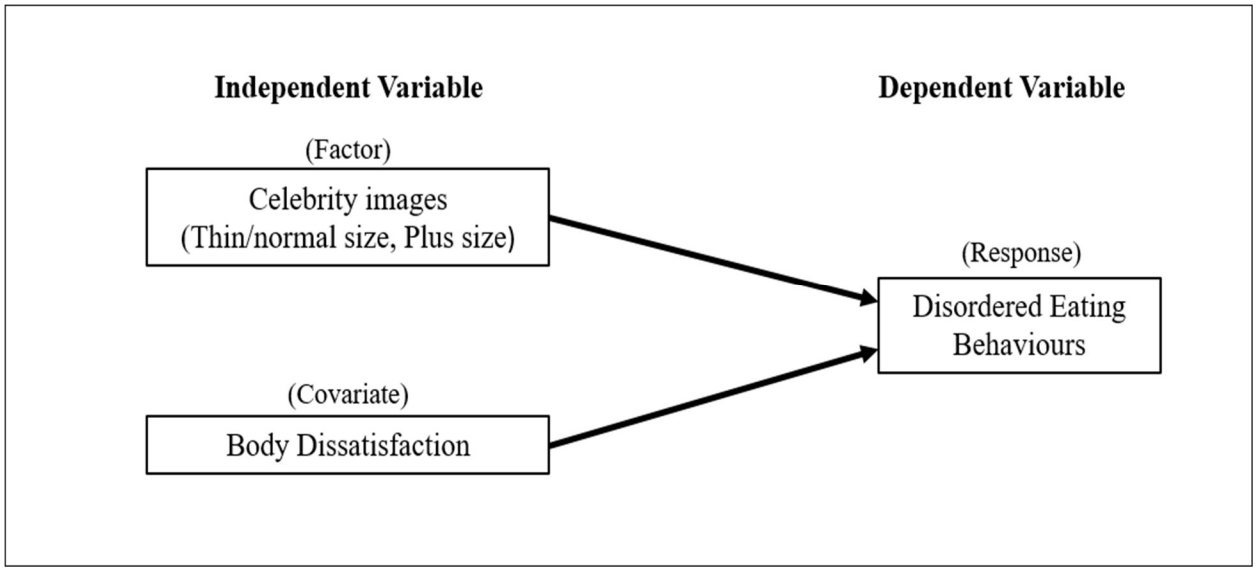

Figure 2.2. Conceptual framework of the effect of celebrity images on disordered eating behaviours with body dissatisfaction being the covariate among female adolescents in Malaysia.

Chapter Summary

Throughout this chapter, the topic of celebrity images, body dissatisfaction and disordered eating behaviours was discussed using the findings of past literature. We also were able to draw relationships among the variables of this study with the aid of past studies and were able to identify the effects of celebrity images on disordered eating behaviours with body dissatisfaction acting as a covariate. Social comparison theory was used to explain how the link between the independent (Celebrity images) and dependent (Disordered Eating Behaviours) variable occurs. This was shown using the theoretical framework. Finally, the conceptual framework of this study was presented in the form of a diagram to better depict the link between the variables.

Chapter 3.0

Methodology

Introduction

This chapter explains the research design used to frame the study and has outlined the targeted population at several locations followed by the measures used to collect data. This chapter also elaborates on the sampling methods and the method of calculating sample sizes. Next, the research procedure is explained in detail and the reliability obtained from the pilot study is shared. The data processing and analysis are suggested as well at the end of this chapter.

Research Design

A quantitative approach was used to study on the sample of female adolescents to examine the role of celebrity images on disordered eating behaviours when body dissatisfaction is at control. A between-subjects, 2 × 3 factorial, pretest-posttest design was applied on independent variable whereby the celebrity images were categorized into two groups (thin/normal-size and plus-size) to measure disordered eating behaviours. The control images of coke bottles were added into this research study as neutral images to manipulate the results and to remain as unbiased outcome.

Moreover, the interaction effect of celebrity image types (thin/normal-size and plus-size) on the dependent variable of disordered eating behaviours (dieting, bulimia, and food preoccupation, and oral control) were also investigated while body dissatisfaction plays a role as a covariate in this study. In addition, semi experimental method was used to collect the data from the participants. Information regarding body dissatisfaction and disordered eating behaviours were collected via survey methods by distributing questionnaires. Whereas, role of celebrity images was measured by showing selected celebrity images using PowerPoint slides.

Research Population and Location of the Study

The research population in this study were female adolescents. These individuals consisted of those aged between 14 and 19 years old. The reason why adolescents were chosen for the purpose of this study was because the stage of adolescence is considered to be a nutritionally vulnerable stage in the development of a female. Changes will take place within females both in terms of physical appearance as well as the psychological aspect of the female (Hazen, Schlozman, & Beresin, 2008).

Next, the reason why this study focuses on females is because most physical changes in this stage occur in females. This begins during puberty and it will make them to give more importance to their body shape and appearance. In Maltby et al. (2005), it is stated that a significant relationship exists between celebrities and their body image for adolescence. This study further highlights that the relationship is more significant with regards to females. Past studies also brought to light that body dissatisfaction occurs more commonly amongst female adolescents when compared with males within the same age group (Maltby et al., 2005; McCabe, Ricciardelli, & Finemore, 2002).

The recent increase in body dissatisfaction and disordered eating behaviours among female adolescents reflects the drive to thinness whereas among males there is a drive for muscularity (Murray, Griffiths & Mond, 2016). Studies have also supported the above premises by stating that men's ideal body shape is well-built and muscular body rather than females who prefer thin, and lean body (Cafri et al., 2005; McCreary, Hildebrandt, Heinberg, Boroughs, & Thompson, 2007; Kuan, Ho, Shuhaili, Siti, & Gudum, 2011). Therefore, in most gender differences with body dissatisfaction and disordered eating behaviours studies, males tend to score less in disordered eating behaviours and seem to be much satisfied with their body shape.

The population of this study involves female adolescents from Malaysia in the age group of 14 to 19 years old. There are about 2.8 million adolescents from 15 to19 years of age with the number of female adolescents within that age group in total to about 1.38 million (Department of Statistics Malaysia, 2018). The participants of this study consist of females from the three major ethnicities namely Malays, Chinese, Indians and other ethnic groups.

Malaysia is a multiracial country consisting of people from various ethnicities. Malaysia has an estimate population of 32.02 million with about 28.7 million out of that number being citizens of Malaysia. The highest populated ethnicities are the Malays which consist of 68.8% of the total population. This is followed by the Chinese at 23.2%, Indians at 7.0%, and other minor ethnic groups at 1.0%. This numbers are based on the latest data from the Department of Statistics Malaysia (Department of Statistics Malaysia, 2018).

Sampling Size and Method

Purposive sampling method was adapted to recruit participants for this study. This method was used due to the characteristics of the population and the objective of this study (Showkat & Huma, 2017). The homogenous characteristics of the participants in which this study aimed to only focus on female students and adolescents between the ages of 14 years to 19 years old. Besides, to achieve the objective of the study, each and every participant within the age limit were categorized into three conditions based on their BMI reading. Random sampling and convenient sampling methods were not applied as it is more appropriate for convenient studies rather than experimental studies (Showkat & Huma, 2017). Therefore, homogenous purposive sampling method was appropriate for this study.

The sample size for this study was calculated using the G*Power software after conducting the pilot study. This software was used to calculate the expected sample size for

specified power and the power explains the probability of rejecting the null hypothesis (Kadam & Bhalerao, 2010). The Type 1 error rate was low, in which the significance level was $\alpha = 0.95$ with a large effect size of $f = 0.4$ (Cohen, 1992; Becker, 2000). The estimated sample size was 100 female adolescents.

Research Instrument

This study used two research instruments which namely the Eating Attitude Scale (EAT-26) and the Body Dissatisfaction Scale, to measure all the variables that were used in this study.

Eating Attitude Scale (EAT-26). Eating Attitude Scale (EAT-26) by Garner, Olmsted, Bohr, and Garfinkel (1982) is a 26-item self-report questionnaire. According to Sima et al (2014), the original EAT consisted of 40 items. 14 items of the scale had low factor loadings. Therefore, Garner et.al. (1989) developed a shorter scale with 26 items. Items of this scale are presented in a 6-point forced-choice Likert scale ranging from (1 = *Never,* 2 = *Rarely,* 3 = *Sometimes,* 4 = *Often,* 5 = *Usually,* 6 = *Always)*. Items 1 to 25 are scored as (1 = 3, 2 = 2, 3 = 1, and 4 = 0, 5 = 0, 6 = 0). Item number 26 has its own exception where score will be scored as, (1= 0, 2 = 0, 3 = 0, 4 = 1, 5= 2, 6 = 3). The EAT-26 total score ranges from 0 to 78. A score at or above 20 indicates a high level of concern in eating behaviours. The correlation coefficient between the short and the long version of EAT was adequate with $r = .98$ (Garner et al., 1989). It is reported that EAT-26 is a three factor structure, dieting, bulimia and food preoccupation, and oral control. The internal consistency of EAT factors was sufficient ranging from 0.61 to 0.89 (Garner et al., 1989).

Body Dissatisfaction Scale (BDS). This scale is used to measure the body dissatisfaction of an individual by ranking the bodies from 1 to 9 in ascending order. From the figure, each body is scored as one body unit. From this scale, participants will be asked to choose the body

they would most like to look like (ideal) and the body they thought that is the closet to their actual body shape (actual). The discrepancy between the actual and ideal body shape will be the body dissatisfaction score. For example, if the participant chose number 5 as their actual body size and number 2 as the ideal body, their dissatisfaction score would be 3. The higher the score, the greater the discrepancy between the ideal and actual body chosen. A study conducted by Mutale et al (2016), stated that the correlations between scores for perceived actual body, ideal body and dissatisfaction body are found to be significant after they were analyzed for test-retest reliability, perceived actual body, r (62) = 0.81, $p < .001$; ideal body r (62) =0.89, $p < .001$; and body dissatisfaction, r (62) = 0.82, $p < .001$.

Materials

Celebrity Images. Images of thin, normal and plus size celebrities were taken from Google images without its watermark and for the public domain. About 8 images were used for each category whereby 8 images of thin celebrity, 8 images of celebrity that are normal in size and so on. Some examples of celebrity images used were, Ashley Graham, Kim Kardashian, Ariana Grande, Lily Singh, Adele and etc. According to Khaled et al (2018), similar images were used in order to carry out the experiment.

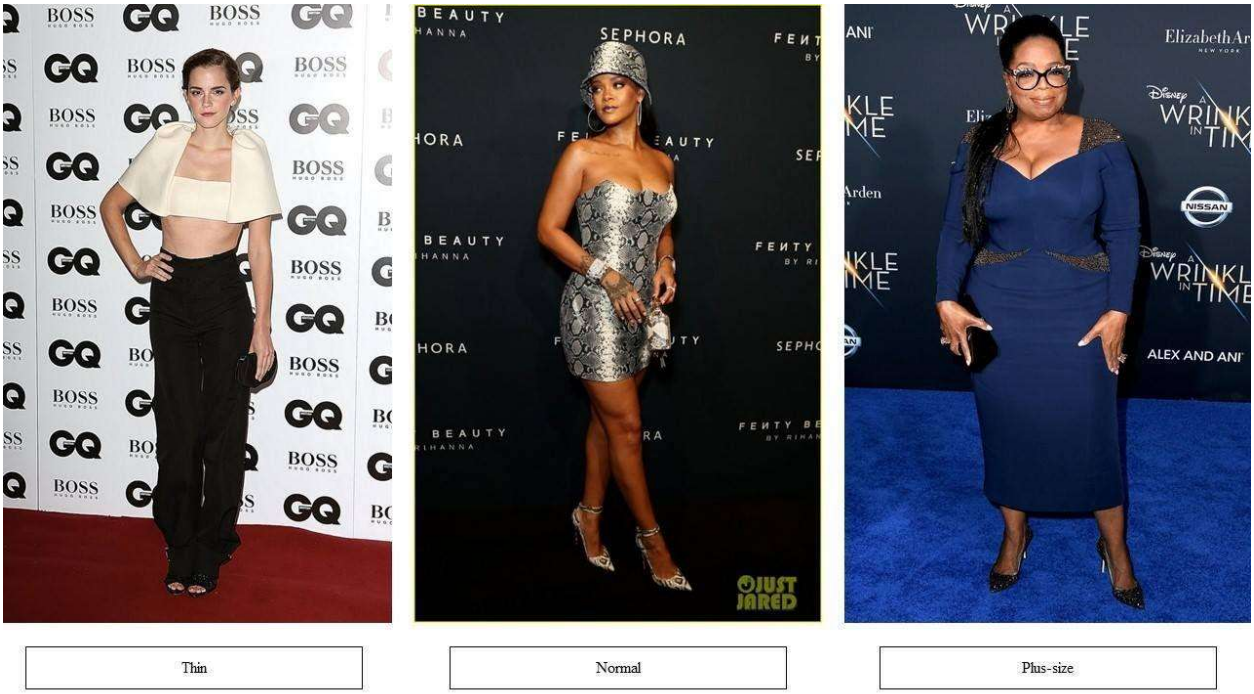

Figure 3.1 Celebrity Images

Coke Bottles Images. A series of coke bottle images were used as the control images for this study. Images were edited using Adobe Photoshop CS6 where the original coke bottle image was enlarged 10 % of every adjustment to get a thin to fat figure. The next image would be enlarged 20% of the original image, and continued to 30% of the original image, so on and so forth. 11 images were included as control images. The horizontal and vertical resolutions were kept at 96 dpi, with a depth of 24 dpi. All these images were then included in a PowerPoint slide show and were showed to the participants. A study conducted by Glaurent et al (2009), used similar images for the controlled group to carry out the experimental study. The reason for using coke bottle images as the images for the controlled group is because coke bottle images has a body like figure.

