



Faculty of Medicine and Health Sciences

**RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION,
PSYCHOLOGICAL ILLNESS AND DISORDERED EATING ATTITUDE
AMONG COLLEGE YOUTH IN KUCHING**

Izzaty binti Hamidi

Master of Public Health

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PSYCHOLOGICAL ILLNESS AND DISORDERED EATING
ATTITUDE AMONG COLLEGE YOUTH IN KUCHING**

Izzaty binti Hamidi

**Research Project submitted in partial fulfilment of the requirements for the
degree of Master of Public Health**

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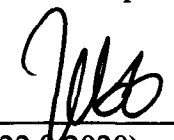
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LIST OF ABBREVIATIONS

APA	American Psychiatric Association
BSI-53	Brief Symptoms Inventory -53
DEAS	Disordered Eating Attitude Scale
DSM V	Diagnostic and Statistical Manual V
EAT-26	Eating Attitude Test-26
EDs	Eating Disorders
HLIs	Higher Learning Institutions
IGD	Internet Gaming Disorder
MPA	Malaysian Psychiatric Association
OSFED	Other Specified Feeding or Eating Disorder
SEA	South East Asia
TGSI	Global Severity Index T score
VIF	Variance Inflation Factor
WHO	World Health Organization

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ABSTRACT

Introduction: The rising trend of disordered eating globally and also in Malaysia has led to a number of research that is investigating the factors associated with disordered eating attitude. These factors are social media addiction and psychological illness.

Methodology: This is a quantitative, cross-sectional study that determines the relationship between social media addiction, psychological illness and disordered eating attitude among college youth in private Higher Learning Institutions (HLIs).

Self-administered questionnaires were distributed among the respondents. Data was entered and analysed using SPSS version 22. **Results:** A total of 229 respondents have

participated in this study. There is positive correlation between social media addiction, psychological illness and disordered eating attitude. The multiple regression analysis have identified social media addiction ($r=0.241$, $p < 0.05$) and psychological illness ($r=0.271$, $p < 0.05$) as significant predictors to disordered eating attitude. This 2-factor

model could only explained 8.1% total variance of disordered eating attitude. The psychological illness is found to have partial mediating effect on the relationship

between social media addiction and disordered eating attitude because both direct effect (coefficient $C' = 0.16$, $p < 0.01$) and indirect effect (coefficient $A = 0.17$, $p < 0.01$

and coefficient $B = 0.27$, $p < 0.01$) are significant **Conclusion:** Social media addiction

and psychological illness are significant predictors to disordered eating attitude.

Psychological illness has a partial mediating effect between social media addiction and disordered eating attitude.

Keywords: *youth, disordered eating attitude, social media addiction, psychological illness.*

ABSTRAK

Pendahuluan: Kejadian tabiat pemakanan yang tidak sihat yang semakin meningkat di seluruh dunia dan juga di Malaysia telah menyebabkan beberapa kajian dibuat untuk menyiasat faktor yang boleh mengakibatkan keadaan tersebut. Faktor yang telah dikenalpasti ialah ketagihan terhadap media sosial dan penyakit psikologi.

Methodologi: Kajian ini ialah satu kajian kuantitatif dan keratan rentas yang mengkaji tentang hubungan antara ketagihan media sosial, penyakit psikologi dan tabiat pemakanan yang tidak sihat di kalangan belia di institusi pengajian tinggi swasta. Soal selidik diedarkan kepada golongan belia tersebut. Data kajian dimasukkan dan dianalisa menggunakan SPSS versi 22. **Keputusan:** Seramai 229 belia telah menyertai kajian in. Terdapat hubungkait yang positif diantara ketagihan media sosial, penyakit psikologi dan tabiat pemakanan yang tidak sihat. Selain itu, ketagihan media sosial ($r=0.241$, $p < 0.05$) dan penyakit psikologi ($r=0.271$, $p < 0.05$) telah didapati sebagai peramal kepada kejadian tabiat pemakanan yang tidak sihat. Penyakit psikologi juga mempunyai kesan pengantaraan separa terhadap hubungan diantara ketagihan media sosial dan tabiat pemakanan yang tidak sihat kerana kesan langsung (*coefficient C*'= 0.16 , $p < 0.01$) dan kesan tidak langsung (*coefficient A*= 0.17 , $p < 0.01$ and *coefficient B*= 0.27 , $p < 0.01$) adalah penting. **Kesimpulan:** Campur tangan kesihatan awam terhadap ketagihan media sosial dan penyakit psikologi adalah penting untuk mengurangkan kejadian tabiat pemakanan yang tidak sihat di Malaysia.

Kata kunci: belia, tabiat pemakanan tidak sihat, ketagihan media sosial, penyakit psikologi.

CHAPTER 1: INTRODUCTION

1.1 Background of the study

Irregular eating behaviours that do not necessarily require a diagnosis of specific eating disorder is known as disordered eating. This type of eating behaviours are usually diagnosed as Other Specified Feeding or Eating Disorders (OSFED) (Anderson, 2018). Although disordered eating is not a specific eating disorder but is mainly used as a descriptive phase, certain criteria need to be met for an individual to be diagnosed with OSFED (Anderson, 2018). Examples of disordered eating are chronic restrained eating, skipping meals, restrictive dieting and misuse of laxative (National Eating Disorders Collaboration, 2020). Meanwhile, illnesses that are related to severe disturbances to a person's eating behaviours and which is associated with his thoughts and emotions are known as eating disorders (Parekh, 2018). A person's presenting signs and symptoms that has been outlined and defined by American Psychiatric Association (APA) is important in differentiating whether that person is having an eating disorder or disordered eating behaviour. However, there are certain circumstances where the symptoms of disordered eating do not match with the existing diagnosis of eating disorder. In whichever situation, whether or not the disordered eating behaviours can fit into any diagnosis, this condition requires undivided attention and treatment as failure to do so will lead to severe eating disorders and health problems (Anderson, 2018).

The prevalence of disordered eating varies in different countries. 31% of women ages 25 to 45 in the United States suffer from disordered eating behaviour such as purging to have an ideal body weight (Reba-Harrelson et al., 2009). Meanwhile, in

Saudi Arabia about 25.4% of adolescent girls have been found to have disordered eating (Waseem & Ahmad, 2018) and the prevalence is 20.3% among Malaysian university students (Yit et al., 2020). Adolescents who are 15 to 19 years old are the most affected group of population and disordered eating is more commonly found among female adolescents which later can progress to adulthood (Kelty Eating Disorders, 2020).

An individual with disordered eating may present with long-term body weight changes, regular dieting and meal skipping habits, having strict dietary and exercise routines. Other symptoms may include being preoccupied with the negative effects of food, weight and body image on quality of life, having compulsive eating habits due to lack of control on eating habits and sometimes may present with habits of fasting or food purging to compensate for the compulsive eating behaviour (Anderson, 2018). An individual suffering from disordered eating behaviours could have certain physical signs such as alteration in bowel habits, abdominal discomfort, disruption in regular menstrual cycle, lethargic, dry and brittle skin, and dental caries due to erosion of enamel (Cleveland Clinic, 2018).

Disordered eating has been identified as an emerging public health issue due to its consequences to the health of adolescents. 1 in 4 teen girls have been suffering from disordered eating who has unhealthy attitudes towards one's body weight that involves unhealthy behaviours such as meal-skipping, extreme dieting, bingeing and dieting (BC Mental Health and Addiction Services, 2015). The main concern of the public health impact of disordered eating is due to its increasing incidence and its direct relationship with eating disorders. As such, adolescents who have severe dieting are 18 times more likely to develop clinical eating disorders (Patton, Selzer, Coffey, Carlin, & Wolfe,

1999). The widespread public health messages about obesity prevention has led to the increase in disordered eating and subsequently increases the incidence of eating disorders which has higher mortality rates such as anorexia nervosa with mortality rate of 5 to 8% (Steinhausen, 2002). This is due to the repercussion of global public health messages regarding the reduction of overweight and obesity that usually places the responsibility of obesity on the individual which conveys the message that obesity is due to lack of calories utilization and is preventable with a good amount of dieting and physical exercise. This has inadvertently led to the development of disordered eating attitudes (BC Mental Health and Addiction Services, 2015).

Predictors that are possibly linked to the incidence of disordered eating among youth are social media use and psychological illness. Social media is one of the environmental factor that might contribute to the development of the disordered eating among youth (Sidani, Shensa, Hoffman, Hanmer, & Primack, 2016). This is because social media has been known to put forth the thin-body standards and emphasis is given on being thin which is equivalent to beauty. This is happening because the nature of social media platforms that allow their users to share photos and profiles which are subjected to public's scrutiny and opinion. Social media users will be influenced into thinking that to be accepted and praised is by being thin. Therefore, this will encourage them to achieve the "thin-body" standards which usually is unattainable standards. Social media users constitute mostly of youth will be the most affected population and lead to high incidence of disordered eating among them (Saunders & Eaton, 2018). Social media addiction can be defined as a compulsion of excessive social media use which is associated with the symptoms of physical and emotional reactions with psychological problems (M. D. Griffiths, Kuss, Billieux, & Pontes, 2016).

The other possible predictor to disordered eating will be psychological illness. Psychological illnesses or mental illnesses are a collection of diagnosable mental disorders. They are health conditions involving changes in emotion, thinking or behaviour which are associated with distress and problems functioning in social, work or family activities (Parekh, 2018). Difficulties in controlling negative emotions may be the underlying cause that is linking psychological illness to the development of disordered eating (Prefit & Szentagotai-Tatar, 2018). Depression will be the most common psychological illness among adolescent and youth (Santos, Steven Richards, & Kathryn Bleckley, 2007). A study that has done among American adolescents have found positive correlation between eating attitudes and depressive symptoms. Thus, this indicates that when the adolescent is having more depressive symptoms, the disordered eating attitudes is more severe (Santos et al., 2007).

The detrimental health effects that a person with disordered eating behaviours might suffer should be addressed and highlighted as this abnormal eating habits usually occur among adolescents. Adolescents are the most vulnerable age group and they are at risk to develop disordered eating behaviours as they are at the phase of their life where they are still looking for their identity and being insecure with their appearance are the usual consequence (Office of Adolescent Health, 2018). Thus, mental health is easily becoming affected when the adolescent is dealing with insecurities and the need to have similar physical appearance as their peers. When they are unable to look like their peers, this will cause further stress in their life. Poor coping mechanism to stressful situation will lead to depression and social isolation. Prolonged depression will contribute to the rise in incidence of suicidal thoughts and behaviours among these adolescents (Anderson, 2018). Thus, with these serious mental health effects,

disordered eating behaviours warrant to be further looked into and the reason for this study to investigate possible linkages between social media addiction, psychological illness and disordered eating behaviours. By knowing these possible relationships, hopefully it will shade some light into contributing factors to the rising prevalence of disordered eating behaviour. Concurrently, the findings from this study is to facilitate in designing preventive measures particularly for the adolescents and policy to reduce the incidence of disordered eating behaviours in the near future.

1.2 Statement of problems

Several studies have shown high prevalence rates of disordered eating behaviours among young adults. Pengpid (2018) has conducted a prevalence study of eating disorder attitude which has targeted university students in a few South East Asian countries. The findings revealed that Myanmar has the highest prevalence rate of 20.6% young adults with disordered eating behaviours, followed by Malaysia at 13.8%, and 10% in Indonesia, Thailand and Vietnam (Pengpid & Peltzer, 2018). The prevalence rate of disordered eating is much higher in other Asian countries such as Bangladesh (40.2%), Iran (10.5%) and Pakistan (25.4%) (Pengpid & Peltzer, 2018). This could be contributed by the globalization, urbanization and influence from the social media where people particularly in Asia countries started to look at Western community for the ideal body standards (Pengpid & Peltzer, 2018). Although low-income countries such as Bangladesh, Iran and Pakistan have been a more conservative countries with less exposure to Western culture and media influence, this has recently changed due to the increase in industrialization. Therefore, this could be the reason for high incidence of disordered eating in such countries (Pike & Dunne, 2015).

There are also evidences that favours gender difference in developing disordered eating attitudes. Female students have been found to have higher risk for disordered eating behaviour compare to male students. In a study done in Kuala Lumpur and Selangor, about 20.3% of university students in both of the states are found to have disordered eating attitudes (Yit et al., 2020). Similar findings are reported by the Malaysian Psychiatric Association (MPA) where their survey has revealed that majority of those who suffers from eating disorders as female (Andexer, 2016). This indicates that young female adults are at greater risk for this altered eating attitudes.

World Health Organization (WHO) has defined young adults or youth as the age group between 15 to 24 years old (World Health Organization). Youth is an important phase in life as it denotes a transition from childhood to adulthood. During this transition, there will be changes in their physical, sexual, psychological and social development. As they are vulnerable to changes, this makes them at greater risk of developing alteration in their eating habits that eventually can affect their health and well-being (World Health Organization). This alteration in eating attitudes can be attributed to the influence of social media. Activities such as photo sharing through social media may inflict negative comments toward their appearance. This is an example of body-shaming which could happen in social media and this will trigger the disordered eating behaviour among youths (Andexer, 2016). Therefore, the increasing trend of disordered eating could be due to the rise in social media usage and this should be investigated further.

There have been research done to establish the relationship between social media addiction and disordered eating. One such study has been done among 584

adolescents in Turkey (Alpaslan, Kocak, Avci, & Tas, 2015) discovered that 15.2% of them have disordered eating and 10.1% of them who have disordered eating is also found to have internet addiction. This could be due to body image perception among social media users that eventually leads to disordered eating (Rodgers, Melioli, Laconi, Bui, & Chabrol, 2013). However, there is lack of research that look into the relationship of social media addiction to the psychological illness and disordered eating behaviour among adolescents in this country.

Social media use has been increasing in the recent years. In 2017, there are 2.86 billion users worldwide and this has increased to 3.4 billion in 2019 (Clement, 2020). The growth in social media usage is in parallel with the increase in usage of mobile devices (Clement, 2020). A study involving adolescents in the United States have shown that there is linear relationship between social media use and disordered eating among youth (Sidani et al., 2016). Therefore, when social media use is increasing, so does the incidence of disordered eating. When these individuals are using and spent more time on social media, they are inevitably being exposed to images that promote unattainable ideal body standards and this is a risk for development of disordered eating attitudes (Sidani et al., 2016).

Globally, there is a steady rise in the prevalence of psychological illness and depression is the most common mental illness which has a predilection for female (Ritchie, 2018). Depression has been found to directly predict disordered eating. When an individual is having more depressive symptoms, this will lead to more severe disordered eating attitudes (Prefit & Szentagotai-Tatar, 2018). This could be due to the poor coping skills and lack of adaptive emotion regulation strategies that has led

individuals with depressive symptoms to engage in more disordered eating attitudes (Prefit & Szentagotai-Tatar, 2018).

Therefore, this quantitative study is aiming at establishing the relationship between social media addiction, psychological illness and disordered eating attitude among students at private higher learning institutions (HLI) in Kuching. The study population will be college students who are categorised as youth because they are the population at risk of developing such alteration in eating behaviour. Therefore, the findings from this study could contribute to the development of effective youth programmes that will be used to tackle the rising trend of disordered eating behaviour and mental health issues among youths.

1.3 Research questions

1. Does social media addiction predict disordered eating attitude among students at private HLI?
2. Does psychological illness predict disordered eating attitude among students at private HLI?
3. Does social media addiction, psychological illness and disordered eating attitude differ based on socio-demographic characteristics?
4. Does the psychological illnesses act as a mediator between disordered eating attitude and social media addiction?

1.4 Research objectives

1.4.1 General objectives

To determine the relationship between social media addiction, psychological illness and disordered eating among youth students at private Higher Learning Institutions (HLI) in Kuching.

1.4.2 Specific objectives

1. To determine the relationship between social media addiction and disordered eating attitude.
2. To determine the relationship between psychological illness and disordered eating attitude.
3. To determine relationship between social media addiction and psychological illnesses
4. To compare the difference of social media addiction, psychological illnesses and disordered eating attitude based on socio-demographic data.
5. To estimate the mediator effect of psychological illness between social media use and disordered eating attitude.