Figure 3.2 Control Images

Weighing Scale. In this study, a weighing scale was used to measure the weight of the participants to calculate the BMI of the participants. This was done on order to classify the participants in designated groups of underweight, normal and plus size. The scale that was used for this study was an analogy scale.

Measuring tape. A standard measuring tape was used to measure the height of the participants to calculate the BMI of the participants. Measuring tape was also used in the pilot study and the current study.

Stimuli -Validation

Stimuli-validation was conducted in order to ensure the familiarity of the selected celebrity images among female adolescents and to ensure that the given classifications (thin, normal, and plus size) of the images match the perception of female adolescents. The images were selected via referring to a past study (Khaled et al.,2018) as well as browsing the World

Wide Web. For each category, eight images were selected and this were given out to 76 female participants through Qualtrics where they rated the images accordingly. Result showed that images that have chosen for each category and the outcome from the participants were 95% similar to our choices, where about 5% was differed in term of images in which celebrities were categorized as thin or normal. The prediction on plus size celebrities were 100% of what that had been chosen.

Research Procedure

Participants were recruited based on their age which was between the age of 14 years old and 19 years old from private tuition centres and Sunday schools across Selangor, Perak, and Penang. Respondents below 18 years old were given parental consent forms both verbatim and informed consent. Permission was also obtained from tuition centres and church managements. Those who agreed to participate then proceeded to answer the questionnaires. Before the questionnaires were given, each respondent measured their height and weight to calculate their BMI and subsequently were categorize them into three categories of BMI: underweight, normal, and overweight with approximately equal numbers of participants in each condition.

Data collection was carried out via the paper and pencil method. Each respondent was briefed on the nature of the study. However, the actual purpose of the study was not told until the end of survey to decrease the placebo effect, in which would result in bias outcomes. The first part of the questionnaire booklet consisted of demographic information, measures on body dissatisfaction and disordered eating behaviours. The demographic information section required information on age and ethnicity only. In addition, a figure-based rating scale was attached for the participants to evaluate their body dissatisfaction following a set of 26 items of Eating Attitude Scale (EAT-26) were included to measure disordered eating behaviours.

After completing the first part of the questionnaire, participants were given a break for about 5 minutes. The intervention of the study took place after the break. Every participant watched a slideshow containing 11 images of coke bottles (control images) or 8 celebrity images. As for the celebrity images, the underweight and normal weight grouped participants were required to view thin or normal sized celebrity images. Whereas, the participants in overweight category view plus-sized celebrity images. The projection of these images were about 2 minutes and the respondents continued to the second part of the questionnaire.

The second part of the questionnaire only consisted of measures of body dissatisfaction and disordered eating behaviours. After the completion of survey, all the participants were briefed on the actual objectives of the study together with a letter of debrief statement which was handed to each one of them. Finally, each contribution was rewarded with a token of appreciation. The overall time taken for each participant to complete the questions was about 20 minutes. All procedures of data collection were approved by university research ethical committee of University Tunku Abdul Rahman.

Pilot Study

A pilot study was conducted for this research among UTAR Foundation students. A total of 36 participants were recruited, in which 18 participants were in the treatment group. The mean age of the treatment group was 17.72 years (*SD* = .83). 18 participants were in the controlled group. Participants were between the age of range of 18 to 19 years with a mean age of 18.28 years (*SD* = .46). Questionnaires were given to the participants and required information about the study was then explained and an informed consent form was given. Images of celebrities were shown to the treatment group and a series of coke bottle images were shown to the controlled group participants.

Reliability

The pilot study was conducted to test the reliability of the scale used in this study. It was found that the reliability of the control group on Body Dissatisfaction Scale was α = .73 whereas for Eating Attitude Scale (EAT-26) was α = .42. The reliability for the treatment group was higher than the control group. The reliability for Body Dissatisfaction Scale was α = .72 whereas for Eating Attitude Scale (EAT-26) was α = .76 where original scale was ranging from 0.61 to 0.89.

In the actual study of this research, the reliability of the control group for Pre Body Dissatisfaction Scale was (α = .81), and the reliability for Post Body Dissatisfaction (α = .78) whereas for Pre Eating Attitude Scale (EAT-26) was (α = .66) and Post (EAT-26) was (α = .82). The reliability of the scales for the treatment group were, (α = .69) for Pre Body Dissatisfaction Scale and Post Body Dissatisfaction was (α = .67). Meanwhile for Eating Attitude Scale (EAT-26), Pre (EAT-26) was, (α = .77) and Post (EAT-26) was (α = .85).

Table 3.1

Reliability of EAT-26 scale and body dissatisfaction scale from pre-test and post-test of treatment and control group

Scale	**Number of items**	**Cronbach's alpha, α**			
		Treatment		**Control**	
		Pre-test	**Post-test**	**Pre-test**	**Post-test**
Body Dissatisfaction Scale	2	.69	.67	.81	.78
Eating Attitude Scale (EAT-26)	26	.77	.85	.66	.82

Data Analysis and Processing

All data was analyzed using IBM Statistical Package for Social Science (SPSS) version 23.0. Descriptive analysis was computed to identify the description of all variables including age and ethnicity. Analysis of Variance (ANOVA) test was used to analyse the difference in means between participants who viewed between celebrity images and control images on body dissatisfaction. Similarly, it was used to analyse the mean difference between celebrity images and disordered eating behaviours. The correlation between body dissatisfaction and disordered eating behaviours was calculated using the Linear Regression test. The Analysis of Covariance (ANCOVA) test was used to analyse the effect of celebrity images on disordered eating behaviours with body dissatisfaction as a covariate. All statistical procedure utilizes 0.05 as a significant value.

Chapter Summary

A 2 × 3 between subjects, pretest-posttest design with a semi experimental approach was incorporated to collect data for this research study. Besides, students from tuition centers and Sunday schools were recruited as participants of the study through purposive sampling. Body Dissatisfaction Scale, Eating Attitude Scale (EAT-26) were the scales used to measure the covariate and dependent variable. Both instruments had high reliability scores after conducting the pilot study and the actual study. Descriptive test, ANOVA, Linear Regression and ANCOVA tests were used to analyse the variables using IBM SPSS version 23.0.

Chapter 4.0

Results

Introduction

This chapter presents the analysis of the results of this study. Firstly, descriptive analysis was used to present the demographic information of the participants involved in this study. Subsequently, in the inferential statistics part, relevant statistical analyses were used to study the research questions of this study.

Descriptive Statistics

A total of 147 responses were collected and filtered. One response was found to be incomplete and was removed from the analysis. Hence, only 146 responses were used in order to run the analyses.

Background of Respondents. Table 4.1 shows the demographics information of participants involved in this study. A total number of 146 female adolescents participated in this research study. The age range of these participants was from 14 to 19 years, with an average age of 19 years (SD = 1.86). The highest percentage of the participants were 19 years old (32.9%), followed by 15 years old (17.8%). The least age was 16 years old (11.0%). In this study, there was a large number of Indian participants (61.6%), followed by Chinese (26.7%), Malays (10.3%) and others (1.4%). The height and weight of the participants were collected during this study. Using this data, BMI of the participants was computed. The highest percentage of participants fell in the overweight category with a percentage of 41.1% (n = 60), followed by normal category which was 31.5% (n = 46) and underweight participants was 27.4% (n = 40).

Table 4.1

Demographic information of participants (N = 146)

	n (%)	Mean	SD
Age		16.92	1.86
Race		2.54	.70
Malay	15 (10.3)		
Chinese	39 (26.7)		
Indian	90 (61.6)		
Others	2 (1.4)		
BMI		2.14	.82
Underweight	40 (27.4)		
Normal	46 (31.5)		
Overweight	60 (41.1)		

Note. SD: Standard Deviation

Frequency Distribution of Variables Under Study. Table 4.2 shows the score of the images that has been viewed by the participants. Mean scores and standard deviation scores were tabulated. In the treatment group, participants were given a series of thin/normal size celebrity images to view and a series of plus size images to view. Whereas in the control group, participants were given a series of coke bottle images to viewed. The mean score for both images was found to be 2.21 (*SD* = .87). Participants were categorized using their BMI where in the treatment group, thin/normal BMI participants had the highest percentage of 29.5% (*n* = 43), followed by plus size participants in the treatment group with a percentage of 20.5% (*n* = 30). The numbers were the same for the control group as well.

Table 4.2

Frequency distribution of participants viewing celebrity images and coke bottle images (N = 146)

	n (%)	Mean	SD
Celebrity images (Treatment Group)		2.21	.87
Thin/Normal size			
Plus size	43 (29.5)		
	30 (20.5)		
Coke Bottle Images (Control Group)			
Thin/Normal size	43 (29.5)		
Plus size	30 (20.5		

Note. SD: Standard Deviation

Inferential Statistics

This section presents the One-way ANOVA, linear regression, and ANCOVA tests based on the research questions of the study.

Research Question 1: Is there a statistically significant difference in means between celebrity images and control images on disordered eating behaviours when body dissatisfaction (covariate) is at control?

H_1: There is a statistically significant difference between celebrity images and control images on disordered eating behaviours when body dissatisfaction is at control.

A One-way ANCOVA was conducted to determine if there is a statistically significant difference between thin/normal celebrity images and plus-size celebrity images on disordered eating behaviours by controlling body dissatisfaction. Levene's test and homogeneity of variance test were carried out and the assumptions met, however the data was not normally distributed (refer to Appendix A for non-parametric test results). There was no significant difference found

on celebrity images: thin/normal-size, plus-size, F (1, 69) = .13, p = .72, $\eta 2$ = .00. Body dissatisfaction as a covariate also was found to be statistically not significant, F (1, 69) = .62, p = .43, $\eta 2$ = .01 and there was no interaction between celebrity images and body dissatisfaction, F (1, 69) = .70, p = .404, $\eta 2$ = .01. As predicted, control images were statically not significant on disordered eating behaviours when body dissatisfaction was in control.

Table 4.3

ANCOVA Results and Descriptive Statistic for Disordered Eating Behaviours by Celebrity Images and Body Dissatisfaction

Celebrity Images	Disordered Eating Behaviours			
	Observed Mean	Adjusted Mean	SD	N
Thin/ normal-size		- . 79	5.858	43
Plus-size		- .67	11.217	30
Source	*SS*	*Df*	*MS*	*F*
Body Dissatisfaction	45.214	1	45.214	.623
Celebrity Images	51.048	1	51.048	.704
Error	5006.195	69	72.554	

Note. R^2 *= .02, Adj.* R^2 *= -.03, adjustments based on Celebrity images mean = -.74. Homogeneity of regression tested and not F= .57, p> .05.*

Research Question 2: Is there a statistically significant difference between celebrity images and control images on body dissatisfaction among the female adolescents?

H_2: There is a significant difference between celebrity images and control images on body dissatisfaction among female adolescence.

One-way ANOVA was used to conduct the analysis and it was found that there was a statistically significant difference between celebrity images and control images on body dissatisfaction among female adolescents where the results was found to be, F (2,143) = 6.42, p = .00, $\eta 2$ = .08. Hence, H_1 is supported.

Table 4.4

One-Way Analysis of Variance scoring on difference between celebrity images and control images on body dissatisfaction among the female adolescents

Source	*Df*	*SS*	*MS*	*F*	*Sig.*
Between Groups	2	7.323	3.661	6.424	.002
Within Groups	143	81.506	.570		
Total	145	88.829			

Tukey's Post Hoc test was also computed to see the underlying differences between the groups of celebrity images and control images since the result was found to be statistically significant.

Post Hoc comparison using the Tukey HSD test indicated that the mean score for the thin/normal size celebrity image (M = .14, SD = .83) was significantly different than the plus size celebrity images (M = -.47, SD = .86). The mean score for the plus size celebrity images (M = -.47, SD = .86) was also significantly different than the control images (M = .04, SD = .66). However, the mean score for the thin/normal size celebrity image (M = .14, SD = .83) did not significantly differ from that of the control images (M = .04, SD = .66). Therefore, the results suggest that thin/normal size celebrity images and the control images do not have an effect on body dissatisfaction, but the plus size celebrity images have an effect on body dissatisfaction among the participants.

Table 4.5

Tukey's HSD Comparisons between celebrity images which are thin/normal size and plus size and the control images on body dissatisfaction among female adolescents

				Tukey's HSD Comparisons		
Group	*N*	*M*	*SD*	Thin/Normal size	Plus Size	Control
Thin/Normal size	43	.14	.83			
Plus Size	30	-.47	.86	.003		
Control	73	.04	.66	.777	.007	

Research Question 3: Is there a statistically significant difference between celebrity images and control images on disordered eating behaviours among female adolescents?

H_3: There is a significant difference between celebrity images and control images on disordered eating behaviours among female adolescence.

One-way ANOVA was used to conduct the analysis and found that there was no statistically significant difference between celebrity images, control images, and disordered eating behaviours among female adolescents where the results was, F (2,143) = .02, p= .98, $\eta 2$ = .00. Hence, H_1 is rejected.

Table 4.6

One-Way Analysis of Variance scoring on difference between celebrity images and control images on disordered eating behaviours among female adolescents

Source	*Df*	*SS*	*MS*	*F*	*Sig.*
Between Groups	2	2.251	1.126	.024	.976
Within Groups	143	6649.728	46.502		
Total	145	6651.979			

Research Question 4: Is there a statistical significant relationship between body dissatisfaction and disordered eating behaviours among female adolescents?

H_4: There is a significant relationship between body dissatisfaction and disordered eating behaviours among the female adolescents.

A regression analysis was carried out for this analysis to look into the relationship between disordered eating behaviours and body dissatisfaction. The model was not statistically significant, F (1,144) = .67, p <.05 with an R^2 of .00 and accounted 5% of the variance. It was found that disordered eating behaviours is not positively significant to body dissatisfaction (β = -.07, p <.05). Therefore, the H_1 is rejected.

Table 4.7

Linear regression for disordered eating behaviours and body dissatisfaction among female adolescents

Coefficients						
	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std.Error	Beta		
1	(Constant)	-.88	.56		-1.56	.121
	GS_BD	-.59	.72	-.07	-.82	.415

a. Dependent Variable: GS_EAT

Table 4.8

Model Summary for disordered eating behaviours and body dissatisfaction among female adolescents

Model	**R**	**R Square**	**Adjusted R Square**	**Std Error of the Estimate**	**Change Statistics**				
					R Square Change	F Change	Df1	Df2	Sig F Change
1	.068	.005	-.002	6.781	.005	.669	1	144	.415

a. Predictors: (Constant), GS_BD
b. Dependent Variable: GS_EAT

Separated One-way ANOVA analyses were computed as the scale of the dependent variable which was EAT-26 consists of three subscales. The subscales are 1. dieting scale, 2. bulimia and food preoccupation scale, 3. oral control scale.

Research Question 5: Is there a statistically significant difference between categories of BMI (underweight, normal, and overweight) on dieting scale among female adolescents?

H_5: There is a statistically significant difference between categories of BMI (underweight, normal, and overweight) on dieting scale among female adolescents.

Research Question 6: Is there a statistically significant difference between categories of BMI (underweight, normal, and overweight) on bulimia and food preoccupation scale among female adolescents?

H_6: There is a statistically significant difference between categories of BMI (underweight, normal, and overweight) on bulimia and food preoccupation scale among female adolescents.

Research Question 7: Is there a statistically significant difference between categories of BMI (underweight, normal, and overweight) on oral control scale among female adolescents?

H_7: There is a statistically significant difference between categories of BMI (underweight, normal, and overweight) on oral control scale among female adolescents.

Tables 4.9, 4.10, and 4.11 illustrate the results of One-way ANOVA analyses for each subscales of EAT-26. It was found that there were no statistically significant differences between categories of BMI (underweight, normal, and overweight) on dieting scale where results were found to be, F (2,143) = 1.66, $p > .05$; on bulimia and food preoccupation scale, F (2,143) = .08, $p > .05$; and lastly on oral control scale, F (2,143) = .82, $p > .05$. From these results, we can conclude that no significant differences were found between categories of BMI of the participants and subscales of the EAT-26 scale. Therefore, all three H_1 were not accepted.

Table 4.9

One-Way Analysis of Variance scoring on difference between categories of BMI (underweight, normal, and overweight) on dieting scale among the female adolescents

Source	*Df*	*SS*	*MS*	*F*	*Sig.*
Between Groups	2	47.266	23.633	1.657	.194
Within Groups	143	2039.453	14.262		
Total	145	2086.719			

Table 4.10

One-Way Analysis of Variance scoring on difference between categories of BMI (underweight, normal, and overweight) on bulimia and food preoccupation scale among the female adolescents

Source	*Df*	*SS*	*MS*	*F*	*Sig.*
Between Groups	2	.468	.234	.085	.918
Within Groups	143	393.018	2.748		
Total	145	393.486			

Table 4.11

One-Way Analysis of Variance scoring on difference between categories of BMI (underweight, normal, and overweight) on oral control scale among the female adolescents

Source	*Df*	*SS*	*MS*	*F*	*Sig.*
Between Groups	2	55.820	27.910	.816	.444
Within Groups	143	4889.803	34.194		
Total	145	4945.623			

Chapter Summary

The findings of this study shows that there is no significant difference in terms of disordered eating behaviours between celebrity images when controlling body dissatisfaction. A statistically significant difference between celebrity images, control images and body dissatisfaction were identified in this study. Specifically, plus sized celebrity images were found to have an effect on the body dissatisfaction of participants. However, no statistically significant difference was found between celebrity images, control images and disordered eating behaviours. In addition to that, there is also no statistically significant relationship between body dissatisfaction and disordered eating behaviours among female adolescents. Finally, there was also no statically significant difference found between the BMI of the participants and the EAT-26 subscales.

Chapter 5.0

Discussion and Conclusion

Celebrity Images on Disordered Eating Behaviours when Body Dissatisfaction controlled

The results indicate there is no significant difference in means between thin/normal-size and plus-size celebrity images on disordered eating behaviours when body dissatisfaction is at control. Most past researches do not correspond towards this finding as it is stated that upward comparison of self towards celebrity influences one's body dissatisfaction and eventually leads to adoption of unhealthy eating habits. There are several validations that could explain the findings.

Firstly, the participants in this study mostly fall into underweight and normal weight category as only 30 of them were placed under overweight and obese category. The plus-sized respondents do not perceive themselves as heavy and having a figure outside the beauty standards in which could be a major indication of body dissatisfaction as they found themselves to be discrepant from their idols. Hence, participants who were underweight and normal weight found themselves to be similar with their idols and that decreases body dissatisfaction, eventually adopting a non-risky eating habit. One of the studies suggested that when adolescents do not perceive themselves as different from their favourite comparison figure, they may be less motivated to take initiative in to manage their weight (Cash, Morrow, Perry, & Hrabosky, 2004).

Besides that, weight concerns and body dissatisfaction issues are high likely to happen during the puberty stage of a female's life. Since most the participants fall into late adolescence category, establishment of self-identity has almost been mastered and they would also have achieved maturity by then. Bibiloni, Pich, Pons, and Tur (2013), stated that having body dissatisfaction helps the adolescents to be more conscious of their health. It would be essential

for them to understand their body nature and practice healthy lifestyles through managing their weight and eating proportionate diet meals. Thus, respondents of this study seems to be aware of their body dissatisfaction when compared with their favourite celebrity. However, they channel the discrepancies in positive manner possibly be through exercising and eating nutritional foods.

Celebrity Images and Control Images on Body Dissatisfaction

Based on the findings of the study, it was found that there is a significant difference between celebrity images, control images and body dissatisfaction among female adolescents. This simply means that female adolescents are exposed to celebrity images, body dissatisfaction is present.

The findings of this study is in line with Brown and Tigemann (2016), where it was stated that when participants of their study were exposed to media images, they experience an increased in negative mood and body dissatisfaction. This proves that regardless whether the image viewed is plus size or thin images, the element of body dissatisfaction was still present. It was also identified in Dalley, Buunk, & Umit (2009), that regardless the BMI of an individual, body dissatisfaction occurs when exposed to celebrity images. This proves that both normal sized and plus sized individuals experience body dissatisfaction when exposed to celebrity images.

The findings of this study also is in line with that of the Social Comparison Theory. The social comparison theory states that when individuals compare themselves with people whom they perceive as better, they often feel dissatisfied (Festinger, 1954). Similar case in this study that when the participants were exposed to celebrity images, body dissatisfaction was present.

The Tukey's Post Hoc test identified that plus sized individuals experience higher levels of body dissatisfaction when viewing plus sized celebrity images as compared to when thin/normal individuals viewed thin/normal sized celebrity images.

This is in line with Dalley, Buunk, & Ummit (2009), whereby the study identified that higher levels of BMI led to higher levels of body dissatisfaction when exposed to plus sized body images. This could be because that when an individual is less satisfied with their body (plus-sized individuals) and they are exposed to celebrity images (plus-sized images), it is identified that there is an increased concern about their own body (Champion & Furnham, 1999). This proves that the BMI of an individual affects the level of body dissatisfaction when exposed to images that are similar to their current state.

Therefore, celebrity images have an impact on the body dissatisfaction of female adolescents and this is more prevalent among plus sized adolescents when they view plus-sized celebrity images.

Celebrity Images and Control Images on Disordered Eating Behaviours

Results show that there are no statistically significant association between celebrity images and control images on disordered eating behaviours among female adolescents. The findings of this study are slightly different from the previous study as most study states that media exposure specifically exposing celebrity images are associated with other factors that would influence disordered eating behaviours.

A study by Van den Berg and Thompson (2007), stated that most female adolescents with lower self-esteem tend to engage in upward social comparison whereby they compare their selves with someone better such as models and celebrity. This can be simply comprehended that these females are extremely concern about their body image even before being exposed to the celebrity images. Thus, it could lead to altering eating behaviours. However, based on our findings, the adolescents participated in this study could be more content and have better acceptance towards self that it did not influence their eating habits in negative manner. It could

possibly mean that they do not feel insecure or aware of their body condition that avoided to be involved in disordered eating behaviours.

Moreover, disordered eating behaviours does not occur by the direct influence of celebrity image exposure. It is likely to happen only when body dissatisfaction is present among the individuals. As mentioned earlier, most of the participants fall into the acceptable weight categories as this would not initiate the discomfort feelings. Furthermore, it could be possible for the participants grouped under overweight category practice exclusion of certain foods such as not consuming sugar or salt contained foods but does not include nutritional food in their diet. A study proves that girls wished to reduce weight did not consume fatty food but also did not include fruits and vegetable into their diet (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006).