1.5 Research hypothesis

1. Students with higher addiction of social media is associated with more severe disordered eating attitude.
2. Students that reporting with more psychological symptoms will have more severe disordered eating behaviour.
3. Students with high addiction to social media will have more psychological symptoms.

4. There are differences in social media addiction, psychological addiction and disordered eating attitude based on socio-demographic characteristics.
5. The effect of social media addiction on disordered eating attitude is significantly mediated by psychological illness.

1.6 Conceptual framework

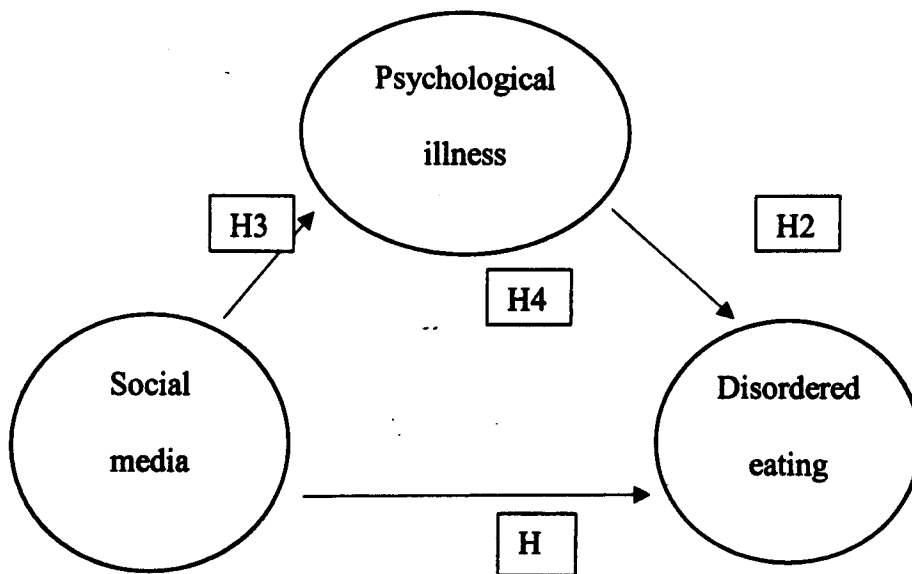


Figure 1.1 Relationship between social media addiction, psychological illness and disordered eating attitude

This conceptual framework shows the relationship between social media addiction and disordered eating behaviour, relationship between social media use and

psychological illness, relationship between psychological illness and disordered eating behaviour, and the mediating effect psychological illness on the relationship between social media use and disordered eating behaviour.

The development of disordered eating among youth can be influenced by social media usage. Early adulthood or youth is a phase of development which is also a high risk population for disordered eating behaviour as they are easily dissatisfied with their physical appearance and the motivation and surrounding pressure that idolizes the thin look will fuel the disordered eating outcomes among the youth (Saunders & Eaton, 2018). Saunders and Eaton (2018) has investigated the impact of social media use on the disordered eating outcomes among young female age 18 to 24 years old and there is positive relationship between social media use and disordered eating outcomes.

Psychological illness such as depression, anxiety and stress is a rising issue and is becoming a concern among youth. This needs to be looked into further as the consequence of untreated psychological illness is severe and fatal. About 9.7% and 29% of the university students in Klang Valley area are having severe depression and anxiety (Shamsudin et al., 2013). Excessive and pathological social media use has a role in the increase of psychological illnesses among youth. A recent study that has looked into the association between problematic social media use and depression has found positive relationship (Raudsepp & Kais, 2019).

The presence of psychological illnesses can be a facilitating factor in the development of disordered eating behaviour. Paans et al. (2018) explains that cognitive restrained eating could be the causative factor that permits changes in eating habits among those with depression, anxiety or stress. A research in the European countries have shown that individuals with psychological illnesses are associated with altered

eating habits (Paans et al., 2018). Another reason that could explain this is due to the difficulties in regulating the emotion and level of coping skills that lead to the disordered eating behaviours among those with depressive symptoms (Prefit & Szentagotai-Tatar, 2018). Although there have been several studies that investigated the relationship between psychological illnesses and disordered eating, there is still lack of research that is looking into the possible mediating effect of psychological illness in the development of disordered eating among youth with social media addiction.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Disordered eating is more likely to occur in an individual who has certain risk factors in terms of biological, psychological and sociocultural. Biological risk factors for the development of disordered eating in an individual can be the presence of a close relative who has similar disordered eating attitudes or a relative who is struggling with mental health illness (National Eating Disorders Association, 2018). Mental health illnesses such as anxiety, depression and addiction are hereditary and increase the risk of having disordered eating (Rosenberg, 2019). Other example of biological risk factor is the history of frequent dieting which is associated with disordered eating attitude such as binge-eating. Apart from that, negative energy balance occurs in an individual when calories are being burnt more than they are consumed. There are reports that have stated the deliberate effort of dieting or other causes such as growth spurts, illness and intense athletic training can be a head start for disordered eating (National Eating Disorders Association, 2018).

Psychological risk factors for disordered eating include perfectionism, body image dissatisfaction and history of anxiety disorder. Perfectionism can be defined as a doctrine that perfection of moral character constitutes a person's highest good (Merriam-Webster, 2020b). The need to be perfect can be one of the strongest risk factor for disordered eating where an individual is having an unrealistically high expectations for oneself (National Eating Disorders Association, 2018). Body image is the thought or opinion that you have when you look at yourself in the mirror and it is the belief about one's appearance and how you feel about your body that includes

your height, weight and body shape (Stice & Whitenton, 2002). This opinion about body image can be positive or negative. A healthy and positive body image is vital for the mental well-being and a protective factor toward disordered eating. This includes being comfortable and confident in your own body and accepting your natural body shape and size. At the same time, having the insight that one's physical appearance does not reflect on the character and value of a person is also part of positive body image (Stice & Whitenton, 2002). Meanwhile, negative body image is when an individual is feeling ashamed, anxious and self-conscious about his body. It is also associated with high level of body dissatisfaction toward their own body in comparison with others. Individuals with negative body image tend to be depressed, isolated from the society, having low self-esteem and also disordered eating attitude (Stice & Whitenton, 2002). History of anxiety disorder is also a notable psychological risk factor for disordered eating. It has been reported that there are concomitant signs and symptoms of anxiety disorder prior to the onset of disordered eating (Pengpid & Peltzer, 2018).

Examples of social risk factors for disordered eating are body weight stigma and acculturation. Certain public health messages that have been promoting body weight reduction among overweight and obese individuals could have created the perception that having low body weight and being thin is ideal and healthy. This contributes to body weight stigma which is a form of discrimination and an effort to stereotyping individuals based on a person's weight (Bryn Austin, 2012). The other social risk factor will be acculturation. Acculturation is the cultural modification of an individual, group or people by adapting to or borrowing traits from another culture (Merriam-Webster, 2020a). This acculturation phenomenon is occurring mostly in low

to middle income countries which are undergoing phases of urbanization and industrialization. This has inadvertently exposed the people of these countries to the Western culture which promotes “thin-body” images through Western media. Therefore, this acculturation has led to the introduction of disordered eating among the people of these developing countries as they are trying to achieve the “thin-body” appearance (Pike & Dunne, 2015).

2.2 Disordered eating behaviour

Disordered eating occurs when an individual develops abnormal eating patterns or food behaviours regularly and this is a coping mechanism towards uncomfortable emotions for some individual (Shisslak, Crago, & Estes, 1995). It is a range of irregular eating behaviours that may or may not warrant a diagnosis of specific eating disorder. Whereas eating disorders are illnesses where people suffer severe disturbances in their eating behaviours which is also related to their thoughts and emotions. Examples of eating disorders are anorexia, bulimia and binge eating disorder (American Psychiatric Association, 2017). According to Diagnostic and Statistical Manual of Mental Disorders (DSM) V Classification, eating disorders (EDs) are categorized as typical EDs such as anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED). Whereas atypical EDs consists of atypical AN, BN, BED, purging and night eating syndrome. These are atypical forms of EDs which means they are feeding and eating disorder that are able to cause distress and impairment in social life but they do not fulfil the criteria for EDs. Hence, these atypical EDs are also known as other specified feeding or eating disorders (OSFED) and are usually referred to as disordered eating behaviours. The final category under EDs which is unspecified

feeding or eating disorders (UFED) and this includes other disorders that have not been listed under typical EDs or OSFED (Galmiche, Dechelotte, Lambert, & Tavoracci, 2019). A systematic review of disordered eating attitude has been done where it involves examining and reviewing multiple studies that have done prevalence study on disordered eating attitude. This disorder is a collection of abnormal eating habits and based on the systematic review study, dieting type of disordered eating has the highest prevalence with a range of 0.6-51.7%, followed by fasting type with 2.1-18.5%, binge eating with 1.2-17.3% and purgative type with 0-11% of prevalence (Ortega-Luyando, Alvarez-Rayon, Garner, & Mancilla-Diaz, 2015). It seems that dieting gains the most popular type of disordered eating attitude probably due to the painless and easiest way of losing weight.

Prevalence of disordered eating varies between countries. For example, in Saudi Arabia, a study has been conducted to obtain information regarding the prevalence of disordered eating behaviour among adolescent girls. Eating attitude test 26 (EAT 26) has been used in this study to assess the abnormal eating behaviour. Findings from this study has shown that the prevalence of disordered eating attitude in a city in Saudi Arabia is 25.47% and this is being prevalent among overweight and obese adolescent girls (Waseem & Ahmad, 2018). In South East Asian (SEA) countries, there have not been much prevalence studies done for comparison purpose. According to a study specifically on disordered eating attitude done in SEA, the prevalence is 10% in Thailand, Indonesia and Vietnam, 13.8% in Malaysia and 20.6% in Myanmar (Pengpid & Peltzer, 2018).

In Malaysia, the study on disordered eating attitude has not been extensive and limited to certain areas in the country. For instance, a study done among university

students in Kuala Lumpur and Selangor has found that from the 716 respondents, 20.3% of them are having disordered eating which is equivalent to 1 in 5 students (Yit et al., 2020). Although this statistic is seemingly high, it cannot be used to represent the whole country as the study is limited only in Kuala Lumpur and Selangor. There has been another study conducted in Selangor that is comparing the prevalence of disordered eating attitude between urban and rural secondary schools (Sandanasamy, 2016). This study is also looking into the correlation of this disorder among school-going students age 13 to 16 years old. For this study, the researcher is applying Perceived Sociocultural Pressure Scale (PSPS) to assess the disordered eating attitude among 601 respondents. Findings from this study has found that the prevalence of disordered eating attitude is 19.8% and 20.8% of those having disordered eating behaviour are females. 26.5% of those with this disorder are overweight adolescents. There is also significant difference in the prevalence between rural and urban schools where the percentage is higher in rural schools at 25.6%, whereas in urban school is only 15.2%. Other than the prevalence, this study is also looking into the possible predictors for the occurrence of disordered eating attitude among the adolescents and perceived sociocultural pressure to appear thin has been the most significant predictor in the development of this disorder. Other possible predictors that play a role in this disorder are the influence by media and weight teasing incidence (Sandanasamy, 2016). This is an interesting study that has been done to gather more knowledge and understanding regarding this disorder. The findings from this study do not have much difference from studies done in other countries. Thus, we can conclude that the prevalence of disordered eating attitude in Asian countries are within the range of 10-

20% and majority of those who are affected by this disorder is female adolescents and most of them are being overweight or obese.

Currently, there is no specific national guidelines on disordered eating in Malaysia. However, there is a National Plan of Action for Nutrition of Malaysia III (2016-2025). This is a blueprint for the national nutritional policy that has outlined the strategies to be used for the promotion of healthy eating (National Coordinating Committee on Food and Nutrition, 2016). The strategies have been designed targeting specific group of the population such as nutrition programmes for infants, children, adolescents, adults, pregnant women and elderly. Thus, this nutrition policy is holistic and tailored to the different needs of different age groups. This national policy on nutrition is important in educating the public regarding healthy eating and by spreading this awareness, it will be able to prevent further increase in nutritional deficiencies and unhealthy eating habits.

Although there is no specific national guidelines for disordered eating attitude and eating disorders, there have been an effort in designing disordered eating prevention program that is tailored to our local setting. For instance, there is a study that describes protocol of a preventive program specifically for disordered eating. This is an interventional study that involves integrated health education that is known as “Eat right, Be Positive about your body and Live Actively” (EPaL). This health education program is being introduced as a school-based intervention program with the goal to educate and promote about healthy lifestyle in overcoming nutritional issue such as overweight and disordered eating among adolescents age 13 to 16 years old. The method of intervention that has been proposed is through peer-education strategy that is utilizing peers to share the knowledge and relevant skills on healthy lifestyle.

The main strategy in this intervention is by promoting healthy eating, acknowledge positive body image and having active lifestyle among the adolescents. The expected outcome of this prevention program is to have a positive change in body weight and highlighting the importance of healthy lifestyle. Apart from that, the expected outcome is also to have better awareness regarding healthy eating attitudes through peer-led approach. By tackling both obesity and disordered eating attitudes, this integrated intervention is hopeful in improving the level of physical activity, eating habits, weight control behaviours and perception of body image and improving the health status of Malaysian adolescents in overall (Sharif Ishak, Yit, Mohd Taib, & Mohd Shariff, 2016).

2.3 Social media use and addiction

Study on social media use and its impact on mental health has becoming popular in the field of research. Many has implicated the increasing incidence of mental health problems due to the excessive and pathological use of social media (Raudsepp & Kais, 2019). In depth investigation on disordered eating behaviour has also gained popularity in recent years as a consequence to the problematic social media use (Sidani et al., 2016). Adolescents and young adults have been the most affected group of the population due to social media influences. This could be due to the perception created through social media whereby to be approved and accepted by the societies is by having an ideal body standard which are young, tall and thin (Hollard 2016).

The effectiveness of social media influences on the younger generation can be explained in several ways. According to the sociocultural concept, social media is the

main platform where it is showing and promoting the thin body ideals which is unattainable by most of the people particularly females. Thus, this leads to body dissatisfaction where negative emotions are created within them as they could not achieve the ideal body standards set by the society through social media. Apart from the negative emotions, they will also start comparing themselves with others and this will create further anxiety and stress (Hollard 2016). Most of the time, body dissatisfaction is the initial step before it progresses to disordered eating behaviour (S. Griffiths, Murray, Krug, & McLean, 2018).

A sense of self-conscious among women may be inflicted when the surrounding societies perceive that the female body is merely an object to be looked at. This is known as the concept of objectification. It gives an alternative explanation on how social media is able to influence the way of thinking and behaviour of an individual. When the female body is perceived as an object, the physical appearance will be subjected to constant evaluation and eventually leads to the development of negative emotions and thus contribute to eating concerns and disordered eating (Hollard 2016). Therefore, this gives a bird's eye view on the impact of social media use on an individual's mental health and development of disordered eating.

Websites and applications that are created for quick, efficient and in real-time content sharing is referred to as social media. These social media has started with the computers but many have been mistaken in thinking that social media to be the application that is existed in their smartphones or tablets (Hudson, 2019). Social media or social networks are currently being extensively used and is well established around the world. Examples of social media are Facebook, Instagram, Whatsapp, Twitter and LinkedIn (Hootsuite Inc., 2019). These websites that are able to connect people and

involve content that is being generated by its users is the feature of social media sites. Apart from that, the ability to upload a personal information and profile is one of the attractive factor of social networking sites. The main focus of these sites is the individual himself and able to creating connectivity with other people. Nowadays, majority of the adults especially young adults are well-versed with such social networking sites either it is for professional use such as LinkedIn or for socializing purpose through Facebook. Social media users are mainly using these platforms for making connections and looking for one-to-one relationships (Go, 2019).