Body Dissatisfaction on Disordered Eating Behaviours

From the findings, results showed that there is no statistically significant relationship between body dissatisfaction and disordered eating behaviours. The findings of this, was somewhat aligned to a previous study conducted by Brechan and Kvalem (2015) stating that there is no direct effect of body dissatisfaction on disordered eating behaviours. Hence there could be external factors such self-esteem that might contribute to the tendency of a significant relationship between body dissatisfaction and disordered eating behaviours.

A study conducted by Tan and Yew (2012), was not aligned with the findings of this study, but had stated that even though body dissatisfaction can bring about change or lead to developing disordered eating behaviours, a few scholars had found that body dissatisfaction does not develop disordered eating behaviours. It was stated that being dissatisfied with one's body benefits by lowering the risk of health problems where one would not develop disordered eating

behaviours but rather find an alternative; for instance, exercising as a medium to reduce fats and thus directly improves one's health.

However, in past studies it has stated that with other factors as variable, it would contribute in relations of body dissatisfaction and disordered eating behaviours.

BMI and EAT-26 subscales

Separate analyses were conducted to identify if there is a significant difference between the different categories of BMI (underweight, normal, overweight) and the EAT-26 subscales. The statistical analyses identified that BMI groups and the EAT-26 subscales which are dieting, bulimia and food preoccupation, and oral control were insignificant. Overall, the EAT-26 scale showed insignificant results in this study.

Most studies were able to identify a significance between categories of BMI (underweight, normal, overweight) and the EAT-26 subscales (Cheah, Hazmi, & Chang, 2015; Kayano et al., 2008). However, one study in which no significant correlation was identified was the study by Rich and Thomas (2008), where the findings of that study was similar to that of which is found in this current study. One key point to note in the study by Rich and Thomas (2008), is that their target participants were college students. One possible reason that could have caused a difference between the findings of this study and other studies is that majority of the participants of this study were from the thin and normal sized category as compared to those in the plus-sized category. A similar situation to this was identified in (Manal & Amal, 2017) which identified that there is no significance between BMI and eating habits among the sample of the study. Furthermore, the findings of this study also was able to identify that participants who were in the thin and normal sized category showed lower scores of body dissatisfaction. This could be

another reason why they do not have disordered eating behaviours and none of the subscales of the EAT-26 are significant.

Implications

The theory used in this research was the Social Comparison Theory. In this theory it explains that individuals, more commonly in women, have the drive to standardize their progress and standings in life. With that, they often reach out to certain standards where they would compare themselves (Festinger, 1954). In this research, women are frequently comparing themselves with someone whom they perceive to be better than them. This is known as upward social comparison. Based on the results, it explains that when celebrity images and control images are shown to the female adolescents, there was a significant difference in body dissatisfaction. To be more precise, when plus size celebrity images were shown to the participants, there was a significant difference in body dissatisfaction among the female adolescents. It can be explained in upward social comparison theory that, participant viewing plus size celebrity images were dissatisfied with their bodies, as they felt inferior to what they viewed. But there was no effect on body dissatisfaction when thin/normal size celebrity images were shown. Thus, in this research, thin/normal size participants view themselves more superior than what they had view.

Based on the results, there was no difference in disordered eating behaviours when celebrity images and control images were shown. From a theoretical perspective, it is understandable that, when comparing one's self in a downward comparison manner means one would feel superior and other factors would play a role with body dissatisfaction in order to see changes in participants disordered eating behaviours.

Furthermore, from this finding on this research, besides body dissatisfaction and disordered eating behaviours, other factors can be looked into to see how those factors would influence body dissatisfaction which could lead to disordered eating behaviours.

In the Asian society, family instils pressure on an individual to look small or to look desirable regardless of being teenagers, young adults or older adults. This study identified that female adolescents are seen to be dissatisfied with their bodies. This is one of a crucial factor where being too pressured by the society to follow the norms could lead to bad habits like starving, wrong dieting and eventually having eating disorders. From this study, knowledge can be shared on how viewing certain images does not necessarily bring about a change in one's eating behaviours but does bring a change in ones' body dissatisfaction.

Adding onto the practical implication of this study, social media awareness would bring about a change in adolescents as in this era, adolescents are engrossed in using social media where this would give them a platform on how to have a positive body image. According to Halliwell (2013), it is stated that with positive body image, one may be protected against the environmental influences that may cause a harm to the body image. This would lead to a low body dissatisfaction among the female adolescents in Malaysia.

Lastly, this study would be beneficial for other researchers. Other researchers could further explore or expand this study by increasing the number of participants and further exploring in different states of Malaysia, to study on the female adolescents towards their body dissatisfaction and their eating behaviours.

Strengths

The major solidity of this study would be inclusion of plus-size celebrities for overweight participants to view and to be compared with. New data is provided to show comparison between

thin/normal celebrity images and plus-size celebrity images. Most of the journals have only focused on the exposure of thin celebrities due to the stigmatization of "thin-idealization". As the years evolve, fashion industries have included "being thick" as one of the beauty criteria and also celebrities are the major subjects to encourage this beauty norm. The findings based on this study also shows that exposure towards plus-size celebrity images influences body dissatisfaction (Khaled et al., 2018).

Moreover, the variables used in this study helps to bridge the knowledge gap in the research field regarding the celebrity influence among female adolescents in Malaysia. Findings of this study exhibit a better understanding on how perceived ideal celebrities influences younger generation only through body dissatisfaction but does not affect their eating attitudes. It could be said that, adolescents do compare themselves with someone who is perceived to be better than them only to a certain extent and it does not affect them in negative manner. Along that, the combination of variables studied in this study also contributes to the novelty of the study as it is the pioneer study in Malaysia to look into these components. It strengthens the idea that although adolescents do adopt into western cultures but it does not lead to the extent of having disordered eating behaviours. This validates the cultural factor does play a role as most of the adolescents in Malaysia are concern about their body image however food consumptions and eating attitudes are not taken into account. Hence, increase in obesity rate is at peak in Malaysia.

Limitation and Recommendations

Several limitations of the study should be taken into account for future recommendations. The current study experimented generally on adolescents from age range between 14 and 19 years old. Most of the participants fall into the late adolescent stage as the mean age was 19 years old. Early and mid-stage of adolescents, in which at the age of 14 to 17 years were

accounted for less percentage of overall population. Therefore, in future studies inclusion of all three periods of adolescents would lead to a more generalized result as now it is completely focusing on late adolescents only. Apart from that, similar environment of participants should be considered as the current data shows extreme representation of 19 years old in which they come from pre-university learning background. It would be great to investigate schooling background as they are still undergoing the puberty and maturity process. Besides, the current study did not consider of pubertal developmental of the adolescents participated in the study. Some researchers suggest that pubertal differences could indirectly affects their maturity and thus, it leads to their decision making to practice healthy or unhealthy eating habits due to the pressure of comparison with people around them (Bibloni, Pich, Pons, & Tur, 2013). Further investigating the pubertal developmental such as early puberty and late puberty should be included as another covariate to study the interaction effect between the exposure of celebrity images on disordered eating behaviours with body dissatisfaction (covariate).

Moreover, the sample ratio representing whole Malaysia was not considered due to the logistics issues. Data were collected only from adolescents located at Selangor, Perak and Penang. An approximately equal sample size from each state should be considered and recommended for future studies in order to manifest the representativeness of overall adolescent population in Malaysia. Along that, it should be adapted into longitudinal study by increasing the validity through test-retest approach.

The data collection presented in this study also under reported on the food intake when measuring the disordered eating behaviours. The EAT-26 scale only consists of items that measures regarding eat thoughts and behaviours rather than the type of food and amount of food consumption. It is assumed that individuals who have weight concerns no matter underweight or

overweight will engage in unhealthy eating habits if they are presented with higher body dissatisfaction. However, the specification and the extent of unhealthy eating behaviours were not explained in this study by not stating the types of food intake and amount of it. Thus, it is recommended in future studies to investigate on specific dietary practices such as consumption of sugary foods, fatty foods and fiber consumption.

Lastly, the inclusion of other measurements is recommended to strengthen the celebrity influence factor. In current study, celebrity images were only shown but it did not take into consideration of the participants' view of their favourite celebrity. The Celebrity Attitude Scale (CAS) developed by Maltby, Day, McCutcheon, Houran, & Ashe (2006), measures the extent of celebrity worship and how respondents view their favourite celebrity. Adding it in the current study will improvise and validate the celebrity influence factor towards body dissatisfaction and disordered eating behaviours.

Conclusion

In short, it was predicted that disordered eating behaviours is a concern and it was identified that past studies have related celebrity images as a factor that contributes to this issue. When there is a comparison, there is a chance for body dissatisfaction to occur and this could lead to disordered eating behaviours as a remedy to their body dissatisfaction and to close the gap of dissatisfaction between their current state and the state the adolescents compare themselves with. Thus, this study aimed to identify the effect of celebrity images on disordered eating behaviours with body dissatisfaction being the covariate variable.

To analyze the research questions of this study, statistical analyses were used. The ANCOVA test was able to identify that there is no significant difference between celebrity images and control images on the disordered eating behaviours when body dissatisfaction is used

as a controlling factor. Besides that, it was identified that there is a significant difference between celebrity images, control images on body dissatisfaction among female adolescents. This trend was observed mostly among plus-sized participants when they viewed plus-sized celebrity images. Apart from that, there was no statistically significant association between celebrity images, control images on disordered eating behaviours among female adolescents. Next, there was no statistically significant relationship found between body dissatisfaction and disordered eating behaviours. Finally, there was no significant difference found between the categories of BMI and the EAT-26 subscales (dieting, bulimia and food preoccupation, and oral control).

In conclusion, this study was able to identify that celebrity images do cause body dissatisfaction especially among plus sized individuals. However, one key noted point is that the body dissatisfaction that occurs does not result in disordered eating behaviours among the target participants.

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APPENDIX A

Non-parametric test results

Non parametric tests were conducted as the data was not normally distributed. A Kruskal-Wallis test was conducted to examine the differences among celebrity images (thin/normal-size and plus-size) on the median change in disordered eating behaviours. The results were not statistically significant χ^2 (1, N = 73) = 1.14, p = .26. The similar test was run to evaluate the differences among celebrity images (thin/normal-size and plus-size) on median change in body dissatisfaction in which was statistically significant χ^2 (1, N = 73) = 10.71, p = .00. Mann-Whitney test was conducted to evaluate the pairwise differences among the two groups of celebrity images, controlling for Type I error across tests by using the Bonferroni approach. The results of these tests indicated a significant difference between the thin/normal-size and plus-size images. Plus-size images have greater influence on body dissatisfaction compared to thin/normal size participants.

APPENDIX B

Questionnaire followed by related forms and images

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ARTS AND SOCIAL SCIENCE

BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY

UAPZ 3013 FINAL YEAR PROJECT

Introduction

This research study is being conducted to find out "The role of celebrity images on eating behaviour and body dissatisfaction among female adolescents in Malaysia" as a requirement for the subject UAPZ3013 Final Year Project. In order to collect required data, your participation is needed for our research study.

Procedures

You will be asked to complete a questionnaire before and after viewing a slideshow. Completion of this procedure will take you approximately 25 to 30 minutes. Questions in this questionnaire are related to body image and also eating behaviour.

Benefits

This study will help us to get better understandings about the effects of celebrity images on selected variables among female adolescents in Malaysia.

Confidentiality

All information provided will remain as **private and confidential**. The information given will only be reported as group data with no identifying information and only use for academic purpose. All information will be kept in secure location where only our group members will have the access to them.

Participation

The participation in this research study is voluntary and you have the right to withdraw or refuse to participate entirely without any loss to you.

Contact information

If you have any questions or concerns, please feel free to contact any of our group members at rashinithevinach07@gmail.com (Rashini), vanessa17199732@gmail.com (Vanessa Nicole) and arlisa1907@gmail.com (Lisa Marie Ann)

_____ _____

Participant's Signature Date

PART 1

Section A: Demographic Profile

Please place a tick "√" or fill in the blank for each of the following:

1. Age : _____
2. Race:
   - ☐ Malay
   - ☐ Chinese
   - ☐ Indian
   - ☐ Others:_____(Please Specify)
3. Height (cm): _____
4. Weight (kg): _____

PART 1

Section B:

The following are questions specific to how you perceive your own body. In order to answer this question kindly refer to:

***Figure 1* "FEMALE BODY STIMULI".**

1) Which number from the image do you feel is the **closest** to your body at the **present**?

_____

2) Which number from the similar image would you **most like to look like**?

_____

PART 1

Section C:

Please circle your answer for each of the following statement below.

6 Likert scale [(1)=Always; (2)=Usually ;(3)=Often;(4)=Sometimes;(5)=Rarely and (6)=Never]

No.	Items	Always	Usually	Often	Sometimes	Rarely	Never
1.	Am terrified about being overweight.	1	2	3	4	5	6
2.	Avoid eating when I am hungry.	1	2	3	4	5	6
3.	Find myself preoccupied with food.	1	2	3	4	5	6
4.	Have gone on eating binges where I feel that I may not be able to stop.	1	2	3	4	5	6
5.	Cut my food into small pieces.	1	2	3	4	5	6
6.	Aware of the calorie content of foods that I eat.	1	2	3	4	5	6
7.	Particularly avoid food with high carbohydrate content (i.e. bread, rice, potatotes).	1	2	3	4	5	6
8.	Feel that others would prefer if I ate more.	1	2	3	4	5	6
9.	Vomit after I have eaten.	1	2	3	4	5	6
10.	Feel extremely guilty after eating.	1	2	3	4	5	6
11.	Am preoccupied with a desire to be thinner.	1	2	3	4	5	6

PART 1

No.	Items	Always	Usually	Often	Sometimes	Rarely	Never
12.	Think about burning calories when I exercise.	1	2	3	4	5	6
13.	Other people think I am too thin.	1	2	3	4	5	6
14.	Am preoccupied with the thought of having fat on my body.	1	2	3	4	5	6
15.	Take longer than others to eat my meals.	1	2	3	4	5	6
16.	Avoid foods with sugar in them.	1	2	3	4	5	6
17.	Eat diet foods.	1	2	3	4	5	6
18.	Feel that food controls my life.	1	2	3	4	5	6
19.	Display self-control around food.	1	2	3	4	5	6
20.	Feel that others pressure me to eat.	1	2	3	4	5	6
21.	Give too much time and thought to food.	1	2	3	4	5	6
22.	Feel uncomfortable after eating sweets.	1	2	3	4	5	6
23.	Engage in dieting behavior.	1	2	3	4	5	6
24.	Like my stomach to be empty.	1	2	3	4	5	6
25.	Have the impulse to vomit after meals.	1	2	3	4	5	6
26.	Enjoy trying new rich foods.	1	2	3	4	5	6

The end of Part 1.

PART 1

You have completed the first part of the questionnaire. Now you will be given about 5 minutes break before proceeding to the second part of the questionnaire.

Please wait for further instructions before proceeding to the second part.

Now you will resume with second part of the questionnaire. Before proceeding to answer the following questions, you are required to watch a slide show.

PART 2

Section D:

The following are questions specific to how you perceive your own body. In order to answer this question kindly refer to:

***Figure 1* "FEMALE BODY STIMULI".**

1) Which number from the image do you feel is the **closest** to your body at the **present**?

_____

2) Which number from the similar image would you **most like to look like**?

_____

PART 2

Section E:

Please circle your answer for each of the following statement below.

6 Likert scale [(1)=Always; (2)=Usually ;(3)=Often;(4)=Sometimes;(5)=Rarely and (6)=Never]

No.	Items	Always	Usually	Often	Sometimes	Rarely	Never
1.	Am terrified about being overweight.	1	2	3	4	5	6
2.	Avoid eating when I am hungry.	1	2	3	4	5	6
3.	Find myself preoccupied with food.	1	2	3	4	5	6
4.	Have gone on eating binges where I feel that I may not be able to stop.	1	2	3	4	5	6
5.	Cut my food into small pieces.	1	2	3	4	5	6
6.	Aware of the calorie content of foods that I eat.	1	2	3	4	5	6
7.	Particularly avoid food with high carbohydrate content (i.e. bread, rice, potatotes).	1	2	3	4	5	6
8.	Feel that others would prefer if I ate more.	1	2	3	4	5	6
9.	Vomit after I have eaten.	1	2	3	4	5	6
10.	Feel extremely guilty after eating.	1	2	3	4	5	6
11.	Am preoccupied with a desire to be thinner.	1	2	3	4	5	6

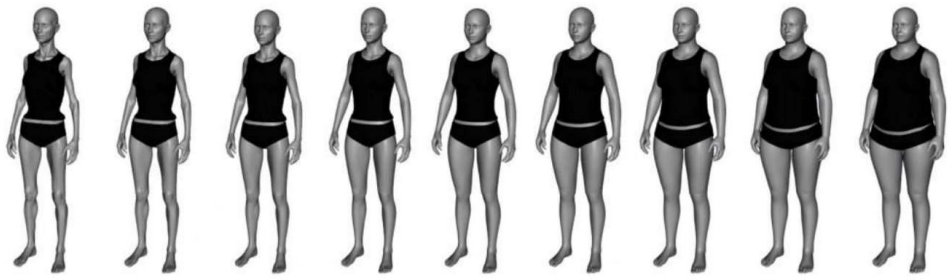
PART 2

No.	Items	Always	Usually	Often	Sometimes	Rarely	Never
12.	Think about burning calories when I exercise.	1	2	3	4	5	6
13.	Other people think I am too thin.	1	2	3	4	5	6
14.	Am preoccupied with the thought of having fat on my body.	1	2	3	4	5	6
15.	Take longer than others to eat my meals.	1	2	3	4	5	6
16.	Avoid foods with sugar in them.	1	2	3	4	5	6
17.	Eat diet foods.	1	2	3	4	5	6
18.	Feel that food controls my life.	1	2	3	4	5	6
19.	Display self-control around food.	1	2	3	4	5	6
20.	Feel that others pressure me to eat.	1	2	3	4	5	6
21.	Give too much time and thought to food.	1	2	3	4	5	6
22.	Feel uncomfortable after eating sweets.	1	2	3	4	5	6
23.	Engage in dieting behavior.	1	2	3	4	5	6
24.	Like my stomach to be empty.	1	2	3	4	5	6
25.	Have the impulse to vomit after meals.	1	2	3	4	5	6
26.	Enjoy trying new rich foods.	1	2	3	4	5	6

The end. Thank you for your participation.

Female Body Stimuli

Figure 1: Female body stimuli



Debrief Statement Sheet

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ARTS AND SOCIAL SCIENCE

BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY

UAPZ 3013 FINAL YEAR PROJECT

DEBRIEFING STATEMENT

PROJECT TITLE: **The role of Celebrity images on disordered eating behaviour and body dissatisfaction among female adolescences in Malaysia.**

Thank you for participating in this study. The goal of this study was to determine the effect of celebrity images on disordered eating behaviour among adolescents. In this experiment, you were given with a booklet containing two sets of similar questionnaires. The primary aim of similar set of questionnaires were to gather information on your body dissatisfaction and eating behaviours before and after viewing the celebrity images. You were asked to measure the weight and height to indicate your BMI status and to group you accordingly. Viewing the slide show containing several international celebrity images served the purpose of treatment to examine the changes towards your perception of own body image and eating behaviours.

Your participation is not only greatly appreciated by the researchers involved, but the data collection could possibly aid in better understanding of adolescent's development in various field in Malaysia.

The nature of the phenomena we are investigating required minor deception on our part. For instance, we had to construct a credible "research purpose" of not mentioning about the celebrity images was to ensure that there would not be any differences between participants regarding prior knowledge and experience with the procedure, in which would affect the outcome of the study. Besides, your participation including your weight and height are absolutely confidential.

If you have any questions about this study, please contact us:

rashinithevinach07@gmail.com (Rashini Thevi Nach)

vanessa17199732@gmail.com (Vanessa Nicole)

arlisa1907@gmail.com (Lisa Marie Ann)

Finally, we urge you not to discuss this study with anyone else who is currently participating or might participate at a future point in time. As you can certainly appreciate, we will not be able to examine the effect of celebrity images in participants who know about the true purpose of this project beforehand.

Thank you.

Parental Consent

Universiti Tunku Abdul Rahman (UTAR)

Parental permission for participation of an adolescent in a research study

The role of Celebrity images on disordered eating behaviour and body dissatisfaction among female adolescents in Malaysia.

Description of the research and your child's participation

Your child is being invited to participate in a research study conducted by final year students for their Final Year Project II from Universiti Tunku Abdul Rahman, Kampar. The purpose of this research is to investigate the effect of celebrity images towards the eating behaviour and body dissatisfaction among female adolescence aged between 14 and 19 years.

Research Procedures

Should you decide to allow your child to participate in this research study, you will be asked to sign this consent form. This study consists of a survey-based experiment that will be administered to individual participants. Your child will be asked to provide answers to a series of questions related to their body dissatisfaction and eating behaviours. Your child's participation will involve the measurement of their height and weight for BMI record.

Time Required

Participation in this study will require 25 to 30 minutes of your child's time.

Potential benefits

This study will help us understand the effects of body dissatisfaction on eating behaviour among female adolescents in Malaysia.

Protection of confidentiality

All the information taken down for this study will be private and confidential. The information given will only be reported as group data with no identifying information and will only be used for academic purposes. All the information taken down will be stored securely where only the group members of this study will have access to them.

Voluntary participation

Participation in this research study is voluntary. You may refuse to allow your child to participate or withdraw your child from the study at any time. Your child will not be penalized in any way should you decide not to allow your child to participate or to withdraw your child from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact as below:

Name	Contact Number	E-mail
Lisa Marie Ann	010-565 1233	arlisa1907@gmail.com
Rashini Thevi Nach	012-370 8427	rashinithevinach07@gmail.com
Vanessa Nicole	017-441 9964	vanessa17199732@gmail.com

Consent

I have read this parental permission form and have been given the opportunity to ask questions. I give my permission for my child to participate in this study.

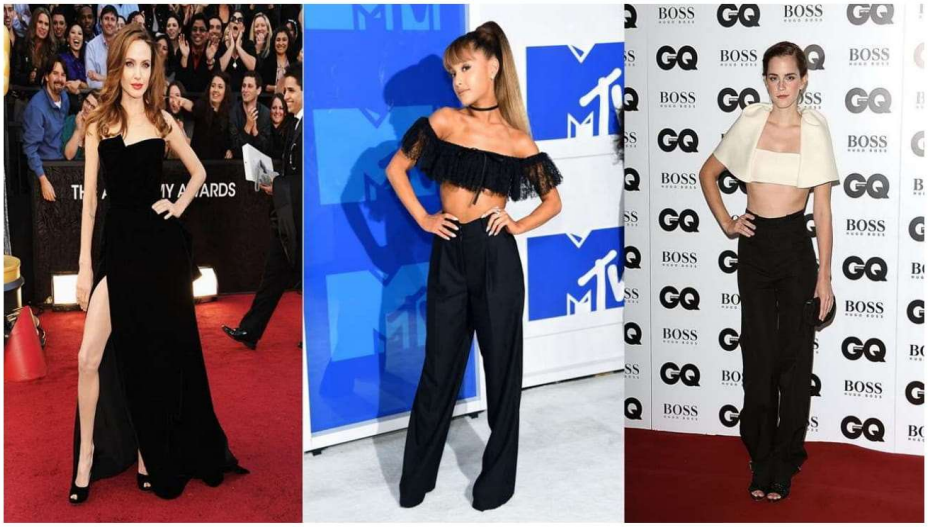
Signature (Parent/Guardian) Date

_____ _____

Celebrity images followed by Coke bottle images

Plus-sized celebrity images

Thin/normal sized celebrity images



Coke bottle images


Coca-Cola


Coca-Cola


Coca-Cola
since 1886
Coca-Cola
since 1886
Coca-Cola
since 1886
Coca-Cola
since 1886


Coca-Cola

APPENDIX C

Ethical Approval for Research Project

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

Re: U/SERC/37/2019

25 February 2019

Dr Chie Qiu Ting
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Chie,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research projects from Bachelor of Social Science (Hons) Psychology programme enrolled in course UAPZ3023. We are pleased to inform you that the application has been approved under expedited review.