The number of users of these social media sites such as Facebook, Twitter, Instagram and Whatsapp differ according to countries and its demographics. According to Global State of Digital 2019 Report, the total population of the world is estimated at 7.676 billion and 56% of these population is living in the urban. 57% of the population are internet users which is 4.388 billion and there is an increment of 9.1% from the previous year (Hootsuite Inc., 2019). This indicate that majority of the people who live in the city are able to access to the internet and thus, social issue such as social media addiction can always be associated with people who live in the urban area with good internet connectivity. Further data that describes the global situation of social media usage is that an estimated 45% of the world population are active social media users and this has come up to 3.484 billion active users, 9% increase from the previous year (Hootsuite Inc., 2019). Data from the Global State of Digital Report 2019 that shows 5.112 billion people are mobile phone users which is a raise of 2% from 2018 and simultaneously there are 3.256 billion mobile social media users that is 42% of the population and there is a 3% increase from 2018 (Hootsuite Inc., 2019).

We can infer that increase in mobile phone users lead to concurrent increase in the mobile social media users.

The largest social media usage was noted to be the country of Saudi Arabia at 99% users which is far above the global average of 45%. Whereas, the countries that are among the largest social media users are Taiwan, South Korea and Singapore ranging from 79%-89% of the total population. In Malaysia, the percentage of social media users is not far from these countries, with 78% of social media users compared to total population (Hootsuite Inc., 2019). This shows that with the increasing number of social media users, issues such as excessive social media use is bound to happen and when measures are not taken to deal with this excessive social media use, it could lead to health problems such as psychological illness and disordered eating (Tonioni et al., 2012).

Further and in depth review on the social media outlook in Malaysia has shown that with a total population of 32.25 million (76% are living in the urban), there are 25.84 million internet users which is 80% of the total population (Hootsuite Inc., 2019). The number of internet users have increased 3% compared to last year. There are 25 million active social media users which is about 80% of the total population and this is an increment of 4.2% from last year. Mobile social users made up 74% of the total population which is 24 million and this has also increased from last year about 9.1%. This shows that majority of the Malaysians have their personal social media account and is actively engaging in social media via mobile phones (Department of Statistics Malaysia, 2015).

Another aspect of social media usage in Malaysia that should be highlighted is the amount of time spent with social media. Based on the report by Global State of

Digital 2019, the average daily time spent is 8 hours and 5 minutes using the internet with any device. Meanwhile, time spent using social media on any device is at an average of 2 hours and 58 minutes. Malaysians also noted to be spending about an average of 2 hours and 52 minutes of their time daily to view television for broadcast, streaming and watching video on demand. Whereas, an average of 1 hour and 18 minutes is used daily listening to streaming music (Hootsuite Inc., 2019). This shows that Malaysians have been spending more than a quarter of their time daily only for using the internet and online social media. Amount of time spent online is a factor that can lead to the development of social media addiction (Tonioni et al., 2012).

In regards to the internet usage in Malaysia, there are 25.84 million active internet users which makes up to 80% of the total population. That is 8 in 10 Malaysians are currently using the internet. 24.89 million Malaysians active mobile internet users which is 77% of total population. That means about 7 in 10 Malaysians are using their mobile phones as access to the internet. 83% of the internet users have been using the internet daily for personal reasons, 11% uses the internet at least once a week, 4% using the internet at least once a month and another 1% using the internet infrequently that is less than once a month (Hootsuite Inc., 2019). These indicate that majority of Malaysians are exposed to the internet and social media and coupled with the large amount of time spent on the internet and social media, problem such as social media addiction do exists among Malaysians. Therefore, from all this data that we have, we can concur that majority of Malaysians do actively engaged themselves with social media and sharing their personal profile for the public view. This will inherently lead to social media addiction which can cause psychological illness and disordered eating (Tonioni et al., 2012).

The compulsion to use social media excessively by an individual who is showing symptoms of physical and emotional reactions with psychological problems is characterised in social media addiction (M. D. Griffiths et al., 2016). Social media addiction has been known to affect one's life in many aspects in terms of social, physical and psychosocial. Notable features in social media addiction is mood modification, salience which includes behavioural, cognitive and emotional preoccupation with social media, tolerance whereby increase in social media use in order to obtain the similar euphoric state, experiencing withdrawal symptoms when there is reduction or restriction to social media use, presence of conflict due to interpersonal problems created by social media usage and occurrence of relapse when the addicted person returns to his excessive social media usage after a period of abstinence (M. D. Griffiths, 2005).

The prevalence of social media addiction varies in different countries. In the United States, prevalence of social media addiction is as high as 40% among the adolescents age 18 to 22 years old (Clement, 2019). A study done in China involving 277 Macau smartphone users has revealed 12% of them are addicted to social media (Wu, Cheung, Ku, & Hung, 2013). In Malaysia, there is still lack of study on the social media addiction and existing studies that had been done are mainly involving university students. For instance, in a study involving 8 public universities and 417 students has found that 57.5% of them has moderate addiction and 1.7% severe addiction (Ke & Wong, 2018). In Sarawak, a study performed on 463 students in a public university has found that 35.4% of them are having moderate and 2.8% are having severe problematic internet use (Rahman et al., 2020). Based on the statistics above, we can conclude that the social media addiction phenomenon is becoming

prevalent among our university students and more nation-wide research should be carried out to obtain accurate data on this issue.

Social media addiction has been shown to cause eating disorders among young adults (Sherry, 2018). This can be attributed to the presence of heavily edited images and photo-shopped pictures of real people. Young adults who are the majority users of online social media have been easily influenced by the images with unattainable beauty standards shown in these social media such as Facebook or Instagram. These young adults depend on social media that sets certain standards on how they should behave or look. This reliance on social media for their body image has caused them to alter their appearance and have certain "body goals" and this has led to development of social media addiction and disordered eating behaviour (Aparicio-Martinez et al., 2019). In order to achieve these beauty standards and physical acceptability portrayed by online social media, these young adults have been restricting their daily food intake and in severe conditions, this preoccupation with food intake can lead to eating disorders (Aparicio-Martinez et al., 2019).

In a study that has been carried out in Turkish high school found out that 15.2% of the adolescents have disordered eating attitudes (DEA) and of this, 10.1% of them is having internet addiction (Alpaslan et al., 2015). In the same study, most probable predictor variables of internet addiction will be presence of DEA, male gender and high BMI. We can concur that those with social media addiction have high propensity to develop disordered eating behaviour because they would want to be accepted by the social media community. Adolescents who have been identified having DEA are two times likely to develop internet addiction and the probability of male adolescents developing internet addiction is twice higher than female adolescents (Alpaslan et al.,

2015). Those with higher BMI are also noted to be twice likely to have internet addiction and this could be attributed to lack of physical activity especially among those who have addiction toward online gaming (Alpaslan et al., 2015).

The main factor of internet addiction among male gender is mostly associated with online gaming disorder which causes physical inactivity that leads to obesity (Alpaslan et al., 2015). Whereas among female gender, proportion of time spent on online social media is associated with mainly disordered eating (Rodgers et al., 2013). In the study done by Rodgers (2013), disordered eating have found to have association with usage of online social media especially among women. Development of internet addiction among women who is actively using online social media could be attributed to the perception of other's assessment of one's appearance and the need to control self-presentation, thus this is how social media addiction can cause disordered eating.

Wilksch et al. (2019) recently has done a study looking into the connection between social media use and disordered eating among young adolescents in Australia (Wilksch, O'Shea, Ho, Byrne, & Wade, 2019). In this study, they are using Eating Disorder Examination-Questionnaire (EDE-Q) to establish the disordered eating cognitions and using Project Eating Among Teens to look for disordered eating behaviours. 52% of the adolescent girls and 45% adolescent boys were found to have disordered eating behaviour with vigorous exercise and skipping meals were most common behaviour (Wilksch et al., 2019). Among these adolescents, 75% of the girls and 70% of boys having at least one social media account. The most common social media used among them is Instagram and this study has found that higher Global EDE-Q scores and DE behaviours for girls is related with more time spent using Instagram (Wilksch et al., 2019). We can concur that disordered eating behaviour can happen

when one depend on social media for being accepted by the virtual community and when this does not happen, it can cause psychological illness in that person.

Several other studies have been done that has successfully linked social media use with the development of disordered eating symptoms. Sidani et al. (2016) has investigated the association between social media use and eating concerns in the United States. This study has proven that there is an indirect linkage between social media use and disordered eating behaviour as disordered eating constitutes a part of the eating concerns spectrum. Increase in frequency of social media use among the respondents have been shown to raise the risk of developing disordered eating symptoms (Sidani et al., 2016). Meanwhile, Turner (2017) has specifically studied the relationship between social media use and disordered eating. Symptoms of eating behaviours and social media use was assessed. Nearly half of the studied population have greater social media use and were found to have symptoms of disordered eating (Turner & Lefevre, 2017). Therefore, this has proven that the greater usage of social media is able to affect the psychological well-being of its user and eventually leads to development of disordered eating symptoms. Another interesting findings that should be highlighted from a similar study is that there is strongly positive association between image-centric social media platforms such as Instagram compare to non-image-centric platforms (Twitter) with disordered eating symptoms (S. Griffiths et al., 2018).

Thus, we can conclude that excessive use of social media that gives rise to problematic social media use is a risk factors to both psychological illness and disordered eating attitude. Social media addiction that affects the normal functioning of an individual can contribute to the presence of psychological symptoms such as

depression and anxiety. Thus, prevention of disordered eating attitude and psychological illness can be targeted at strategies to overcome social media addiction especially among adolescents.

2.5 Psychological illness

According to American Psychiatric Association (APA), psychological disorders or mental illnesses are a collection of diagnosable mental disorders. This involves changes that are happening to the emotion, thinking and behaviour of an individual (Parekh, 2018). These changes create distress and problems functioning in activities with the society, at work or with the family members. These mental disorders can happen to anyone regardless of race or religion and more than half of all mental disorders started during early adulthood at the age of 24 years old. It ranges from mild mental disorders to a severe form that may require hospitalization (Parekh, 2018).

In the United States, 19% or 1 in 5 adults have certain mental disorders and 4.1% or 1 in 24 of adults are having serious mental disorders (Parekh, 2018). In Malaysia, the statistics are not much different with 12.1% among children at age 5 to 15 years old are having mental problem and 29.2% among young adults above 16 years old. These statistics are obtained from National and Health Morbidity Survey (NHMS) 2015. Meanwhile, according to NMHS 2017, 15.4% of adolescents in Sarawak are having depression, 36.1% with anxiety and 8.3% are dealing with stress (Institute for Public Health, 2018). Therefore, the statistics that has been gathered in the state of Sarawak is not much different from the national statistics and with the current prevalence, the mental health among adolescents should be a concern among the healthcare providers.

Many studies around the world have been done that looked into the effects of excessive internet and social media use among university students. Orsala (2013), conducted a study that is looking into relationship between internet addiction and depression among university students. 33.0% of the students used the internet 4-6 hours a day, 72.2% used the internet for social friendship, 46% used because of loneliness, 44% for lessons and 38.2% for entertainment. The study (Orsala, Orsalb, Unsalc, & Ozalpd, 2012) also found that about 31.4% of the respondents had a suspected diagnosis of depression and showed a significant positive correlation between the scores on Internet Addiction Scale and scores on Beck Depression scale. Interestingly, younger students who are 17 years old has higher level of internet addiction and also among students whose parents are working and this could be due to more chances of accessing the internet and less control over internet usage (Orsala et al., 2012).

Social media use has also been implicated in the development of depressive symptoms among adolescents. A meta-analysis of relationship between social media use and depressive symptoms have been conducted involving adolescents age 11 until 18 years old. The important findings that have been obtained from this study is that there is positive correlation between social media use and depressive symptoms among the adolescents. Apart from that, presence of heterogeneity in the data indicate that there are presence of other factors that might be mediating the relationships between social media use and depression (Ivie, Pettitt, Moses, & Allen, 2020).

Another study that has been carried out in Hungary has looked into the issue of excessive use of social media among Hungarian adolescents. It is a nation-wide survey involving 5961 adolescents. 4.5% of the adolescents fall into at-risk group of

developing social media addiction. This at-risk group has higher scores on the Bergen Social Media Addiction Scale and is associated with increased social media use, low self-esteem and high level of depression symptoms. Those at-risk group of developing problematic social media use is majority female adolescents and has higher score of withdrawal component (Banyai et al., 2017).

The relationship between problematic use of social media and psychological illness such as depression has been long established. For example, a study in the United States that has looked into the association of development of depressive symptoms and problematic social media use among young adults. It has found that the problematic social media use is significantly associated with depressive symptoms and there is positive correlation between increase frequencies of social media use leading to increasing depressive symptoms (Shensa et al., 2017). Another type of internet addiction is internet gaming disorder (IGD) and this has been recognized as a disorder in DSM IV of American Psychiatric Association. In a study by Pontes, 2017, worsening of overall psychological health do happen with the presence of social media addiction and concomitant IGD as they augment the symptoms of one another (Pontes, 2017).

Problematic social media use has not only caused impairment of the psychological health, if not being addressed early, excessive and problematic use of social media will lead to development of other psychiatric illness such as Attention Deficit Hyperactive Disorder (ADHD), Obsessive Compulsive Disorder (OCD), depression, anxiety and stress (Hussain & Griffiths, 2018). A systematic review that looked into the possible relationship between these psychiatric disorders and problematic use of social media has proven that there is positive correlation of social

media addiction that causes psychiatric disorder especially depression and anxiety (Hussain & Griffiths, 2018).

The accessibility and availability of the internet either at home or even via smart phones has facilitated the widespread usage of social media application (Gazi, Çetin, & Çakı, 2017). This has particularly have an impact on the young adults as they are the main social media users (Al-Menayes, 2015). There are 3 factors identified that can cause social media addiction. The first factor is the amount of time spent using social media. This is positively correlated with all factors of social media addiction. They are more likely to manifest symptoms of social media addiction when they spend more time on it. The second factor is feeling of satisfaction with social media positively correlated with social media addiction. Those who are more satisfied with the online social media will have higher risk of developing social media addiction. The third factor will be a person will be more addicted to the social media when he has more experience with the social media (Al-Menayes, 2015). In conclusion, with the presence of these factors among young adults, these factors contribute to the development of social media addiction among them and if there are no measures taken to solve this behaviour addiction problem, it can lead to major health issues such as psychological illness and disordered eating behaviour.

Psychological illness has also been found to be a risk factor to disordered eating attitude. A prospective study that is looking into the possible risk factors for the occurrence of depression and disordered eating in adolescents have been conducted. It is not only examining the risk factors but also investigating whether male and female sex have a role in determining the possible risk factors that might be responsible for depressive symptoms and disordered eating attitude. A total of 415 adolescent females

and 413 adolescent males have participated in this study. The instruments that has been utilized in this study are Children's Depression Inventory (CDI) and Children's Eating Attitudes Test (ChEAT). CDI is used to assess the depressive symptoms in children and adolescents age 7 to 17 years old. Meanwhile, ChEAT is applied to identify respondents who have disordered eating attitudes. Findings from this study reveal that females has higher level of depression symptoms compare to males. Body dissatisfaction has been found to be a significant predictor of depressive symptoms and disordered eating attitude (Ferreiro, Seoane, & Senra, 2014).

Psychological illness such as depression has been associated with the occurrence of disordered eating. One such study that has been carried out in the United States to investigate the prevalence and comorbidity of depression and disordered eating symptoms (Santos et al., 2007). A total of 241 high school students have participated. Depressive symptoms was assessed using Center for Epidemiological Studies-Depressed mood Scale (CES-D) and disordered eating symptoms was assessed using Eating Attitude Test-26 (EAT-26). Findings from this study has revealed that 23% of the respondents are having significant depressive symptoms and occurred more in females than males. About 12% of the respondents are having significant disordered eating symptoms and no gender predilection is observed. There are strong and positive correlation between depressive symptoms and disordered eating (Santos et al., 2007). This indicate that psychological illness such as depression is associated with disordered eating.

2.6 Mediating effect of psychological illness

There have been a lack of study that specifically investigating regarding psychological illness as a mediator in the development of disordered eating. However, one such study that can be closely related to this is a study that has been carried out to examined a mediation model to test the relationship between disordered eating, depressive symptoms, alcohol use and suicidality (Mugoya, Hooper, Chapple, & Cumi, 2018). About 1598 students (mean age= 21.3 years old, 80% female) across major universities in the United States had participated in the study. The result from this study has revealed that disordered eating was significantly associated with suicidality and this relationship is mediated by depressive symptoms (Mugoya et al., 2018). Therefore, this study has shown that depressive symptoms which is a psychological symptoms have a mediating effect in the development of disordered eating.