The details of the research projects are as follows:

	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	The Role of Celebrity Images on Disordered Eating Behaviour: Body Dissatisfaction as a Mediating Factor Among Female Adolescents in Malaysia	1. Lisa Marie Ann Ambrose 2. Rashini Thevi Nach 3. Vanessa Nicole	Dr Lee Ai Suan	25 February 2019 – 24 February 2020

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

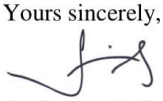
(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

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 Arts and Social Science
Director, Institute of Postgraduate Studies and Research

APPENDIX D

Permission latter given to the church management

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

29 November 2018

Rev. Fr. Robert Daniel
Parish Priest,
Church of Our Lady of Lourdes
45, Jalan Silibin,
30100 Ipoh, Perak

Through:
Final Year Project Supervisor
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman (UTAR),
Jalan Universiti,
Bandar Barat,
31900 Kampar, Perak

Dear Rev.,

REQUEST TO COLLECT DATA FOR FINAL YEAR PROJECT

We are Year 3 students from Universiti Tunku Abdul Rahman pursuing Bachelor of Social Science (HONS) Psychology. We would like to request your permission to collect data for research purpose at the church of Our Lady of Lourdes, Ipoh from January 2019 to mid-February 2019.

This research is a group project and following are the members of the research group.

Name of Student	ID Number	Contact Number
Lisa Marie Ann A/P Ambrosc	15AAB03299	010-5651233
Rashini Thevi Nach	15AAB06421	012-3708427
Vanessa Nicole	15AAB05751	017-4419964

The objective of our research is to investigate the effect of celebrity images towards the eating behaviour of adolescents with the mediating factor of body dissatisfaction among female adolescents aged between 14 and 19 years.

We hope to gather the following data from the students after obtaining the parental consent.

We would like to assure that all the information collected is for academic purpose only and is strictly confidential. In case of any further inquiries regarding the study, you may contact any of the members of the research group.

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
Postal Address : PO Box 11348, 50744 Kuala Lumpur, Malaysia
Website: www.utar.edu.my

We look forward for a favourable reply. Thank you in advance for your kind cooperation.

Yours faithfully,

(Lisa Marie Ann)

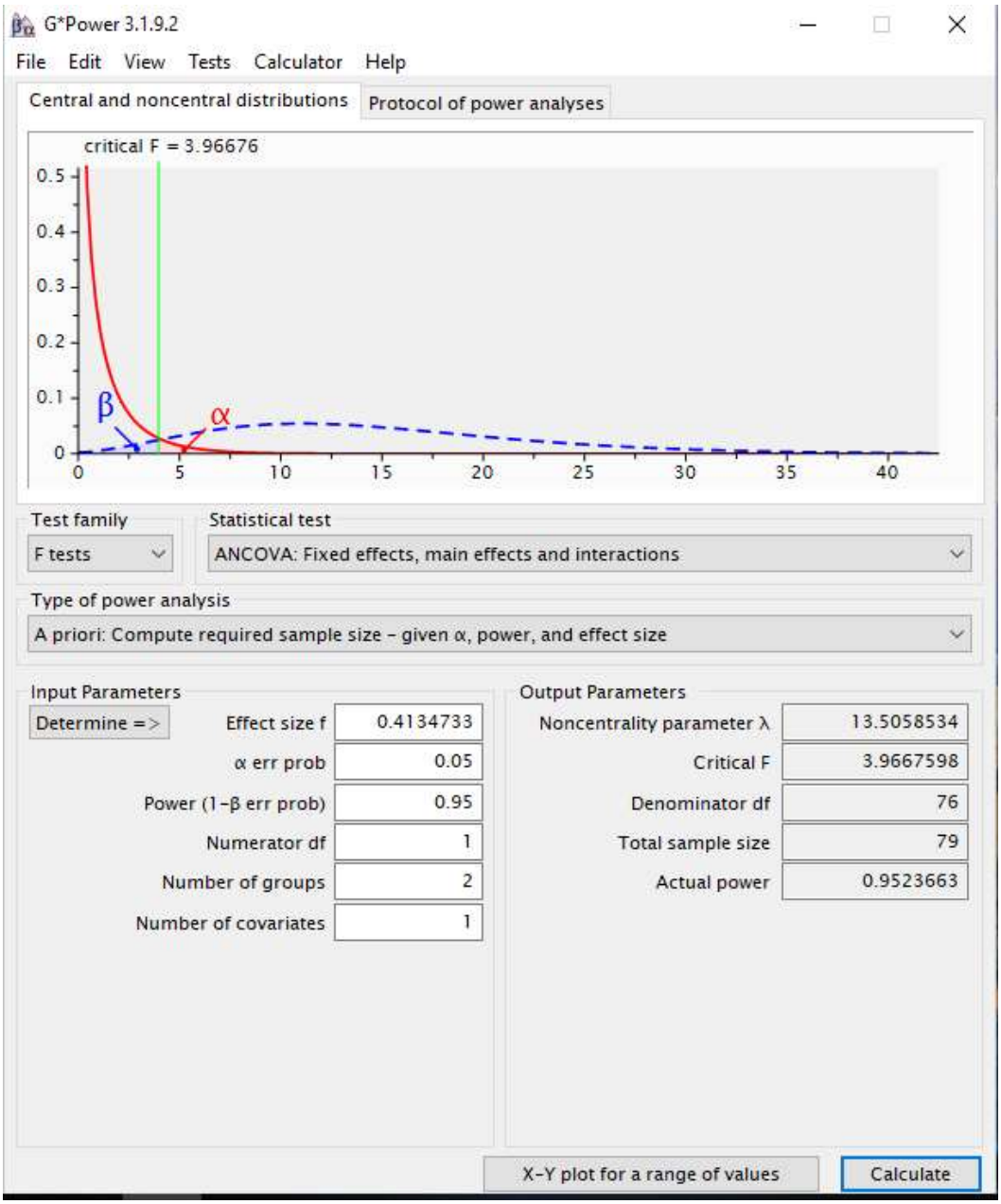
Approved by,

(Dr. Ai-Suan Lee)

FYP Supervisor

APPENDIX E

G*Power Results



APPENDIX F

SPSS outputs

Frequencies

Statistics

		Age	Race	BMI	Images	Img
N	Valid	146	146	146	146	146
	Missing	0	0	0	0	0
Mean		16.92	2.54	2.14	2.21	2.41
Median		17.00	3.00	2.00	2.50	2.50
Mode		19	3	3	3	1[a]
Std. Deviation		1.857	.696	.819	.870	1.118
Variance		3.449	.485	.671	.757	1.251
Range		5	3	2	2	3
Minimum		14	1	1	1	1
Maximum		19	4	3	3	4

a. Multiple modes exist. The smallest value is shown

Frequency Table

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14	19	13.0	13.0	13.0
	15	26	17.8	17.8	30.8
	16	16	11.0	11.0	41.8
	17	19	13.0	13.0	54.8
	18	18	12.3	12.3	67.1
	19	48	32.9	32.9	100.0
	Total	146	100.0	100.0	

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	15	10.3	10.3	10.3
	Chinese	39	26.7	26.7	37.0
	Indian	90	61.6	61.6	98.6
	Others	2	1.4	1.4	100.0
	Total	146	100.0	100.0	

BMI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Underweight	40	27.4	27.4	27.4
	Normal	46	31.5	31.5	58.9
	Overweight	60	41.1	41.1	100.0
	Total	146	100.0	100.0	

Images

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Thin/Normal-size	43	29.5	29.5	29.5
	Plus-size	30	20.5	20.5	50.0
	Cokebottle	73	50.0	50.0	100.0
	Total	146	100.0	100.0	

Img

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	T-thin/normal	43	29.5	29.5	29.5
	T-plus-size	30	20.5	20.5	50.0
	C-thin/normal	43	29.5	29.5	79.5
	C-plus-size	30	20.5	20.5	100.0
	Total	146	100.0	100.0	

Explore

```
[DataSet2] C:\Users\lma_a\Desktop\New Folder\6march19\for ancova.sav
```

Images

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	Images	N	Percent	N	Percent	N	Percent
GS_EAT	Thin/Normal-size	43	100.0%	0	0.0%	43	100.0%
	Plus-size	30	100.0%	0	0.0%	30	100.0%

Descriptives

	Images			Statistic	Std. Error
GS_EAT	Thin/Normal-size	Mean		-.79	.893
		95% Confidence Interval for Mean	Lower Bound	-2.59	
			Upper Bound	1.01	
		5% Trimmed Mean		-1.09	
		Median		-1.00	
		Variance		34.312	
		Std. Deviation		5.858	
		Minimum		-15	
		Maximum		21	
		Range		36	
		Interquartile Range		4	
		Skewness		1.227	.361
		Kurtosis		4.346	.709
	Plus-size	Mean		-.67	2.048
		95% Confidence Interval for Mean	Lower Bound	-4.86	
			Upper Bound	3.52	
		5% Trimmed Mean		-2.11	
		Median		-3.00	
		Variance		125.816	
		Std. Deviation		11.217	
		Minimum		-17	
		Maximum		51	
		Range		68	
		Interquartile Range		6	
		Skewness		3.543	.427
		Kurtosis		16.161	.833

Extreme Values

	Images			Case Number	Value
GS_EAT	Thin/Normal-size	Highest	1	1	21
			2	13	11
			3	14	11
			4	71	7
			5	5	6
		Lowest	1	26	-15
			2	69	-9
			3	21	-9
			4	22	-7
			5	57	-6[a]
	Plus-size	Highest	1	29	51
			2	37	15
			3	6	5
			4	46	4
			5	43	3
		Lowest	1	9	-17
			2	42	-9
			3	31	-9
			4	35	-8
			5	18	-7

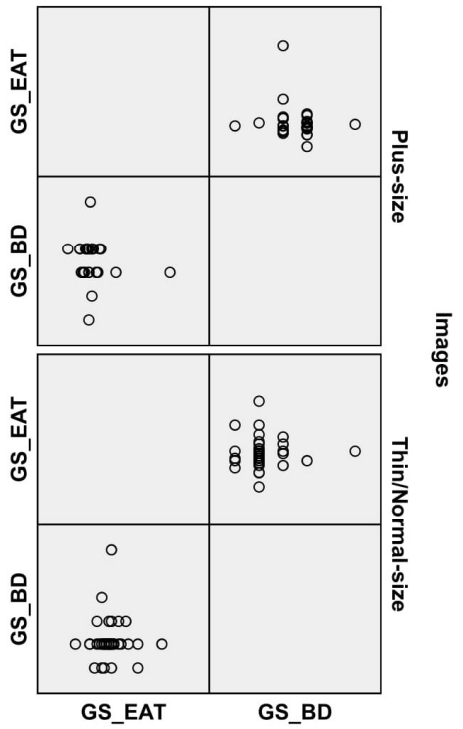
a. Only a partial list of cases with the value -6 are shown in the table of lower extremes.

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Images	Statistic	df	Sig.	Statistic	df	Sig.
GS_EAT	Thin/Normal-size	.214	43	.000	.887	43	.001
	Plus-size	.243	30	.000	.628	30	.000

a. Lilliefors Significance Correction

Graph

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Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
GS_BD	-3		1
	-2		1
	-1		16
	0		47
	1		5
	2		2
	4		1
Images	1	Thin/Normal-size	43
	2	Plus-size	30

Descriptive Statistics

Dependent Variable: GS_EAT

GS_BD	Images	Mean	Std. Deviation	N
-3	Plus-size	-3.00	.	1
	Total	-3.00	.	1
-2	Plus-size	-1.00	.	1
	Total	-1.00	.	1
-1	Thin/Normal-size	-.60	6.950	5
	Plus-size	3.64	17.031	11
	Total	2.31	14.504	16
0	Thin/Normal-size	-.94	6.186	31
	Plus-size	-3.38	5.290	16
	Total	-1.77	5.953	47
1	Thin/Normal-size	.40	4.506	5
	Total	.40	4.506	5
2	Thin/Normal-size	-4.00	.	1
	Plus-size	-2.00	.	1
	Total	-3.00	1.414	2
4	Thin/Normal-size	.00	.	1
	Total	.00	.	1
Total	Thin/Normal-size	-.79	5.858	43
	Plus-size	-.67	11.217	30
	Total	-.74	8.408	73

Tests of Between-Subjects Effects

Dependent Variable: GS_EAT

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Hypothesis	16.758	1	16.758	1.903	.410	.669
	Error	8.276	.940	8.807[a]			
GS_BD	Hypothesis	180.404	6	30.067	.456	.821	.290
	Error	441.632	6.696	65.957[b]			
Images	Hypothesis	6.043	1	6.043	.088	.771	.006
	Error	937.776	13.649	68.706[c]			
GS_BD * Images	Hypothesis	119.342	2	59.671	.793	.457	.025
	Error	4742.566	63	75.279[d]			

a. .996 MS(Images) - .157 MS(GS_BD * Images) + .162 MS(Error)

b. .597 MS(GS_BD * Images) + .403 MS(Error)

c. .421 MS(GS_BD * Images) + .579 MS(Error)

d. MS(Error)

Expected Mean Squares[a,b]

Source	Variance Component			
	Var(Images)	Var(GS_BD * Images)	Var(Error)	Quadratic Term
Intercept	7.511	1.565	1.000	Intercept, GS_BD
GS_BD	.000	3.567	1.000	GS_BD
Images	7.545	2.515	1.000	
GS_BD * Images	.000	5.972	1.000	
Error	.000	.000	1.000	

a. For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b. Expected Mean Squares are based on the Type III Sums of Squares.