Ahorsu et al. (2020) had also been investigating the role of psychological distress as a mediator between the associations of weight related self-stigma and binge-eating. About 1497 adolescents had participated in this study and the results had confirmed the mediator role of psychological distress between weight-related self-stigma and binge eating (Ahorsu et al., 2020). In this case, binge eating is an example of disordered eating attitude. These are the few studies that has investigated and confirmed that psychological illness can act as a mediator in the development of disordered eating.

Summary

In summary, many studies have shown that excessive use of social media that leads to psychological symptoms such as depression and anxiety and loss of interest in real life relationship is an important characteristic of social media addiction. This type of behavioural addiction does not only cause psychological illness but it can lead to disordered eating attitude among social media users. Furthermore, there has been lack of study that is looking into the association of social media addiction and disordered eating attitude particularly in Malaysia. More of such study need to be carried out in view of the increasing trend of social media addiction and psychological illness among youth that can increase the incidence of disordered eating. In this study, we are looking into the relationship between social media addiction, psychological illness and disordered eating among college youth in Kuching as no such study has been done in Kuching.

CHAPTER 3: METHODOLOGY

3.1 Study design

This is a quantitative cross-sectional study design in examining the relationship between social media addiction, psychological illness and disordered eating behaviour among students at private higher learning institutions (HLI).

3.2 Study area

Kuching Division, formerly known as “First Division” is the capital of Sarawak state. With an area of 4559.5 square kilometres, Kuching Division includes three administrative districts which are Kuching, Bau and Lundu with two subdistricts which are Padawan and Sematan. The study area that has been done for this study is in Kuching district which has a population of 617 887 (Sarawak Government, 2010).

3.3 Study population

The population for this study is youth aged 18-24 years who are studying at the private higher learning institutions (HLI). This age group is within the WHO definition for youth which is 15-24 years old (World Health Organization, 2019).

4.3.1 Inclusion criteria:

1. Students age 18-24 years old.
2. Both male and female students are included in this study.
3. Malaysian and foreigner students.

3.3.2 Exclusion criteria:

1. Students who have refused to participate in this study.

3.4 Sample size and sampling method

Sample size for this study is calculated using 95% confidence interval (CI) and 5% margin of error. The prevalence rate of disordered eating behaviour in Malaysia is 18.2% (Gan, Mohd Shariff, Mohd Nasir, & Abu Saad, 2011) and with this prevalence rate, the sample size is calculated to be 227 samples. Taking into account the anticipated non-response rate, inflated by 20% will be included in the required sample size and this gives the total number of sample size required is 272 samples. Calculation of the sample size is shown below.

$$\begin{aligned} n &= \frac{Z^2 P (1-P)}{d^2} \\ &= \frac{(1.96)^2 \times 0.182 (1-0.182)}{(0.05)^2} \\ &= \frac{3.84 \times 0.148}{0.0025} \\ &= 227 \text{ samples} \end{aligned}$$

Where n = sample size

Z = Z statistic for a level of confidence of 95%, Z value is 1.96

P = expected prevalence or proportion (prevalence rate = 18.2%)

= 0.182

D = precision (in proportion of one, d=5%)

= 0.05

$$\begin{aligned}
 \text{Required sample size} &= \text{number of calculated sample size} + (20\% \times \text{sample size}) \\
 &= 227 + 45 \\
 &= 272
 \end{aligned}$$

3.5 Sampling procedure

A non-probability sampling method which is quota sampling has been used in this study. A total of 12 private HLIs that can be found in Kuching. Permission was requested from all 12 HLIs but only 4 had agreed to participate in this study. The total sample that had been calculated was 272, thus 68 respondents were needed from each of the HLIs. The final return of completed questionnaires were 34 respondents were from Lim Kok Wing University, 100 respondents from UCSI, 39 respondents were from i-CATS and 56 respondents were from Asia Metropolitan College. There were more respondents gathered from UCSI which has exceeded the quota of 68 respondents from each HLIs. The reason for this was more college students were available at UCSI and this was justifiable as the quota was not met at the other colleges. Therefore, a total of 229 respondents were involved. However, there were 3 respondents who did not complete the questionnaires. Thus, only 226 respondents had completed the questionnaire and the response rate is 98.6%.

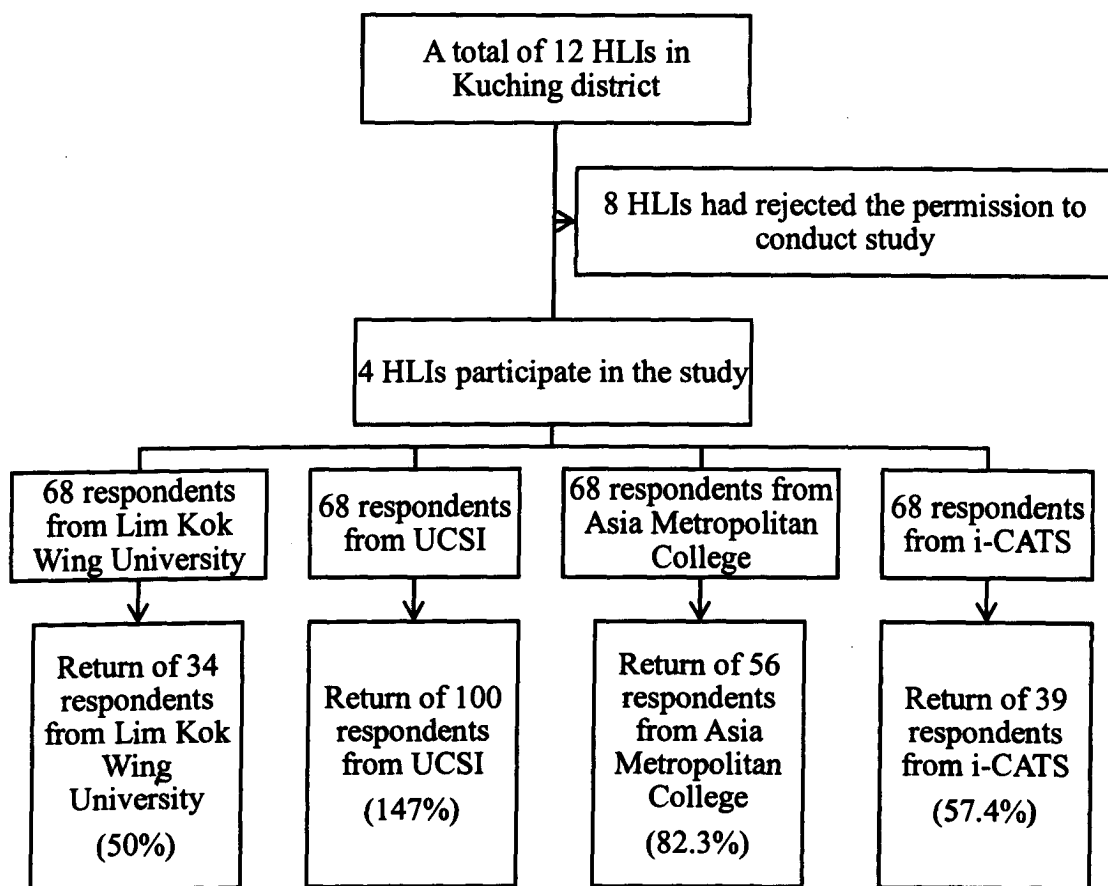


Figure 3.1: Flowchart of the sampling procedure (n=229)

3.6 Data collection procedure

Prior to data collection, permission from the HLI's administration was obtained. The respondents for the study will be explained regarding the nature and purpose of the study. A thorough explanation and instructions were given to the respondents and informed consent were taken before the questionnaires were distributed. These questionnaires were self-administered. In order to obtain a good response rate, the students will be informed that there is no right or wrong answers to the questionnaire, their response will be kept strictly confidential and it is solely for the purpose of the research.

3.7 Data collection instrument

The instrument for data collection was self-administered questionnaire which consists of 4 parts as below:

Part A: Sociodemographic characteristics

Details such as race, gender, age, education level, and types of social media are included in this section.

Part B: Social media use test

Severity of social media use is assessed using Young's Internet Addiction Test (IAT) and level of addiction is measured. The Malay version of Young's IAT has been validated and showed good internal consistency with Cronbach alpha 0.91. It also has good reliability with intra class coefficient of 0.88 (Ng, Mohammed Isa, Hashim, & Pillai, 2012). This scale is a 6-point Likert scale that has 20 items. Mild, moderate and severe level of internet or online social media addiction is measured using this scale. The level of addiction will depend on the score (a) score of 20 – 49 is an average online user and still have control over the usage (b) score of 50 – 79 will have frequent problem and impact to the life due to usage of online social media (c) score of 80 – 100 indicates significant problems in life due to the internet usage and these problems should be addressed. Thus, respondents are identified as addicted to social media when the score is above 80 (Young, 2017).

Part C: Psychology test

Mental health is assessed and symptoms of mental illness are identified using Brief Symptom Inventory-53 (BSI-53). The internal consistency reliability of BSI-53 is good with Cronbach's alpha for the scale is 0.95 and for each subscale Somatization ($\alpha = 0.80$), Obsession-compulsion ($\alpha = 0.70$), Interpersonal sensitivity ($\alpha = 0.65$),

Depression ($\alpha = 0.81$), Anxiety ($\alpha = 0.82$), Hostility ($\alpha = 0.81$), Phobic anxiety ($\alpha = 0.60$), Paranoid ideation ($\alpha = 0.61$) and Psychoticism ($\alpha = 0.65$) (Kerimova & Nermin, 2016). This questionnaire has been developed to assess psychological distress which comprises of 53 items that covers nine broad symptom groups:

- Somatization: Items 2, 7, 23, 29, 30, 33 and 37
- Obsession-compulsion: Items 5, 15, 26, 27, 32, and 36
- Interpersonal sensitivity: Items 20, 21, 22, and 42
- Depression: Items 9, 16, 17, 18, 35 and 50
- Anxiety: Items 1, 12, 19, 38, 45 and 49
- Hostility: Items 6, 13, 40, 41 and 46
- Phobic anxiety: Items 8, 28, 31, 43 and 47
- Paranoid ideation: Items 4, 10, 24, 48 and 51
- Psychoticism: Items 3, 14, 34, 44 and 53

For items that do not fall into any of the nine groups but are included such as item 11, 25, 39 and 52 because they are significant clinically. The sums for nine broad symptom groups with the addition of the four additional items (11, 25, 39, and 52) are calculated and this will be divided with total number of items that the respondents has responded. This will give the score for Global Severity Index (GSI) and if no items are skipped, GSI is the mean for all the items. GSI T score is the most sensitive indicator to assess the respondent's distress level and it is used in this study. Respondents with psychological illness are identified when the GSI T scores are 63 and above (Derogatis, 1975).

Part D: Eating attitude test

In this section, eating attitude is assessed using Disordered Eating Attitude Scale (DEAS). It has good internal consistency with Cronbach's alpha of 0.76 and correlation coefficient for test-retest was 0.9 (Alvarenga et al., 2010). This scale consists of 25 questions and five subscales and for each question, the score is given from 1 to 5. The minimum score is 37 and the maximum score will be 190. Higher scores indicate disordered eating behaviour. The subscales are described as below.

- Subscale 1: Relationship with food includes questions 8, 10, 13, 17, 18, 19, 20, 21, 22, 23, 24 and 25.
- Subscale 2: Concerns about food and weight gain includes questions 5, 14, 15 and 16.
- Subscale 3: Restrictive and compensatory practices includes questions 4, 6, 7 and 12.
- Subscale 4: Feeling toward eating includes questions 2, 3 and 9
- Subscale 5: Idea of normal eating includes questions 1a, b, c and 11.

3.8 Pre-test

The questionnaire had undergone a pilot test involving 30 undergraduate medical students in UNIMAS. Test-retest had been done whereby the same medical students answered the questionnaire twice and the second test was done one week after the first test. Test-retest was conducted to obtain the internal validity of the instruments and ensures that the measurements obtained in one sitting are representative and stable over time. For reliability testing, the internal consistency of all three instruments are

good with Cronbach's alpha of 0.95 for social media addiction test, 0.98 for psychology test and 0.85 for disordered eating attitude test.

3.9 Data entry and analysis

Prior to analysing data, the data is manually checked to look for any missing data and outliers. Firstly, the data is shown in tables which includes frequency, mean and standard deviation and univariate analysis was performed. Internal validity and reliability of the 3 instruments is also calculated. Social media addiction scale has a Cronbach's alpha of 0.950, Disordered Eating Attitude Test (DEAS) has a Cronbach's alpha of 0.85 and Brief Symptoms Inventory (BSI) has a Cronbach's alpha of 0.98. Therefore, all three instruments have good reliability.

a) Descriptive analysis

Descriptive analysis of the variables are performed using SPSS. Social media addiction is assessed using Internet Addiction Test (IAT). The descriptive analysis includes mean score, standard deviation and ratio of skewness and kurtosis. The ratio of skewness and kurtosis should be between -1.96 and 1.96 for the scores to have normal distribution. Shapiro Wilk test of normality is applied here as the sample is less than 2000. Based on this test, the scores are categorised into three groups. Scores of 20-49 indicate mild level of social media addiction, 50-79 is moderate level and 80-100 is severe level of social media addiction. Disordered eating attitude is assessed using Disordered Eating Attitude Scale (DEAS). The minimum score for this scale is 37 and maximum score is 190. When the score increases, it indicates more severe disordered eating attitude. Scores for disordered eating attitude scale (DEAS) are then analysed according to the subscales 1 to 5 to know which symptoms have the highest

mean score. Psychological symptoms are assessed using Brief Symptoms Inventory 53 (BSI-53). The scores for BSI-53 is the sum of all 9-symptom groups and divided with the total number of items that have been answered. This final score is known as Global Severity Index (GSI) and is also the mean for all the items. GSI T score (TGSI) is applied in this study as it is the most sensitive to respondents' distress level. TGSI of above 63 is considered as having significant psychological symptoms.

Further data analysis to measure the mean difference of different categories of independent variables is performed. Polychotomous independent variables will be analysed using a one-way analysis of variance (ANOVA) and dichotomous independent variables will be analysed using independent sample t-test. For the purpose of inferential statistics, total scores from Social Media Addiction Scale, Brief Symptoms Inventory, and Disordered Eating Questionnaire are correlated. If the data is normally distributed, Pearson Correlation test will be applied. However, for non-normal distribution of data, Spearman's correlation is applied with bootstrapping of the data (5000 bootstrap).

b) Identifying predictors of disordered eating attitude

Multiple regression analysis is performed to examine the relationship between the variables in this study and examining the relationship to determine the strength of independent variables in influencing dependent variable. The independent variables in this study are social media addiction and psychological illness, whereas the dependent variable will be disordered eating attitude. Prior to regression analysis, the independent variables are assessed for any interaction effects. This is to ensure that there is absence of interaction effects between the independent variables which will affect the dependent variable. Several assumptions are to be met in the regression analysis and

they are (a) Both the dependent and independent variables are assumed to be continuous (b) Independence of variables are assumed if the Durbin-Watson statistic, d is between 1.5 and 2.5 (c) Linear relationship between independent and dependent variables are ensured by assessing the scatterplots and partial regression plots (d) Homoscedasticity is assessed using the scatterplot diagram of predicted values and residuals. Homoscedasticity is assumed when the points are equally distributed above and below zero on x axis and to the left and right of zero on y axis. (e) Absence of multicollinearity indicates that independent variables are not highly correlated. Multicollinearity is assessed by examining the tolerance and Variance Inflation Factor (VIF). A small tolerance value of <0.1 and accompanied with large standard errors and non-significance could be due to presence of multicollinearity (f) No significant outliers are detected using “Casewise diagnostics” and “Standardized deleted residuals” (g) Normal distribution of residuals is assessed using the Normal P-P Plot. The data is analysed using IBM SPSS version 22. If the data for variables do not distribute normally, bootstrapping for 5000 is applied while computing multiple regression analysis. The value of adjusted R square, t statistic, p value with 95% Confidence Interval will be reported for this analysis.

c) Psychological illness as a mediator

Causal mediation analysis is also performed in this study to examine the possible mediating effect of psychological illness between social media addiction and disordered eating attitude. Mediation model is analysed using model 4 in the PROCESS macro version 3.5 (Hayes, 2020) for SPSS with 5,000 bootstrapping resamples. This software has to be downloaded separately into SPSS. There are several

steps involved (a) Dependent variable (disordered eating attitude) is regresses on the independent variable (social media addiction) to confirm that the independent variable is a significant predictor of the dependent variable (b) The mediator (psychological illness) is regresses on the independent variable to confirm that the independent variable is a significant predictor of the mediator. If the mediator is not associated with the independent variable, thus there will not be any mediation effect (c) The dependent variable is regresses on both the mediator and independent variable. If there is mediation effect, the previously significant independent variable is now reduced, if not nonsignificant.