Estimated Marginal Means

Images

Dependent Variable: GS_EAT

Images	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Thin/Normal-size	-1.027[a]	2.706	-6.435	4.381
Plus-size	-1.148[a]	3.081	-7.306	5.010

a. Based on modified population marginal mean.

Reliability

Reliability - Body Dissatisfaction (Treatment - Pretest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.630	.688	2

Item Statistics

	Mean	Std. Deviation	N
BD_Q1	5.48	2.042	73
BD_Q2	4.19	1.209	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.836	4.192	5.479	1.288	1.307	.829	2
Item Variances	2.816	1.463	4.170	2.707	2.851	3.664	2
Inter-Item Covariances	1.296	1.296	1.296	.000	1.000	.000	2

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.67	8.224	2.868	2

Reliability - Body Dissatisfaction (Treatment - Posttest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.625	.667	2

Item Statistics

	Mean	Std. Deviation	N
BD_1	5.33	1.922	73
BD_2	4.15	1.232	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.740	4.151	5.329	1.178	1.284	.694	2
Item Variances	2.607	1.519	3.696	2.177	2.434	2.370	2
Inter-Item Covariances	1.186	1.186	1.186	.000	1.000	.000	2
Inter-Item Correlations	.501	.501	.501	.000	1.000	.000	2

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.48	7.586	2.754	2

Reliability - EAT-26 (Treatment - Pretest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	72	98.6
	Excluded[a]	1	1.4
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.763	.768	26

Item Statistics

	Mean	Std. Deviation	N
EAT_1	.93	1.226	72
EAT_2	.40	.799	72
EAT_3	.43	.688	72
EAT_4	.40	.781	72
EAT_5	.42	.818	72
EAT_6	.49	.872	72
EAT_7	.35	.735	72
EAT_8	.32	.784	72
EAT_9	.07	.349	72
EAT_10	.26	.731	72
EAT_11	.93	1.155	72
EAT_12	1.31	1.252	72
EAT_13	.35	.891	72
EAT_14	.69	1.002	72
EAT_15	.61	1.015	72
EAT_16	.32	.836	72
EAT_17	.31	.620	72
EAT_18	.63	1.067	72
EAT_19	.53	.919	72
EAT_20	.21	.555	72
EAT_21	.21	.580	72
EAT_22	.42	.960	72

Item Statistics

	Mean	Std. Deviation	N
EAT_23	.26	.628	72
EAT_24	.26	.769	72
EAT_25	.07	.349	72
EAT_26	.72	.859	72

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	.457	.069	1.306	1.236	18.800	.079	26
Item Variances	.718	.122	1.567	1.445	12.860	.142	26
Inter-Item Covariances	.079	-.229	.643	.872	-2.807	.016	26

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.89	70.128	8.374	26

Reliability - EAT-26 (Treatment - Posttest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	70	95.9
	Excluded[a]	3	4.1
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.450	.847	26

Item Statistics

	Mean	Std. Deviation	N
EAT1	.73	1.089	70
EAT2	.30	.768	70
EAT3	.40	.769	70
EAT4	.36	.638	70
EAT5	.43	.844	70
EAT6	.44	.911	70
EAT7	.39	.856	70
EAT8	.27	.721	70
EAT9	.06	.376	70
EAT10	.17	.564	70
EAT11	.74	1.112	70
EAT12	1.17	1.142	70
EAT13	.33	.812	70
EAT14	.60	.954	70
EAT15	1.49	7.886	70
EAT16	.40	.875	70
EAT17	.34	.796	70
EAT18	.37	.820	70
EAT19	.47	.912	70
EAT20	.24	.647	70
EAT21	.17	.450	70
EAT22	.36	.869	70
EAT23	.34	.759	70
EAT24	.26	.674	70
EAT25	.07	.354	70
EAT26	.73	.931	70

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	.447	.057	1.486	1.429	26.000	.101	26
Item Variances	3.024	.125	62.195	62.070	496.536	145.742	26
Inter-Item Covariances	.092	-.983	.707	1.690	-.719	.043	26
Inter-Item Correlations	.176	-.237	.839	1.077	-3.541	.040	26

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.63	138.672	11.776	26

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.745	.807	2

Item Statistics

	Mean	Std. Deviation	N
BD1	5.70	1.963	73
BD2	3.97	1.166	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.836	3.973	5.699	1.726	1.434	1.490	2
Item Variances	2.606	1.360	3.852	2.492	2.832	3.105	2
Inter-Item Covariances	1.547	1.547	1.547	.000	1.000	.000	2
Inter-Item Correlations	.676	.676	.676	.000	1.000	.000	2

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.67	8.307	2.882	2

Reliability - Body Dissatisfaction (Control - Posttest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.697	.776	2

Item Statistics

	Mean	Std. Deviation	N
BD1	5.78	1.967	73
BD2	4.00	1.080	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.890	4.000	5.781	1.781	1.445	1.586	2
Item Variances	2.517	1.167	3.868	2.701	3.315	3.648	2
Inter-Item Covariances	1.347	1.347	1.347	.000	1.000	.000	2
Inter-Item Correlations	.634	.634	.634	.000	1.000	.000	2

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.78	7.729	2.780	2

Reliability - EAT-26 (Control-Pretest)

Warnings

Each of the following component variables has zero variance and is removed from the scale: EAT9

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.656	.663	25

Item Statistics

	Mean	Std. Deviation	N
EAT1	1.18	1.240	73
EAT2	.18	.509	73
EAT3	.49	.852	73
EAT4	.37	.697	73
EAT5	.34	.749	73
EAT6	.29	.697	73
EAT7	.21	.666	73
EAT8	.29	.697	73
EAT10	.10	.446	73
EAT11	1.07	1.171	73
EAT12	1.26	1.248	73
EAT13	.49	1.002	73
EAT14	.64	1.005	73
EAT15	.36	.806	73
EAT16	.40	.893	73
EAT17	.29	.656	73
EAT18	.59	.998	73
EAT19	.27	.629	73
EAT20	.34	.837	73
EAT21	.30	.720	73

Item Statistics

	Mean	Std. Deviation	N
EAT22	.32	.685	73
EAT23	.42	.815	73
EAT24	.14	.561	73
EAT25	.03	.234	73
EAT26	.60	.759	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	.438	.027	1.260	1.233	46.000	.099	25
Item Variances	.668	.055	1.556	1.502	28.403	.152	25
Inter-Item Covariances	.047	-.311	.760	1.070	-2.445	.016	25
Inter-Item Correlations	.073	-.315	.554	.869	-1.755	.029	25

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.96	45.096	6.715	25

Reliability - EAT-26 (Control - Posttest)

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	73	100.0
	Excluded[a]	0	.0
	Total	73	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.819	.818	26

Item Statistics

	Mean	Std. Deviation	N
EAT1	.96	1.184	73
EAT2	.10	.340	73
EAT3	.34	.671	73
EAT4	.26	.624	73
EAT5	.26	.667	73
EAT6	.25	.619	73
EAT7	.23	.613	73
EAT8	.27	.750	73
EAT9	.01	.117	73
EAT10	.12	.470	73
EAT11	.85	1.089	73
EAT12	1.10	1.192	73
EAT13	.51	1.042	73
EAT14	.41	.761	73
EAT15	.38	.907	73
EAT16	.33	.783	73
EAT17	.29	.656	73
EAT18	.48	.930	73
EAT19	.32	.724	73
EAT20	.52	.973	73
EAT21	.33	.765	73
EAT22	.33	.728	73
EAT23	.33	.746	73
EAT24	.11	.458	73
EAT25	.10	.476	73
EAT26	.56	.707	73

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	.375	.014	1.096	1.082	80.000	.067	26
Item Variances	.594	.014	1.421	1.408	103.750	.136	26
Inter-Item Covariances	.088	-.193	.823	1.017	-4.256	.017	26
Inter-Item Correlations	.148	-.280	.684	.964	-2.440	.034	26

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.74	72.584	8.520	26

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NEW FILE.
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Univariate Analysis of Variance

[DataSet2]

Between-Subjects Factors

		Value Label	N
Images	1	Thin/Normal-size	43
	2	Plus-size	30

Descriptive Statistics

Dependent Variable: GS_EAT

Images	Mean	Std. Deviation	N
Thin/Normal-size	-.79	5.858	43
Plus-size	-.67	11.217	30
Total	-.74	8.408	73

Levene's Test of Equality of Error Variances[a]

Dependent Variable: GS_EAT

F	df1	df2	Sig.
2.089	1	71	.153

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Images + GS_BD + Images * GS_BD

Tests of Between-Subjects Effects

Dependent Variable: GS_EAT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	83.860[a]	3	27.953	.385	.764	.016
Intercept	84.464	1	84.464	1.164	.284	.017
Images	9.211	1	9.211	.127	.723	.002
GS_BD	45.214	1	45.214	.623	.433	.009
Images * GS_BD	51.048	1	51.048	.704	.404	.010
Error	5006.195	69	72.554			
Total	5130.000	73				
Corrected Total	5090.055	72				

a. R Squared = .016 (Adjusted R Squared = -.026)

Estimated Marginal Means

1. Grand Mean

Dependent Variable: GS_EAT

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
-1.088[a]	1.083	-3.249	1.072

a. Covariates appearing in the model are evaluated at the following values: GS_BD = -.11.

2. Images

Dependent Variable: GS_EAT

Images	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Thin/Normal-size	-.806[a]	1.357	-3.513	1.902
Plus-size	-1.371[a]	1.688	-4.738	1.997

a. Covariates appearing in the model are evaluated at the following values: GS_BD = -.11.