4.0 Ethical consideration

Ethical clearance for this study will be obtained from the Ethical Committee of University Malaysia Sarawak. Further permission will be required from the management of higher learning institution. Prior to data collection, informed consent will be obtained from the respondents. A copy of this informed consent is in Appendix 1. As part of the procedure in data collection, the respondents will be informed regarding:

1. The objectives of this study.
2. Benefits of this research to the respondents and the community.
3. Confidentiality of the information is preserved.
4. The right to withdraw from the study at any time.

CHAPTER 4: RESULTS

There are a total of 229 college students in Kuching Division that have taken part as respondents in this study. The questionnaires are inspected visually and 226 out of 229 questionnaires are completed. The remaining 3 questionnaires have been incomplete and thus, removed from the being analysed. The response rate is good at 98.6%. The results of data analysis with respect to the research questions and hypotheses are presented in this chapter in the following sections:

4.1 Sociodemographic characteristics of the respondent

Gender distribution of the respondents consist of 65.5% are female and only 34.5% of the respondents are male. The mean (SD) age of the respondents were 20.07 (SD=1.47) years and the minimum age was 17 years, while the maximum age was 26 years old. Majority of the respondents were in the age group of 19-20 years (63.3%) and 22.6% of the respondents were in the age group of 21-22 years. About 8.8% were in between 17-18 years and remaining 1.8% were above 24 years old.

In terms of ethnicity, almost half of the respondents were Chinese (49.6%), followed by Iban (25.2%), Malay (11.1%) and Bidayuh (7.9%). 6.2% of the respondents were of different ethnic groups such as Kayan, Melanau, Kenyah, Bugis and Jawa. Slightly more than half of the respondents were Christian (59.3%), 25.2% of them were Buddhist, 14.2% were Muslims. About 1.3% were either embracing other types of religion or atheist.

As this study was done at private HILs targeting the youth, 81.4% of them are bachelor's degree students, whereas another 18.6% are diploma students. 38.5% of the respondents were spending about 1 to 3 hours daily on social media. 27.4% of the respondents spend more than 6 hours daily on social media. 7.1% of the respondents are spending less than an hour or 4 to 6 hours daily on their social media (Table 4.1).

Table 4.1 Percentage distribution of the respondents according to age, ethnicity, religion and education level (n=226)

Characteristics	Frequency	%	Statistics
Gender			
Female	148	65.5	
Male	78	34.5	
Age in years			
17-18	20	8.8	Mean (SD)=20.07 (1.47) Min, 17; Max,26
19-20	143	63.3	
21-22	51	22.6	
23-24	8	3.5	
25-26	4	1.8	
Ethnicity			
Chinese	112	49.6	
Iban	57	25.2	
Malay	25	11.1	
Bidayuh	18	7.9	
Others	14	6.2	
Religion			
Christian	134	59.3	
Islam	32	14.2	
Buddhist	57	25.2	
Others	3	1.3	
Education level			
Bachelor's degree	42	18.6	
Diploma	184	81.4	
Time spend on social media (hours)			
< 1	16	7.1	
1-3	87	38.5	
4-6	16	7.1	
>6	62	27.4	

4.2 Descriptive analysis

4.2.1 Social media addiction

The scores of social media addiction test was subjected to descriptive analysis. Mean score for this test was 47.95 (95% CI: 45.87, 50.03). The ratio of skewness statistic to the error for this scale is 0.96 and the ratio of kurtosis statistic to the error is -1.06. Thus, both skewness and kurtosis is within the acceptable range. Shapiro Wilk test of normality had a p value of 0.361 (>0.05), thus null hypothesis is accepted and normality is assumed. Therefore, the data is within the normal distribution curve (Table 4.2). Half of the respondents (50.0%) are having mild addiction, 46.0% are having moderate addiction and only 2.2% are having severe addiction. There are four respondents who has scored less than 20, thus they are not included in the scoring groups (Table 4.3).

Table 4.2: Percentage distribution of the scores for social media addiction test (n=226)

Social media use	Frequency	%	Statistics
Scores			
20-49 (mild)	113	50.0	Mean (SD)=47.95 (15.9) Min, 12; Max,94
50-79 (moderate)	104	46.0	
80-100 (severe)	5	2.2	

4.2.2 Disordered eating attitude

The mean score was 76.17 (SD=14.34). The minimum score was 46 and maximum score was 133. This data had right-sided skew with the ratio of skewness statistic to the error was 5.04 and the ratio of kurtosis statistic to the error was 3.25. The findings show that subscale 5 that examined the idea of normal eating had the highest mean score of 32.14 (SD=6.76). This means the respondents do not have the knowledge of normal eating. This was followed by subscale 1 that had assessed the respondent’s relationship with food. The mean score for subscale 1 is 23.66

(SD=7.56). This indicates that the respondents do not have good relationship with the food.

4.2.3 Psychological illness

The mean score for TGSI is 50.040 (SD=10.00) with minimum score of 37.51 and maximum score is 82.56. The ratio of skewness statistic to the error for this scale is 5.84 and the ratio of kurtosis statistic to the error is 0.91. The TGSI showed that 196 (86.7%) of the respondents fall under the first category who has TGSI of less than 63 and about 30 (13.3%) respondents are having TGSI of more than 63 (Table 4.7). Scores of more than 63 indicate more psychological symptoms are present.

Table 4.3: Frequency table of Global Severity Index T score (TGSI)

Global Severity Index (GSI) Tscore	Frequency	%	Statistics
Scores			
<63	196	86.7	Mean (SD)=50.00 (10.00) Min, 37.51; Max, 82.56
>63 (more psychological symptoms)	30	13.3	

4.2.4 Relationship between social media addiction, psychological illness, disordered eating attitude and sociodemographic characteristics

Analysis of one-way analysis of variance and independent sample t test had revealed that there was no statistically significant mean difference in terms of ethnicity, level of education and time spend on social media on Disordered Eating Attitude (DEA) score ($p>0.05$) except for the age and gender of the respondents ($p<0.05$). Mean score was higher among respondents who are above 20 years old (mean= 78.10, SD=14.35) than those who are below 20 years old (mean = 72.79, SD= 13.75). The mean score was higher among female respondents (mean= 77.55, SD= 14.06) compared to male respondents (mean= 73.55, SD=14.57).

For psychological illness scores, there was no statistically significant mean differences between age groups, ethnicity, level of education, gender and time spend on social media. Although it was statistically non-significant, respondents who are more than 20 years old have higher score (mean 50.38, SD= 9.64) compare to respondents who are below 20 years old (mean= 49.33, SD= 10.64). The same goes for ethnicity, other ethnicity (Kayan, Melanau, Kenyah, Bugis and Jawa) have highest mean score (mean= 54.63, SD= 9.95) when compared to other ethnicities.

For social media addiction scores, there is no statistically significant mean differences between age group, ethnicity, level of education and gender except for time spend on social media. For the purpose of analysis, time spend on social media has been regroup to less than 3 hours and more than 3 hours. The mean score for more than 3 hours spend on social media (mean= 50.98, SD= 16.57) is higher than mean score for less than 3 hours spend on social media (mean= 44.34, SD=14.21). This indicates that the more these respondents spend on social media, the worse is their social media addiction.

Table 4.4: Relationship between disordered eating attitude score, psychological illness score and social media addiction score.

Variables (n)	Disordered eating attitude score Mean(SD)	Psychological illness score Mean(SD)	Social media addiction score Mean(SD)
Age in years			
<20 (82)	72.79(13.75)	49.33(10.64)	47.55(14.78)
>20 (144)	78.10(14.35)	50.38(9.64)	48.18(16.48)
<i>t(df)</i>	-2.71(224)	-0.76(224)	-0.28(224)
<i>p-value</i>	p<0.05* $\nearrow$	p>0.05 $\nearrow$	p>0.05 $\nearrow$
Ethnicity			
Chinese (112)	74.88(11.42)	48.49(9.43)	50.10(17.01)
Iban (57)	77.25(17.59)	50.74(10.32)	46.67(14.24)
Malay (25)	75.84(17.30)	50.44(9.84)	48.80(13.04)
Bidayuh (18)	79.89(14.26)	52.78(11.68)	42.72(16.31)
Others (14)	76.17(14.33)	54.62(9.95)	41.21(14.53)
<i>F(df)</i>	0.66(4)	1.85(4)	1.76(4)
<i>p-value</i>	p>0.05 §	p>0.05 §	p>0.05 §
Level of education			
Diploma (184)	76.21(14.89)	49.99(10.06)	47.91(15.17)
Bachelor's degree (42)	76.00(11.74)	50.03(9.84)	48.14(18.78)
<i>t(df)</i>	0.086(224)	-0.02(224)	-0.0.8(224)
<i>p-value</i>	p>0.05 $\nearrow$	p>0.05 $\nearrow$	p>0.05 $\nearrow$

Table 4.4: Relationship between disordered eating attitude score, psychological illness score and social media addiction score (Cont.)

<i>Variables (n)</i>	<i>Disordered eating attitude score</i> Mean(SD)	<i>Psychological illness score</i> Mean(SD)	<i>Social media addiction score</i> Mean(SD)
Gender			
Male (78)	73.55(14.57)	48.25(8.91)	47.59(15.94)
Female (148)	77.55(14.06)	50.92(10.44)	48.14(15.86)
<i>t(df)</i>	-2.00(224)	-1.93(224)	-0.25(224)
<i>p-value</i>	p<0.05* $\uparrow$	p>0.05 $\uparrow$	p>0.05 $\uparrow$
Time spend on social media			
<3 hours (103)	76.40(13.19)	48.60(8.97)	44.34(14.21)
>3 hours (123)	75.98(15.28)	51.17(10.68)	50.98(16.57)
<i>t(df)</i>	0.22(223.78)	-1.93(224)	-3.24(223.86)
<i>p-value</i>	p>0.05 $\uparrow$	p>0.05 $\uparrow$	p<0.05* $\uparrow$

***p<0.05**

$\S$ p - value reached from one-way analysis of variance

$\uparrow$ p - value reached from independent sample t test

4.3 Bivariate analysis

4.3.1 Correlation analysis of social media addiction and disordered eating attitude

Relationship between social media addiction and disordered eating attitude was analysed using Spearman’s correlation and bootstrapping of 1000 was performed due to non-normal distribution of the data. Findings from the analysis reveal that there was positive correlation with correlation coefficient, $r = 0.241$ ($p < 0.01$). This indicates there was a significant linear relationship between social media addiction and disordered eating attitude. A linear relationship also suggested that when the score for social media addiction test increased, so did the score for disordered eating attitude test (Table 4.8).

Table 4.5: Correlation analysis between social media addiction and disordered eating attitude

Correlations			SMA	DEA
Spearman's rho	SMA	Correlation Coefficient	1.000	.241**
		Sig. (2-tailed)	.	.000
		N	226	226
	DEA	Correlation Coefficient	0.241**	1.000
		Sig. (2-tailed)	.000	.
		N	226	226

** . Correlation is significant at the 0.01 level (2-tailed).

4.3.2 Correlation analysis of psychological illness and disordered eating attitude.

Spearman’s correlation and bootstrapping of 1000 was also applied to analyse the relationship between psychological illness and disordered eating attitude. It shows that there was a positive correlation with the correlation coefficient, r of 0.271 ($p < 0.01$). This had indicated that there was a linear relationship between psychological illness and disordered eating. When Global Severity Index (GSI) T score for

psychological symptoms increased, the scores for disordered eating will also increase (Table 4.7).

Table 4.6: Correlation analysis between psychological illness and disordered eating attitude

Correlations			DEA	TGSI
Spearman's rho	DEA	Correlation Coefficient	1.000	.271**
		Sig. (2-tailed)	.	.000
		N	226	226
	TGSI	Correlation Coefficient	.271**	1.000
		Sig. (2-tailed)	.000	.
		N	226	226

** . Correlation is significant at the 0.01 level (2-tailed).

4.3.3 Correlation analysis of social media addiction and psychological illness.

Relationship between social media addiction and psychological illness was also analysed using Spearman’s correlation and bootstrap of 1000 was applied. The findings had revealed that there was positive correlation between them. The correlation coefficient was 0.273 (p<0.01) and this indicates that the relationship between social media addiction and psychological illness is linear. Thus, an increase in social media addiction score will also increase the TGSI score (Table 4.8).

Table 4.7: Correlation analysis between social media addiction and psychological illness

Correlations			TGSI	SMA
Spearman's rho	TGSI	Correlation Coefficient	1.000	.273**
		Sig. (2-tailed)	.	.000
		N	226	226
	SMA	Correlation Coefficient	.273**	1.000
		Sig. (2-tailed)	.000	.
		N	226	226

** . Correlation is significant at the 0.01 level (2-tailed).

In summary, the pattern of relationship between the three variables can be observed in the correlation matrix below (Table 4.9). It showed that there was positive correlation between the variables and this correlation was significant (p<0.01).

Correlation between psychological illness and disordered eating attitude ($r=0.271$) was slightly stronger than social media addiction and disordered eating behaviour ($r=0.241$).

Table 4.8: Correlation matrix between social media addiction, psychological illness and disordered eating attitude

Variables	1	2	3
1. SMA	1.000		
2. TGSi	.273**	1.000	
3. TOTAL SCORE EATING ATTITUDE TEST	.241**	.271**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

4.4 Factors affecting disordered eating attitude among college youth in Kuching

Multiple regression analysis is performed to identify the predicting factors for disordered eating attitude. Before proceeded with regression analysis, the interaction effect between 2 independent variables were checked and the findings showed that the two independent variables do not have significant interaction effect that will influence the outcome of dependent variable (Beta coefficient = -0.79, t statistic= -1.92, p value >0.05).

Assumptions for multiple regression analysis in this study are met (a) Dependent and independent variables are continuous is met (b) Adjusted R square of the predictors combined that is TGSi and DEA is 0.081 indicating that 8.1% of the variance of dependent variable (disordered eating attitude) could be explained by the independent variables (social media addiction and psychological illness) (c) Independence of observations is met because in this analysis, the Durbin-Watson value is $d=1.805$ which is between 2 critical value of $1.5 < d < 2.5$.

(d) F test is significant ($p < 0.01$) and thus, null hypothesis is rejected (null hypothesis of F test is the model explains zero variance in dependent variable, which

means R square equals to zero). It can be assumed that this model explains the variance in disordered eating attitude (e) The coefficient table in this analysis shows that psychological illness (measured using TGSI) and social media addiction are significant predictors to disordered eating attitude. Psychological illness has a higher impact than social media addiction when the standardized coefficients Beta is compared (Beta 0.191 > 0.183) (f) Assumption of absence of multicollinearity is met. This is determined by assessing the tolerance and Variance Inflation Factor (VIF). The presence of multicollinearity is possible if there is a small tolerance value of <0.1 and accompanied with large standard errors and non-significance. The findings in this study show that the tolerance value is 0.921 (>0.1) and VIF is 1.085 (<10) for all the variables

(g) Assumption of normal distribution of residuals is met because the residuals are normally distributed and that the points follow the normal (diagonal) line with no strong deviations. (h) Assumption of linearity between variables is met because there is linearity between the variables when visual inspection of scatterplot diagram and partial regression plot is performed (i) Homoscedasticity among the residuals is assumed in this study data because there is no obvious pattern of the residuals on the scatterplot and there are points equally distributed above and below zero on the x axis and to the left and right of zero on y axis.

In summary, the three variables in this study met the assumptions of multiple regression analysis. The two independent variables which are social media addiction and psychological illness are significant predictors to disordered eating behaviour. The psychological illness is a stronger predictor compare to social media addiction.

4.5 Psychological illness as a mediator between social media addiction and disordered eating attitude

The main objective of this study is to investigate regarding the possibility of psychological illness as a mediator between social media addiction and disordered eating attitude. Therefore, this study is subjected to causal mediation analysis to prove that there is presence of mediating effect of psychological illness in the development of disordered eating attitude due to social media addiction.

In this study, social media addiction is the independent variable, disordered eating attitude is the dependent variable and psychological illness acts as mediator variable. The findings of causal mediation analysis reveal that psychological illness has an R square of 0.0787 ($p < 0.01$) and R square of disordered eating attitude is 0.0896 ($p < 0.01$). The pathway coefficient A is 0.176 ($p < 0.01$) and pathway coefficient B is 0.274 ($p < 0.01$). The direct effect is marked with path coefficient C' and in this analysis, the coefficient C' is 0.165 ($p < 0.01$). Meanwhile, the total effect of this model has a coefficient of 0.2137 ($p < 0.01$) which is significant. The indirect effect has the coefficient of = 0.048 (LLCI 0.0139, ULCI 0.0937) and this is significant ($p < 0.01$).

In conclusion, psychological illness partially mediates between social media addiction and disordered eating attitude. This is because both the direct and indirect effect is significant and there is still minimal effect of social media addiction on disordered eating attitude in the presence of psychological illness. This also indicates that the psychological illness does not completely reduce the relationship between independent variable and dependent variable to zero as in complete mediating effect.

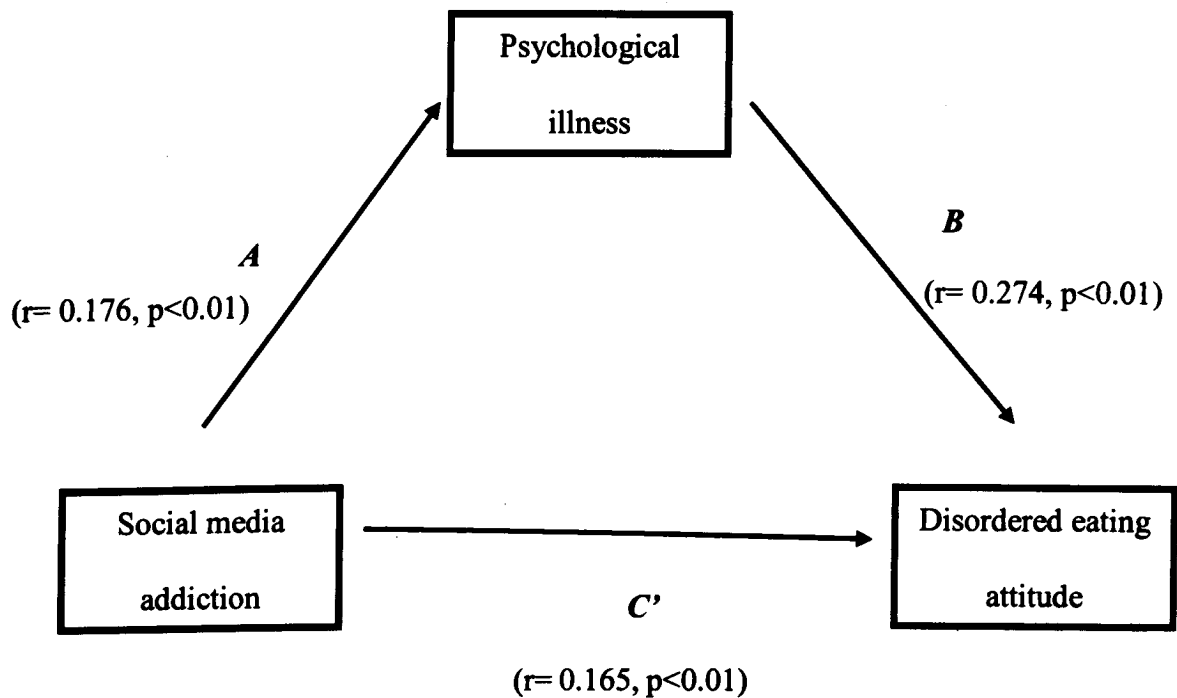


Figure 4.1: The causal mediation model that is showing the independent, dependent and mediator variable with pathway coefficient A , B , C' .

CHAPTER 5: DISCUSSION

This general aim of this study is to determine the relationship between social media addiction, psychological illness and disordered eating attitude. In addition to that, this study is also determine to establish the possible mediating effect of psychological symptoms on social media addiction and disordered eating attitude. The findings of this study will be discussed further in this chapter and the limitation and weakness that has been encountered will also be addressed here.

This study involving 226 young adults age 18 to 24 years old at private HLIs had found that 50% of the respondents were having mild social media addiction, 46% moderate addiction and the remaining 2.2% were having severe addiction. Although the percentage of severe addiction was low, it should not be disregard. The percentage of moderate addiction was also a concern as almost half of the study population have symptoms of moderate addiction. This finding was lower in comparison to findings from other studies. Jamaluddin, Jeyakumar and Lee (2015) had done a research on prevalence of social media addiction among university students in Kuala Lumpur and Melaka. A total of 110 university students had participated in this study. The researchers had been utilising similar Young's Internet Addiction Test to assess the addiction towards social media and the findings had shown that 73% of the respondents had severe addiction to social media (Jamaluddin, Jeyakumar, & Lee, 2015). This percentage of social media addiction was higher in comparison to the findings of this study. According to Jamaluddin et al. (2015), the higher percentage of severe social media addiction could be due to the large number of the respondents were having social media account such as Facebook, Twitter and Friendster.

Findings for the disordered eating attitude based on the DEAS has shown that the mean score is 76.17 (SD=14.34). The minimum score was 46 and maximum score was 133. For this scale, the higher the score, the severe is the disordered eating attitude. This findings did not have much difference than a study that had been done in Brazil involving 196 undergraduate students (Alvarenga & Philippi, 2010). This study had revealed that the mean score for DEAS was 61 (SD= 11.20) with minimum score of 37 and maximum score of 94 (Alvarenga & Philippi, 2010).

Psychological illness is assessed using the Brief Inventory Symptoms (BIS) and the scores of BSI-53 is using T score of Global Severity Index (TGSI). Severity of psychological symptoms is based on this scoring and any score that is above 63 indicate that the respondent is having significant psychological symptoms. Findings of this study has revealed that 13.3% of the respondents having score of more than 63. This means at least 1 in 10 of the respondents is having significant psychological symptoms that is affecting them physically, emotionally and socially. This statistic is alarming and mental health status among the young adults is a concern. If not being addressed early, this psychological symptoms will have severe adverse effect such as suicidal events, social issues and eating disorders (Paans et al., 2018).According to gender, female respondents has higher GSI score (mean= 1.00, SD=0.78) compare to male (mean= 0.80, SD= 0.66). This findings are similar to a study that was carried out among 1033 undergraduate students in Barcelona where the GSI score for female is higher (mean= 0.81, SD=0.53) than male (mean= 0.70, SD=0.50) (Pereda, Forns, & Pero, 2007).

5.1 Relationship between disordered eating attitude and sociodemographic characteristics

There are two sociodemographic characteristics that had been found to be statistically significant against the disordered eating attitude which are age and gender of the respondents. The mean score for age group above 20 years old is 78.10 (SD= 14.35) which is higher than the age group below 20 years old (mean= 72.79, SD=13.75). This has p value of <0.05. This findings is similar with another study that has been done in Malaysia involving 816 school-going children (Lin, Yit, Gan, & Mohd Nasir, 2017). The findings from this study also revealed that age is a significant risk factor to disordered eating.

The other statistically significant sociodemographic variable is gender. Mean score for female is higher (mean=75.55, SD=14.06) compare to male (mean score= 73.55, SD= 14.58) with p value<0.05. However, in the similar study by Lin et al. (2017), gender is not a significant factor to disordered eating. The instrument that had been used to assess disordered eating in the study by Lin et al. (2017) is also different where the researchers had been using Children Eating Attitude Test (ChEAT), whereas in this current study, Disordered Eating Attitude Scale (DEAS) had been applied. These two scales do not differ much in terms of the internal reliability with ChEAT having Cronbach's alpha of 0.79 (Lin et al., 2017) and DEAS with Cronbach's alpha of 0.76 (Alvarenga & Philippi, 2010).

5.2 Relationship between social media addiction, psychological illness and disordered eating attitude

Based on the findings from this study, relationship between the three variables have been established. Social media addiction has positive relationship with disordered eating attitude. More addiction towards social media is in parallel with worse eating attitude. Similar findings is seen in a study that has been done in the United States where there is strong association between social media use and eating attitude among young adults ages 18 to 34 years old (Sidani et al., 2016). This indicate that addiction to social media is which most probably due to problematic use of social media will give rise to abnormal eating attitude. Although problematic use of social media is not being addressed in this study, the data gathered shows that 27.4% of the respondents spend more than 6 hours daily on social media. More time spend on social media could lead to the addiction and this has proven by many existing studies (Rahman et al., 2020). This addiction eventually gives rise to disordered eating attitude as seen in this study.

Similar pattern of relationship is seen between psychological symptoms and disordered eating attitude. Respondents with more psychological symptoms will have worse eating attitude. Ball and Lee (2000) have reported similar findings of significant association between psychological stress and disordered eating attitude among the sample population. This indicate that development of disordered eating attitude is influenced by the mental health status of an individual (Ball & Lee, 2000). Social media addiction also has linear and positive relationship with psychological illness. Although social media addiction is not considered as a mental health disorder, unlike internet addiction, there have been many studies that implicate social media addiction

on psychological illness. The similar findings have been found in a longitudinal study that is exploring the relationship of problematic social media use and depressive symptoms among adolescent girls (Raudsepp & Kais, 2019). Their findings has revealed that there is positive association between problematic social media use and depressive symptoms.

Apart from the positive association between social media addiction, psychological illness and disordered eating attitude, the independent variables are also significant predictors to disordered eating attitude. Psychological illness is a stronger predictor compare to social media addiction. Based on the multiple regression analysis, psychological illness also has slightly greater impact on the outcome of disordered eating behaviour compare to social media addiction. This is helpful in determining on the most efficient strategy to overcome the rising trend of disordered eating attitude.

5.3 Mediating effect of psychological illness

A unique aspect of this study is the analysis of mediating effect that psychological illness might have on the relationship between social media addiction and disordered eating behaviour. There have been lack of studies in this field of research that is examining the possible mediating effect of psychological illness and the findings from this study will make significant contribution to the literature.

In the causal mediation analysis, social media addiction is identified as the independent variable, X and disordered eating attitude is the dependent variable, Y. Meanwhile, the mediator variable, M is psychological illness. The direct effect measures the changes in dependent variable when there is an increase by 1 unit of independent variable, and in this case there is no alteration in mediator variable.

Meanwhile, the indirect effect measures the changes in dependent variable when there is no changes in independent variable but there is change in mediator variable. Thus, the indirect effect is the reverse of direct effect. In linear model, the sum of direct and indirect effect constitutes the total effect. However, this cannot be applied in non-linear models. Rather, in non-linear model, the total effect is usually a modified combination of direct and indirect effect (Kim, 2016).

A mediator variable can have two types of mediation effect between the variables. The first one is a mediator variable can have a full mediation effect. This means the mediator variable has maximum evidence in mediating the relationship between the variables. This can be observed the effect of relationship between independent and dependent variables is reduced to zero when a mediator variable is included in the model. The second type of effect is partial mediation effect. In partial mediation, the mediator variable is accountable only for some of the effect of relationship between the variables. This indicates that the direct relationship between independent and dependent variable is still present with the addition of significant relationship between the mediator variable and dependent variable (Rucker, Preacher, Tormala, & Petty, 2011).

Findings from this study has revealed that the mediator variable in this study which is the psychological illness has a partial mediating effect on the relationship between social media addiction and disordered eating attitude. This occurs because based on the analysis done, when the psychological illness is present in the model, there is still minimal effect of social media addiction on disordered eating attitude. This indicates that the addition of psychological illness as a mediator does not completely reduced the effect of relationship between the variables to zero. For this

mediating effect to take place, both the direct and indirect effect must be significant as in the case of this study (Kim, 2016). This findings is similar with a study that has investigated the mediating role of psychological distress in the development of binge-eating (Ahorsu et al., 2020). Binge-eating is one of the disordered eating attitude and distress is a component of psychological symptoms, thus this study is similar in several aspects that can be used as comparison. In this study by Ahorsu et al. (2020), 1497 adolescents were involved (mean age 15.1 years old, SD= 6.0). The mediation model is also analysed using model 4 in the PROCESS macro for SPSS with 10,000 bootstrapping resamples. The result was psychological distress did significantly mediated the association between weight-related self-stigma and binge eating (Ahorsu et al., 2020). Therefore, this is a distinctive finding that will contribute to the public health action to overcome the incidence of disordered eating attitude.

5.4 Study limitation

Throughout the process of collecting data, several challenges and limitations have been encountered. The first limitation is the choice of study instrument. Young's Internet Addiction Test (IAT) has been used in this study to assess the severity of social media addiction. However, it might not be the most accurate to measure social media addiction as the instrument measures usage of internet which is the network provider, whereas social media is the websites and applications where the users share their pictures and profiles and participate in social networking (Go, 2019). Therefore, a more appropriate instrument will be Bergen Social Media Addiction Scale (BSMAS) or Social Media Addiction Scale- Student Form (SMAS-SF).

The other limitation is regarding the study site. Most of the private HLIs have been reluctant in participating in this study, although confidentiality of the respondents have been ensured. This has caused the difficulty in obtaining adequate number of samples as well. Measure that can be taken to overcome this limitation is to expand the study site to public HLIs. In this way, there will be higher chances of being able to obtain more HLIs to participate in this study. By having a mix of both private and public HLIs, this will increase the variation in sample population and more variance in sociodemographic profile of the sample population. Furthermore, there have been many studies that conducted their research on social media addiction and disordered eating attitude at colleges and schools. Thus, the findings of these studies are concerning only of adolescents and young adults. However, according to a survey on internet users done by Malaysian Communications and Multimedia Commission (MCMC), adults age 20 to 30 years old and 30 to 40 years old constitute 30.0% and 25.9% of internet users respectively. These adults are part of 24.6 million social media users in Malaysia (Malaysian Communications and Multimedia Commission, 2018). Therefore, study site should include working places as majority of the adults are economically productive population. It would be interesting to know the findings of relationship between social media addiction, psychological illness and disordered eating attitude among these working adults and this will contribute to a different perspective of these relationships.

Another limitation of this study is the age group of study population which is 18 to 24 years old. Due to time constraint in completing the data collection, the study population is restricted only to HLIs. Perhaps the age group can be extended to include the early adolescents' age group which is 13 to 17 years old for future research. This

is because disordered eating attitude is prevalent among the early adolescent age group. According to a study conducted in Saudi Arabia, 25.47% of the participants age 15 to 19 years old are having disordered eating attitude. It is more prevalent among overweight and obese adolescent compare to adolescents with normal weight (Waseem & Ahmad, 2018). Therefore, this study should be extended to a much younger age group in order to obtain a more precise findings on the possible associated factors of disordered eating attitude in our local setting.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Social media addiction, psychological illness and disordered eating attitude has shown to have significant relationship between them. This linear relationship has allowed the hypothesis of this study to be proven. Higher addiction to social media is positively associated with more severe disordered eating attitude. Severity of social media addiction is indicated by the higher score on Social Media Addiction Scale. In this study, it has found that 46% of the respondents are having moderate addiction and 2.2% has severe addiction. The social media addiction score is then correlated with disordered eating attitude score and shows positive correlation between them.