Oneway

Test of Homogeneity of Variances

GS_BD

Levene Statistic	df1	df2	Sig.
2.116	3	142	.101

ANOVA

GS_BD

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.499	3	2.500	4.365	.006
Within Groups	81.329	142	.573		
Total	88.829	145			

Robust Tests of Equality of Means

GS_BD

	Statistic[a]	df1	df2	Sig.
Welch	3.613	3	75.198	.017
Brown-Forsythe	4.448	3	124.378	.005

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GS_BD

	(I) Img	(J) Img	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	T-thin/normal	T-plus-size	.606*	.180	.005	.14	1.07
		C-thin/normal	.140	.163	.828	-.28	.56
		C-plus-size	.040	.180	.996	-.43	.51
	T-plus-size	T-thin/normal	-.606*	.180	.005	-1.07	-.14
		C-thin/normal	-.467	.180	.051	-.93	.00
		C-plus-size	-.567*	.195	.022	-1.07	-.06
	C-thin/normal	T-thin/normal	-.140	.163	.828	-.56	.28
		T-plus-size	.467	.180	.051	.00	.93
		C-plus-size	-.100	.180	.945	-.57	.37
	C-plus-size	T-thin/normal	-.040	.180	.996	-.51	.43
		T-plus-size	.567*	.195	.022	.06	1.07
		C-thin/normal	.100	.180	.945	-.37	.57
Scheffe	T-thin/normal	T-plus-size	.606*	.180	.012	.10	1.12
		C-thin/normal	.140	.163	.866	-.32	.60
		C-plus-size	.040	.180	.997	-.47	.55
	T-plus-size	T-thin/normal	-.606*	.180	.012	-1.12	-.10
		C-thin/normal	-.467	.180	.086	-.98	.04
		C-plus-size	-.567*	.195	.042	-1.12	-.01
	C-thin/normal	T-thin/normal	-.140	.163	.866	-.60	.32
		T-plus-size	.467	.180	.086	-.04	.98
		C-plus-size	-.100	.180	.958	-.61	.41
	C-plus-size	T-thin/normal	-.040	.180	.997	-.55	.47
		T-plus-size	.567*	.195	.042	.01	1.12
		C-thin/normal	.100	.180	.958	-.41	.61

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

GS_BD

	Img	N	Subset for alpha = 0.05	
			1	2
Tukey HSD[a,b]	T-plus-size	30	-.47	
	C-thin/normal	43	.00	.00
	C-plus-size	30		.10
	T-thin/normal	43		.14
	Sig.		.051	.866
Scheffe[a,b]	T-plus-size	30	-.47	
	C-thin/normal	43	.00	.00
	C-plus-size	30		.10
	T-thin/normal	43		.14
	Sig.		.086	.896

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 35.342.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Oneway

Test of Homogeneity of Variances

GS_EAT

Levene Statistic	df1	df2	Sig.
2.100	3	142	.103

ANOVA

GS_EAT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.823	3	.941	.020	.996
Within Groups	6649.157	142	46.825		
Total	6651.979	145			

Robust Tests of Equality of Means

GS_EAT

	Statistic[a]	df1	df2	Sig.
Welch	.020	3	72.599	.996
Brown-Forsythe	.018	3	63.047	.997

a. Asymptotically F distributed.

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GS_EAT

	(I) Img	(J) Img	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	T-thin/normal	T-plus-size	-.124	1.628	1.000	-4.36	4.11
		C-thin/normal	.256	1.476	.998	-3.58	4.09
		C-plus-size	.076	1.628	1.000	-4.16	4.31
	T-plus-size	T-thin/normal	.124	1.628	1.000	-4.11	4.36
		C-thin/normal	.380	1.628	.996	-3.85	4.61
		C-plus-size	.200	1.767	.999	-4.39	4.79
	C-thin/normal	T-thin/normal	-.256	1.476	.998	-4.09	3.58
		T-plus-size	-.380	1.628	.996	-4.61	3.85
		C-plus-size	-.180	1.628	1.000	-4.41	4.05
	C-plus-size	T-thin/normal	-.076	1.628	1.000	-4.31	4.16
		T-plus-size	-.200	1.767	.999	-4.79	4.39
		C-thin/normal	.180	1.628	1.000	-4.05	4.41
Scheffe	T-thin/normal	T-plus-size	-.124	1.628	1.000	-4.73	4.48
		C-thin/normal	.256	1.476	.999	-3.92	4.43
		C-plus-size	.076	1.628	1.000	-4.53	4.68
	T-plus-size	T-thin/normal	.124	1.628	1.000	-4.48	4.73
		C-thin/normal	.380	1.628	.997	-4.23	4.99
		C-plus-size	.200	1.767	1.000	-4.80	5.20
	C-thin/normal	T-thin/normal	-.256	1.476	.999	-4.43	3.92
		T-plus-size	-.380	1.628	.997	-4.99	4.23
		C-plus-size	-.180	1.628	1.000	-4.79	4.43
	C-plus-size	T-thin/normal	-.076	1.628	1.000	-4.68	4.53
		T-plus-size	-.200	1.767	1.000	-5.20	4.80
		C-thin/normal	.180	1.628	1.000	-4.43	4.79

Homogeneous Subsets

GS_EAT

	Img	N	Subset for alpha = 0.05
			1
Tukey HSD[a,b]	C-thin/normal	43	-1.05
	C-plus-size	30	-.87
	T-thin/normal	43	-.79
	T-plus-size	30	-.67
	Sig.		.996
Scheffe[a,b]	C-thin/normal	43	-1.05
	C-plus-size	30	-.87
	T-thin/normal	43	-.79
	T-plus-size	30	-.67
	Sig.		.997

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 35.342.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
GS_EAT	-.86	6.773	146
GS_BD	-.03	.783	146

Correlations

		GS_EAT	GS_BD
Pearson Correlation	GS_EAT	1.000	-.068
	GS_BD	-.068	1.000
Sig. (1-tailed)	GS_EAT	.	.207
	GS_BD	.207	.
N	GS_EAT	146	146
	GS_BD	146	146

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GS_BD[b]	.	Enter

a. Dependent Variable: GS_EAT

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.068[a]	.005	-.002	6.781	.005	.669	1	144	.415	1.958

a. Predictors: (Constant), GS_BD

b. Dependent Variable: GS_EAT

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.770	1	30.770	.669	.415[b]
	Residual	6621.209	144	45.981		
	Total	6651.979	145			

a. Dependent Variable: GS_EAT

b. Predictors: (Constant), GS_BD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	-.876	.562		-1.560	.121	-1.987	.234			
	GS_BD	-.589	.719	-.068	-.818	.415	-2.011	.834	-.068	-.068	-.068

a. Dependent Variable: GS_EAT

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.23	.89	-.86	.461	146
Residual	-16.124	51.288	.000	6.757	146
Std. Predicted Value	-5.154	3.789	.000	1.000	146
Std. Residual	-2.378	7.564	.000	.997	146

a. Dependent Variable: GS_EAT

Oneway

Descriptives

GS_Diet

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Underweight	40	-.23	3.526	.558	-1.35	.90	-7	14
Normal	46	-.48	4.004	.590	-1.67	.71	-5	15
Overweight	60	-1.50	3.757	.485	-2.47	-.53	-13	11
Total	146	-.83	3.794	.314	-1.45	-.21	-13	15

Test of Homogeneity of Variances

GS_Diet

Levene Statistic	df1	df2	Sig.
.708	2	143	.494

ANOVA

GS_Diet

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.266	2	23.633	1.657	.194
Within Groups	2039.453	143	14.262		
Total	2086.719	145			

Robust Tests of Equality of Means

GS_Diet

	Statistic[a]	df1	df2	Sig.
Welch	1.707	2	89.975	.187
Brown-Forsythe	1.669	2	135.032	.192

a. Asymptotically F distributed.

Oneway

Descriptives

GS_BFP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Underweight	40	-.30	1.522	.241	-.79	.19	-2	6
Normal	46	-.35	1.636	.241	-.83	.14	-5	5
Overweight	60	-.22	1.757	.227	-.67	.24	-4	5
Total	146	-.28	1.647	.136	-.55	-.01	-5	6

Test of Homogeneity of Variances

GS_BFP

Levene Statistic	df1	df2	Sig.
.540	2	143	.584

ANOVA

GS_BFP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.468	2	.234	.085	.918
Within Groups	393.018	143	2.748		
Total	393.486	145			

Robust Tests of Equality of Means

GS_BFP

	Statistic[a]	df1	df2	Sig.
Welch	.081	2	91.705	.923
Brown-Forsythe	.088	2	139.950	.916

a. Asymptotically F distributed.

Oneway

Descriptives

GS_OC

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Underweight	40	-.53	3.013	.476	-1.49	.44	-9	5
Normal	46	.02	2.275	.335	-.65	.70	-5	10
Overweight	60	.95	8.540	1.102	-1.26	3.16	-3	65
Total	146	.25	5.840	.483	-.70	1.21	-9	65

Test of Homogeneity of Variances

GS_OC

Levene Statistic	df1	df2	Sig.
.760	2	143	.469

ANOVA

GS_OC

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	55.820	2	27.910	.816	.444
Within Groups	4889.803	143	34.194		
Total	4945.623	145			

Robust Tests of Equality of Means

GS_OC

	Statistic[a]	df1	df2	Sig.
Welch	.910	2	88.270	.406
Brown-Forsythe	1.051	2	86.283	.354

a. Asymptotically F distributed.

Non-Parametric

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
GS_EAT	73	-.74	8.408	-17	51
Images	73	1.41	.495	1	2

Kruskal-Wallis Test

Ranks

	Images	N	Mean Rank
GS_EAT	Thin/Normal-size	43	39.21
	Plus-size	30	33.83
	Total	73	

Test Statistics[a,b]

	GS_EAT
Chi-Square	1.144
df	1
Asymp. Sig.	.285

a. Kruskal Wallis Test

b. Grouping Variable: Images

Median Test

Frequencies

		Images	
		Thin/Normal-size	Plus-size
GS_EAT	> Median	23	13
	<= Median	20	17

Test Statistics[a]

		GS_EAT
N		73
Median		-2.00
Chi-Square		.729
df		1
Asymp. Sig.		.393
Yates' Continuity Correction	Chi-Square	.379
	df	1
	Asymp. Sig.	.538

a. Grouping Variable: Images

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
GS_BD	73	-.11	.891	-3	4
Images	73	1.41	.495	1	2

Kruskal-Wallis Test

Ranks

	Images	N	Mean Rank
GS_BD	Thin/Normal-size	43	42.77
	Plus-size	30	28.73
	Total	73	

Test Statistics[a,b]

	GS_BD
Chi-Square	10.703
df	1
Asymp. Sig.	.001

a. Kruskal Wallis Test

b. Grouping Variable: Images

Median Test

Frequencies

		Images	
		Thin/Normal-size	Plus-size
GS_BD	> Median	7	1
	<= Median	36	29

Test Statistics[a]

		GS_BD
N		73
Median		.00
Chi-Square		3.035
df		1
Asymp. Sig.		.081
Yates' Continuity Correction	Chi-Square	1.853
	df	1
	Asymp. Sig.	.173

a. Grouping Variable: Images

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
GS_BD	73	-.11	.891	-3	4
Images	73	1.41	.495	1	2

Mann-Whitney Test

Ranks

	Images	N	Mean Rank	Sum of Ranks
GS_BD	Thin/Normal-size	43	42.77	1839.00
	Plus-size	30	28.73	862.00
	Total	73		

Test Statistics[a]

	GS_BD
Mann-Whitney U	397.000
Wilcoxon W	862.000
Z	-3.272
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: Images

APPENDIX G

Turnitin Report

FYP 2

ORIGINALITY REPORT

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APPENDIX H

Action plan

Action Plan of UAPZ 3023 (group-based)Final Year Project II for Jan & May trimester

Supervisee's Name: RASHINI THEVI NACH, LISA MARIE ANN, VANESSA NICOLE

Supervisor's Name: DR LEE AI-SUAN

Task Description	Duration	Date/Time	Supervisee's Signature	Supervisor's Signature	Supervisor's Remarks	Next Appointment Date/Time
Methodolgy, Data Collection & Data Analysis	W1-W2	(corrected via email)	Rashini, Lisa		To continue Awsia data collection & start data entry	TBD.
Finding & Analysis Discuss Findings & Analysis with Supervisor Amending Findings & Analysis	W3-W6	31/1 14/2	Rashini, Lisa		Discussed preliminary data entry. Discussed preliminary data analysis to complete data analysis	after CNY
Discussion & Conclusion Discuss Discussion & Conclusion with Supervisor Amending Discussion & Conclusion	W7-W9	5/3 11/3	Rashini, Lisa		Discussed final data analysis & draft of Discussion Finalized discussion & conclusion	Mon 13/3 Fri 17/3 1.30pm
Submission of first draft*	Monday of Week 10	submit the first draft to Turnitin.com to check similarity rate				
Amendment	W10					
Submission of final FYP (FYP I + FYP II)*	Monday of W11	submit hardcopy, CD, and relevant documents to supervisor				
Oral Presentation	W11-W12	Oral Presentation Schedule will be released and your supervisor will inform you via email.				

Notes:

1. **The listed duration is for reference only, supervisors can adjust the period according to the topics and content of the projects.**
2. ***Deadline for submission can not be changed, one mark will be deducted per day for late submission.**
3. **Supervisees are to take the active role to make appointments with their supervisors.**
4. **Both supervisors and supervisees should keep a copy of this rec 5. This record is to be submitted together with the submission of the FYP II.**