More psychological symptoms is also positively associated with severe disordered eating attitude. Severity of psychological symptoms is assessed using Brief Inventory Symptoms (BIS) score and any score above 63 is considered as having significant psychological symptoms. This study has found that 13.3% of the respondents are having scores or more than 63. Meanwhile, disordered eating attitude is measured using Disordered Eating Attitude Scale (DEAS). The mean score for this scale is 76.1 (95% CI: 74.29, 78.05) with minimum score of 46 and maximum score of 133. As the score gets higher, the worse is the disordered eating attitude. Correlation analysis between this two scores reveal that there is positive correlation between them. This means that, the more psychological symptoms that you have, you are at risk of having more severe disordered eating attitude.

This study has shown that higher addiction to social media is also associated with more psychological illness. This relationship has been proven through the correlation analysis and the respondents who score higher for social media addiction scale has been shown to have more psychological symptoms as well. To sum it all up, there is positive relationship between social media addiction, psychological illness and disordered eating behaviour. Apart from that, both social media addiction and psychological illness are significant predictors to the outcome of disordered eating attitude. In addition to that, psychological illness has also been proven to have a partial mediating effect on the relationship of social media addiction and disordered eating attitude.

6.2 Implication of this study

The significance of these findings is that it helps in understanding the relationship between social media addiction, psychological illness and disordered eating attitude. The significant finding of the partial mediating effect by psychological illness on the relationship between social media addiction and disordered eating attitude should be taken into account and this will contribute to alternative strategies toward dealing with disordered eating. With this knowledge and perhaps new insight on the development of disordered eating, it can help policy makers to design more effective approach to overcome the rising trend of disordered eating attitude especially among young adults.

6.3 Recommendation

Several recommendation can be made based on the implications of this study and these recommendations can be made in terms of public health research, policies and health promotion.

6.3.1 Public health research

Scarcity of research on disordered eating attitude and its associated factors in Malaysia should be the drive to conduct more research on this matter. The existing studies are mainly focused on targeted population such as university students and the findings from such studies do not reflect the real situation especially in Malaysia. Therefore, it is recommended to extend such study to include more study site in order to have a more representative data on the subject. More studies to be conducted is also a benefit to the researchers as findings from such studies can be compared in order to look for any significant variation in the findings.

There have been quite a number of research that is looking into the relationship between social media addiction and disordered eating attitude. However, not much is known regarding the mediating effects of psychological illness on this relationship. Thus, it would be worthy to have more studies on mediational effect to the development of disordered eating attitude. There might as well be other mediating factors that can affect the relationship between social media addiction and disordered eating attitude. Thus, with more studies on this, it will help to enlighten the public regarding the disordered eating attitude and its associated factors.

6.3.2 Public health policies

Results that have been found in this study is a clear indication on the situation of disordered eating attitude and its relation to social issues such as social media

addiction and psychological illness. Therefore, these issues should be highlighted as they can be a threat to the health of our community. For stringent actions to be taken, appropriate public health policies should be in place.

Policy on restricting social media usage may be necessary and should be implemented among adolescents below 18 years old. This policy will require multiagency collaboration such as Ministry of Women, Family and Community Development, Ministry of Multimedia and Communication, Ministry of Education and Ministry of Health. Ministry of Multimedia can restrict the usage of social media platforms among these adolescents by law enforcement. If such policy is executed well, there will be remarkable improvement in cases of psychological illness such as depression, stress and anxiety that has been contributed by problematic use of social media. Eventually, the effect of this policy can also be seen by the reducing trend of social media addiction and disordered eating attitude.

Public health policy on disordered eating prevention should also be stressed upon as this condition can lead to the development of eating disorder such as anorexia nervosa, bulimia nervosa and binge-eating. These conditions will severely impair the growth and psychosocial development of a child. Therefore, prevention policies should be taken into consideration. Such policy that can be considered is the policy on making nutrition education a compulsory to be taught at school. This policy will be able to help nurture the young ones about good eating habits and this can prevent risk of developing disordered eating attitude later on their adult life.

6.3.3 Health promotion and education

The knowledge on the relation between social media addiction, psychological illness and disordered eating attitude will contribute to design new and effective

prevention strategies. The ultimate strategies in prevention is by educating the public regarding social media use, good eating habits and being aware of psychological symptoms. These activities will need the participation of nutritionist, health education officer and medical officer. These officers will carry out health promotional activities targeting high risk population for disordered eating such as adolescents and young adults. Promotional activities that can be done is in the form of spreading the right information about eating habits and nutrition through traditional mass media or electronic media such as websites and social media platform.

Health education is always an effective measure for primary prevention of any medical conditions. This activity involves educating the public through the conventional method that is by giving health talks to the public or school children. It can also be carried out in a creative and out-of-the box method such as during school open day or sports day where the public is being gathered at one place and information about disordered eating and social media addiction can be conveyed to them. Health education does not necessarily mean health talks but it can be done in a more interactive method. School health team which is part of Maternal and Child Health services should be empowered and strengthened to carry out the primary prevention activities. This is because most of the incidence of disordered eating begin during adolescence and this will continue on later into adulthood. Consistent awareness campaign and educating the school-going children is important in order to reduce the trend of social media addiction, psychological illness and ultimately the disordered eating attitude among them.

REFERENCES

- Ahorsu, D. K., Chung, Y. L., Imani, V., Griffiths, M. D., Jian, A. S., Latner, J. D., . . . Pakpour, A. H. (2020). A prospective study on the link between weight-related self-stigma and binge eating: Role of food addiction and psychological distress. *International Journal of Eating Disorders*.
- Al-Menayes, J. J. (2015). Dimensions of social media addiction among university students in Kuwait. *Psychology and Behavioral Sciences*, 4, 23-28.
- Alpaslan, A. H., Kocak, U., Avci, K., & Tas, H. U. (2015). The association between internet addiction and disordered eating attitudes among Turkish high school students. *Eat Weight Disord*, 20, 441-448.
- Alvarenga, M. S., Pereira, R. F., Scagliusi, F. B., Philippi, S. T., Estima, C. C. P., & Croll, J. (2010). Psychometric evaluation of the Disordered Eating Attitude Scale (DEAS). English version. *Appetite*, 55.
- Alvarenga, M. S., & Philippi, S. T. (2010). Development and validity of the Disordered Eating Attitude Scale (DEAS). *Perceptual and Motor Skills*, 110.
- American Psychiatric Association, A. (2017). What Are Eating Disorders? Retrieved from <https://www.psychiatry.org/patients-families/eating-disorders/what-are-eating-disorders>
- Anderson, M. (2018). What Is Disordered Eating? Retrieved from <https://www.eatright.org/health/diseases-and-conditions/eating-disorders/what-is-disordered-eating>
- Andexer, C. (2016). The rise of eating disorders among young Malaysians. Retrieved from <https://today.mims.com/the-rise-of-eating-disorders-among-young-malaysians>
- Aparicio-Martinez, P., Perea-Moreno, A. J., Martinez-Jimenez, M. P., Redel-Macias, M. D., Pagliari, C., & Vaquero-Abellan, M. (2019). Social Media, Thin-Ideal, Body Dissatisfaction and Disordered Eating Attitudes: An Exploratory Analysis. *Int J Environ Res Public Health*, 16(21). doi:10.3390/ijerph16214177

- Ball, K., & Lee, C. (2000). RELATIONSHIPS BETWEEN PSYCHOLOGICAL STRESS, COPING AND DISORDERED EATING: A REVIEW. *Psychology and Health*, 14.
- Banyai, F., Zsila, A., Kiraly, O., Maraz, A., Elekes, Z., Griffiths, M. D., . . . Demetrovics, Z. (2017). Problematic Social Media Use: Results from a Large-Scale Nationally Representative Adolescent Sample. *PLoS ONE*, 12, 1-13.
- BC Mental Health and Addiction Services, B. C. (2015). *DISORDERED EATING AND OBESITY*. In.
- Bryn Austin, S. (2012). A public health approach to eating disorders prevention: It's time for public health professionals to take a seat at the table. *BMC Public Health*, 12.
- Clement, J. (2019). U.S. internet users addicted to social media 2019, by age group. Retrieved from <https://www.statista.com/statistics/1081292/social-media-addiction-by-age-usa/>
- Clement, J. (2020). Number of global social network users 2017-2025. Retrieved from <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>
- Cleveland Clinic, C. L. (2018). How to Recognize the Warning Signs of Disordered Eating (and What to Do). Retrieved from <https://health.clevelandclinic.org/how-to-recognize-the-warnings-signs-of-disordered-eating-and-what-to-do/>
- Department of Statistics Malaysia, D. O. S. M. (2015). ICT Use and Access by Individuals and Households Survey Report, Malaysia. Retrieved from <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=Q3I3WXJFbG1PNjRwcHZQTvISR1UrQT09>
- Derogatis, L. R. (1975). Brief Symptom Inventory. *Clinical Psychometric Research*.
- Ferreiro, F., Seoane, G., & Senra, C. (2014). A Prospective Study of Risk Factors for the Development of Depression and Disordered Eating in Adolescents. *Journal of Clinical Child & Adolescent Psychology*, 40.
- Galmiche, M., Dechelotte, P., Lambert, G., & Tavalacci, M. P. (2019). Prevalence of eating disorders over the 2000–2018 period: a systematic literature review. *Am J Clin Nutr*, 109.

- Gan, W. Y., Mohd Shariff, Z., Mohd Nasir, M. T., & Abu Saad, H. (2011). Disordered eating behaviors, depression, anxiety and stress among Malaysian university students. *College student journal*, 45.
- Gazi, M. A., Çetin, M., & Çakı, C. (2017). The research of the level of social media addiction of university students. *International Journal of Social Sciences and Education Research*, 3, 549-559.
- Go, G. (2019). Social media Marketing Overview: What it is and How to use it. Retrieved from <https://www.thebalancesmb.com/social-media-overview-what-it-is-and-how-to-use-it-2531971>
- Griffiths, M. D. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10, 191-197.
- Griffiths, M. D., Kuss, D. J., Billieux, J., & Pontes, H. M. (2016). The evolution of internet addiction: A global perspective. *Addictive Behaviours*, 53, 193-195.
- Griffiths, S., Murray, S. B., Krug, I., & McLean, S. A. (2018). The Contribution of Social Media to Body Dissatisfaction, Eating Disorder Symptoms, and Anabolic Steroid Use Among Sexual Minority Men. *CYBERPSYCHOLOGY, BEHAVIOR, AND SOCIAL NETWORKING*, 21.
- Hayes, A. F. (2020). The PROCESS macro for SPSS, SAS and R. Retrieved from <https://www.processmacro.org/index.html>
- Hootsuite Inc., H. I. (2019). Global State of Digital Report. Retrieved from <https://hootsuite.com/pages/digital-in-2019>
- Hudson, M. (2019). What is social media? Retrieved from <https://www.thebalancesmb.com/what-is-social-media-2890301>
- Hussain, Z., & Griffiths, M. D. (2018). Problematic Social Networking Site Use and Comorbid Psychiatric Disorders: A Systematic Review of Recent Large-Scale Studies. *Front Psychiatry*, 9, 686. doi:10.3389/fpsyt.2018.00686
- Institute for Public Health, I. P. H. (2018). *NATIONAL HEALTH AND MORBIDITY SURVEY (NHMS) 2017: Key Findings from the Adolescent Health and Nutrition Surveys*. Retrieved from <http://iku.moh.gov.my/images/IKU/Document/REPORT/NHMS2017/NHMS2017Infographic.pdf>

- Ivie, E. J., Pettitt, A., Moses, L. J., & Allen, N. B. (2020). A Meta-Analysis of the Association Between Adolescent Social Media Use and Depressive Symptoms. *Journal of Affective Disorders*.
- Jamaluddin, H., Jeyakumar, R., & Lee, Y. L. (2015). *Determinants and prevalence of Social Networking addiction among varsity students in Malaysia*. Paper presented at the International Conference on Emerging Trends in Social Commerce (2012), Madras Christian College, India.
- Ke, G. N., & Wong, S. F. (2018). The Impact of Social Networking Site Usage on Adolescent Social Tie and Mental Health. Retrieved from https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/IMU_SKMM.pdf
- Kelty Eating Disorders, K. (2020). Disordered Eating. Retrieved from <https://keltyeatingdisorders.ca/types-of-disorders/disordered-eating/>
- Kerimova, M., & Nermin, O. (2016). The Brief Symptom Inventory: A validity-reliability Study of a Sample from Azerbaijan. *Journal of Education and Training Studies*, 4.
- Kim, B. (2016). Introduction to mediation analysis. Retrieved from <https://data.library.virginia.edu/introduction-to-mediation-analysis/>
- Lin, S. C., Yit, S. C., Gan, W. Y., & Mohd Nasir, M. T. (2017). Associations between socio-demographic characteristics and pubertal status with disordered eating among primary school children in Selangor, Malaysia. *Asia Pac J Clin Nutr*, 26.
- Malaysian Communications and Multimedia Commission, M. (2018). *Internet Users Survey 2018*. Retrieved from <https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/Internet-Users-Survey-2018.pdf>
- Merriam-Webster, M. W. (2020a). Acculturation. Retrieved from <https://www.merriam-webster.com/dictionary/acculturation>
- Merriam-Webster, M. W. (2020b). Perfectionism. Retrieved from <https://www.merriam-webster.com/dictionary/perfectionism>
- Mugoya, G., Hooper, L. M., Chapple, B., & Cumi, K. (2018). Impact of Depressive Symptoms and Alcohol Use on Disordered Eating and Suicidality: A Moderated Mediation Study. *Journal of Mental Health Counseling*, 40.

- National Coordinating Committee on Food and Nutrition, N. (2016). *National Plan of Action for Nutrition of Malaysia III 2016-2025*.
- National Eating Disorders Association, N. E. D. A. (2018). OTHER SPECIFIED FEEDING OR EATING DISORDER. Retrieved from <https://www.nationaleatingdisorders.org/learn/by-eating-disorder/osfeds>
- National Eating Disorders Collaboration, N. E. D. C. (2020). Disordered Eating & Dieting. Retrieved from <https://www.nedc.com.au/eating-disorders/eating-disorders-explained/disordered-eating-and-dieting/>
- Ng, C. G., Mohammed Isa, S., Hashim, A. H., & Pillai, S. K. (2012). Validity of the Malay Version of the Internet Addiction Test: A Study on a Group of Medical Students in Malaysia. *Asia-Pacific Journal of Public Health*.
- Office of Adolescent Health, O. A. H. (2018). Eating Disorders in Adolescence. Retrieved from <https://www.hhs.gov/ash/oah/news/e-updates/april-2018-eating-disorders/index.html>
- Orsala, O., Orsalb, O., Unsalc, A., & Ozalpd, S. S. (2012). Evaluation of Internet Addiction and Depression among university students. *Social and Behavioral Sciences*, 445-454.
- Ortega-Luyando, M., Alvarez-Rayon, G., Garner, D. M., & Mancilla-Diaz, J. M. (2015). Systematic review of disordered eating behaviors: Methodological considerations for epidemiological research. *Mexican Journal of Eating Disorders*, 6.
- Paans, N., Bot, M., Brouwer, I. A., Visser, M., Roca, M., Kohls, E., . . . Penninx, B. (2018). The association between depression and eating styles in four European countries: The MoodFOOD prevention study. *Journal of Psychosomatic Research*, 108, 85-92.
- Parekh, R. (2018). What Is Mental Illness? Retrieved from <https://www.psychiatry.org/patients-families/what-is-mental-illness>
- Patton, G. C., Selzer, R., Coffey, C., Carlin, J. B., & Wolfe, R. (1999). Onset of adolescent eating disorders: population based cohort study over 3 years. *BMJ*, 318.
- Pengpid, S., & Peltzer, K. (2018). Risk of disordered eating attitudes and its relation to mental health among university students in ASEAN. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*.

- Pereda, N., Forns, M., & Pero, M. (2007). Dimensional structure of the Brief Symptom Inventory with Spanish college students. *Psicothema*, 19.
- Pike, K. M., & Dunne, P. E. (2015). The rise of eating disorders in Asia: a review. *Journal of Eating Disorders*, 3.
- Pontes, H. M. (2017). Investigating the differential effects of social networking site addiction and Internet gaming disorder on psychological health. *J Behav Addict*, 6(4), 601-610. doi:10.1556/2006.6.2017.075
- Prefit, A. B., & Szentagotai-Tatar, A. (2018). DEPRESSION AND DISORDERED EATING BEHAVIORS: THE ROLE OF EMOTION REGULATION DIFFICULTIES. *Journal of Evidence-Based Psychotherapies*, 18, 95-106.
- Rahman, M. M., Arif, M. T., Luke, F., Letchumi, S., Nabila, F., Wong, C., . . . Baharin, N. (2020). Factors affecting internet use among university students in Sarawak, Malaysia: an empirical study. *International Journal of Community Medicine and Public Health*, 7.
- Raudsepp, L., & Kais, K. (2019). Longitudinal associations between problematic social media use and depressive symptoms in adolescent girls. *Preventive Medicine Reports*, 15.
- Reba-Harrelson, L., Holle, A. V., Hamer, R. M., Swann, R., Reyes, M. L., & Bulik, C. M. (2009). Patterns and Prevalence of Disordered Eating and Weight Control Behaviors in Women Ages 25–45. *Eat Weight Disord*, 14.
- Ritchie, H. (2018). Global mental health: five key insights which emerge from the data. Retrieved from <https://ourworldindata.org/global-mental-health#:~:text=Around%201%2Din%2D7%20people.4%20percent%20of%20the%20population.>
- Rodgers, R. F., Melioli, T., Laconi, S., Bui, E., & Chabrol, H. (2013). Internet Addiction Symptoms, Disordered Eating, and Body Image Avoidance. *CYBERPSYCHOLOGY, BEHAVIOR, AND SOCIAL NETWORKING*, 16.
- Rosenberg, J. (2019). Mental Health Issues On the Rise Among Adolescents, Young Adults. Retrieved from <https://www.aime.com/view/mental-health-issues-on-the-rise-among-adolescents-young-adults>
- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation Analysis in Social Psychology: Current Practices and New Recommendations. *Social and Personality Psychology Compass*, 5.

- Sandanasamy, K. S. (2016). *Disorder eating among urban and rural secondary school children in Selangor, Malaysia*. (PhD), University of Malaya,
- Santos, M., Steven Richards, C., & Kathryn Bleckley, M. (2007). Comorbidity between depression and disordered eating in adolescents. *Eating Behaviors*, 8.
- Sarawak Government, S. G. (2010). Sarawak Population. Retrieved from https://www.sarawak.gov.my/web/home/article_view/240/175/
- Saunders, J. F., & Eaton, A. A. (2018). Snaps, Selfies, and Shares: How Three Popular Social Media Platforms Contribute to the Sociocultural Model of Disordered Eating Among Young Women. *CYBERPSYCHOLOGY, BEHAVIOR, AND SOCIAL NETWORKING*, 21.
- Shamsudin, K., Fadzil, F., Wan Ismail, W. S., Shah, S. A., Omar, K., Muhammad, N., . . . Mahadevan, R. (2013). Correlates of depression, anxiety and stress among Malaysian university students. *Asian Journal of Psychiatry*, 6, 318-323.
- Sharif Ishak, S. I. Z., Yit, S. C., Mohd Taib, M. N., & Mohd Shariff, Z. (2016). School-based intervention to prevent overweight and disordered eating in secondary school Malaysian adolescents: a study protocol. *BMC Public Health*, 16.
- Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among U.S. young adults: A nationally-representative study. *Soc Sci Med*, 182, 150-157. doi:10.1016/j.socscimed.2017.03.061
- Sherry, K. (2018). The Effects of Media on Young Adults with Eating Disorders
- Capstone Projects and Master's Theses*, 248.
- Shisslak, C. M., Crago, M., & Estes, L. S. (1995). The spectrum of eating disturbances. *International Journal of Eating Disorder*, 18.

- Sidani, J. E., Shensa, A., Hoffman, B., Hanmer, J., & Primack, B. A. (2016). The Association between Social Media Use and Eating Concerns among U.S. Young Adults. *J Acad Nutr Diet*, 116.
- Steinhausen, H. (2002). The outcome of anorexia nervosa in the 20th century. *Am J Psychiatry*, 158.
- Stice, E., & Whitenton, K. (2002). Risk factors for body dissatisfaction in adolescent girls: A longitudinal investigation. *Developmental Psychology*, 38.
- Tonioni, F., D'Alessandris, L., Lai, C., Martinelli, D., Corvino, S., Vasale, M., . . . Bria, P. (2012). Internet addiction: hours spent online, behaviors and psychological symptoms. *Gen Hosp Psychiatry*, 34(1), 80-87. doi:10.1016/j.genhosppsych.2011.09.013
- Turner, P. G., & Lefevre, C. E. (2017). Instagram use is linked to increased symptoms of orthorexia nervosa. *Eat Weight Disord*, 22.
- Waseem, F., & Ahmad, L. M. (2018). Prevalence of disordered eating attitudes among adolescent girls in Arar City, Kingdom of Saudi Arabia. *Health Psychology Research*, 6.
- Wilksch, S. M., O'Shea, A., Ho, P., Byrne, S., & Wade, T. D. (2019). Social media use associated with disordered eating among young adolescents. *International Journal of Eating Disorder*. doi:doi: 10.1002/eat.23198
- World Health Organization, W. H. O. Adolescent health in the South-East Asia Region. Retrieved from <https://www.who.int/southeastasia/health-topics/adolescent-health>
- World Health Organization, W. H. O. (2019). Adolescent Health. Retrieved from <https://www.who.int/southeastasia/health-topics/adolescent-health>
- Wu, A. M. S., Cheung, V., Ku, L., & Hung, E. (2013). Psychological risk factors of addiction to social networking sites among Chinese smartphone users. *J Behav Addict*, 2.
- Yit, S. C., Appukutty, M., Kagawa, M., Wan, Y. G., Jyh, E. W., Bee, K. P., . . . Mohd Taib, M. N. (2020). Comparison of Factors Associated with Disordered Eating between Male and Female Malaysian University Students. *Nutrients*, 12.
- Young, K. S. (2017). Internet Addiction Test. Retrieved from https://www.stoeltingco.com/media/wysiwyg/IAT_web_sample.pdf

APPENDICES

APPENDIX 1: Informed consent form (English and Bahasa Malaysia)



Informed Consent Form to Participate in this study

I have read, or have read to me, in language understandable to me, the above information. The content and meaning of this information has been fully explained to me.

I have time and opportunity to ask any questions that I have about the study and this form, and all my questions have been answered. I voluntarily consent and offer to take part in this study. By signing this consent form, I certify that all information I have given, including my medical history, is true and correct to the best of my knowledge.

I will not receive any compensation for my participation in the study and whatever relevant findings of the research may be used in academic publications.

I understand that I will receive a copy of this signed consent form.

Name of subject	IC. No.	Signature	Date
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Name of witness	IC. No.	Signature	Date
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Name of researcher	IC. No.	Signature	Date
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BORANG KEBENARAN BERTULIS UNTUK MENYERTAI KAJIAN

Saya, _____ telah membaca, atau telah dibacakan kepada saya dengan bahasa yang mudah saya fahami mengenai maklumat kajian di atas. Penerangan yang jelas telahpun diberikan oleh _____ (penyelidik /pembantu penyelidik) mengenai kajian yang akan saya sertai.

Saya juga telah diberi peluang untuk bertanya soalan mengenai kajian ini serta mengenai penglibatan saya di dalam kajian ini. Segala soalan yang saya kemukakan telah pun diberi penjelasan dan jawapan yang memuaskan.

Saya telah membaca, atau telah dibacakan kepada saya semua muka surat Borang Kebenaran Bertulis Untuk Menyertai Kajian. Segala risiko sewaktu menyertai kajian ini juga telah diberikan penjelasan. Dengan ini, saya secara sukarela bersetuju untuk menjadi peserta dan memberikan kerjasama yang sepenuhnya kepada pasukan penyelidik.

Saya juga faham bahawa saya akan menerima satu salinan borang yang telah saya tandatangani ini untuk rujukan. Saya tahu bahawa saya berhak untuk menarik diri dari kajian ini pada bila-bila masa jika saya hendak berbuat demikian.

Maklumat peribadi saya tidak akan didedahkan dan data kajian akan kekal sulit. Saya bersetuju yang saya tidak akan menggunakan sebarang sekatan ke atas penggunaan mana-mana data yang diperolehi di dalam kajian ini.

Walaupun data dari hasil kajian ini akan diterbitkan di dalam jurnal perubatan dan akan dibincangkan di seminar, segala maklumat dan data kajian yang Tuan/Puan berikan adalah kekal sulit. Ini bermaksud, nama Tuan/Puan dan anak Tuan/Puan tidak akan dipaparkan bersama data kajian.

_____	_____	_____	_____
Nama peserta	No. kad pengenalan	Tandatangan	Tarikh
_____	_____	_____	_____
Nama saksi	No. kad pengenalan	Tandatangan	Tarikh
_____	_____	_____	_____
Nama penyelidik	No. kad pengenalan	Tandatangan	Tarikh

APPENDIX 2: Respondent Information Sheet (English and Bahasa Malaysia)



TITLE OF STUDY: RELATIONSHIP BETWEEN SOCIAL MEDIA ADDICTION, PSYCHOLOGICAL ILLNESS AND DISORDERED EATING AMONG COLLEGE YOUTH IN KUCHING

PRINCIPAL INVESTIGATOR: DR IZZATY BINTI HAMIDI

INSTITUTION: UNIVERSITI MALAYSIA SARAWAK

INSTITUTION ADDRESS: COMMUNITY MEDICINE AND PUBLIC HEALTH
DEPARTMENT, FACULTY OF MEDICINE AND
HEALTH SCIENCES

THE NATURE AND PURPOSE OF THE STUDY

Objectives: The purpose of this study is to determine the relationship of social media addiction with psychological illness and disordered eating among college youth in Kuching Division.

STUDY DESCRIPTION

This study is conducted among college youth in private higher learning institutions using self-administered questionnaire. All college youth at the age of 18 until 24 years old are included in this study.

RISKS OF STUDY PARTICIPATION

The risks in this study associated with participation are no greater than those ordinarily encountered in daily life or during routine examinations or tests.

POSSIBLE BENEFITS OF STUDY PARTICIPATION

There may be no personal benefit from your participation in the study but the study findings received later may be of value to humanity in increasing our knowledge regarding the outcomes and effects of social media addiction to our physical and mental health.

WITHDRAWAL FROM STUDY

Withdrawal of your consent or discontinued participation in this study will not result in any penalty or loss of your rights or benefits. The researcher will remove you from the study for any number of reasons.

VOLUNTARY PARTICIPATION

I understand that participation in this study is voluntary and that if I decide not to participate, I will experience no penalty or loss of benefits to which I would otherwise be entitled outside of this study. If I decide to participate, I may change my mind about being in the study, and may stop at any time. I understand that I must inform the doctor of this decision immediately. I understand that such a decision on my part will not influence the availability of future medical care or other benefits to which I am otherwise entitled outside of this study.

I understand that I will be informed in a timely manner of any new information that may affect my willingness to continue participation in this study.

I will not receive any compensation for my participation in the study and whatever relevant findings of the research may be used in academic publications.

CONFIDENTIALITY

All data obtained from this study are confidential and personal data will not be identified.

MORE INFORMATION ABOUT THIS STUDY

For more information of this study, you may contact the following individual:

Name of principal investigator: Dr Izzaty binti Hamidi

Address : Faculty of Medicine and Health Science

Contact number : 016-8601687

Email address : izzatyhamidi@yahoo.com

You may also ask any questions, the research team and research assistant will answer any question that you would like to ask.



MAKLUMAT KAJIAN PESERTA

TAJUK KAJIAN: HUBUNGKAIT DI ANTARA KETAGIHAN TERHADAP MEDIA SOSIAL DENGAN MASALAH PSIKOLOGI DAN KECELARUAN TABIAT PEMAKANAN

KETUA PENYELIDIK: DR IZZATY BINTI HAMIDI

INSTITUSI: UNIVERSITI MALAYSIA SARAWAK

ALAMAT INSTITUT: JABATAN PERUBATAN KOMUNITI DAN KESIHATAN AWAM, FAKULTI PERUBATAN DAN SAINS KESIHATAN

BENTUK DAN TUJUAN KAJIAN

Objektif:

Tujuan kajian ini adalah untuk menentukan hubungkait di antara ketagihan terhadap media social dengan masalah psikologi dan kecelaruan tabiat pemakanan.

LATAR BELAKANG/ MAKLUMAT KAJIAN

Kajian ini dijalankan di dalam kalangan pelajar di institut pengajian tinggi swasta di Bahagian Kuching menggunakan borang soal selidik. Kesemua pelajar yang berumur di antara 18 hingga 24 tahun boleh menyertai kajian ini.

RISIKO KETIKA MENYERTAI KAJIAN INI

Risiko dalam kajian ini yang dikaitkan dengan penyertaan adalah seperti biasa yang ditemui dalam kehidupan harian atau semasa peperiksaan rutin atau ujian.

KELEBIHAN YANG DIPEROLEHI KETIKA MENYERTAI KAJIAN INI

Kemungkinan ada manfaat peribadi dari penyertaan anda tetapi penemuan kajian yang diterima kemudian mungkin bernilai kepada masyarakat dalam meningkatkan ilmu pengetahuan tentang kesan ketagihan terhadap media sosial kepada kesihatan fizikal dan mental.

PEMBATALAN PENYERTAAN

Sebagai peserta Tuan/Puan berhak untuk tidak menyertai atau menarik diri dari kajian ini pada bila-bila masa tanpa rasa prejudis, takut, atau bimbang terhadap penyelidik. Sebagai penyelidik, kami tidak akan mempersoalkan tindakan Tuan/Puan kerana sebagai peserta suka rela, Tuan/Puan berhak untuk menarik diri pada bila-bila masa.

KESUKARELAAN MENYERTAI KAJIAN

Sekali lagi dijelaskan bahawa penyertaan Tuan/Puan di dalam kajian ini adalah secara sukarela. Tidak ada sebarang pihak yang boleh memaksa Tuan/Puan untuk menyertai kajian ini jika Tuan/Puan tidak mahu.

Jika Tuan/Puan membuat keputusan untuk tidak meneruskan penyertaan Tuan/Puan di dalam kajian ini, adalah dimaklumkan bahawa Tuan/Puan tidak akan menghadapi sebarang hukuman atau kehilangan sebarang keuntungan yang Tuan/Puan berhak dapat di luar kajian ini. Tuan/Puan berhak untuk menarik diri dari kajian ini pada bila-bila masa.

Sekiranya Tuan/Puan ingin menarik diri, Tuan/Puan mestilah menghubungi pengkaji secepat mungkin seperti yang dinyatakan di atas. Penarikan diri Tuan/Puan tidak akan

menjejaskan peluang Tuan/Puan untuk mendapatkan segala kemudahan awam contohnya kemudahan perubatan yang disediakan di luar kajian ini.

KERAHSIAAN

Walaupun data dari hasil kajian ini akan diterbitkan di dalam jurnal perubatan dan akan dibincangkan di seminar, segala maklumat dan data kajian yang Tuan/Puan berikan adalah kekal sulit. Kumpulan penyelidik sahaja yang dapat mengakses data kajian. Ini bermaksud, nama Tuan/Puan dan anak Tuan/Puan tidak akan dipaparkan bersama data kajian.

Sekiranya penerangan di atas masih lagi tidak jelas dan Tuan/Puan ingin membuat sebarang pertanyaan, penyelidik ataupun pembantu penyelidik akan membantu Tuan/Puan untuk menjawab sebarang pertanyaan.

MAKLUMAT LANJUT MENGENAI KAJIAN INI

Untuk mendapatkan maklumat lanjut mengenai kajian ini, Tuan/Puan bolehlah menghubungi individu berikut :

Nama Ketua Penyelidik : Dr Izzaty binti Hamidi

Alamat : Fakulti Perubatan dan Sains Kesihatan, UNIMAS

No. Telefon : 016-8601687

Email : izzatyhamidi@yahoo.com

Tuan/Puan juga boleh mengemukakan sebarang soalan, pasukan penyelidik dan pembantu penyelidik akan menjawab sebarang persoalan yang akan Tuan/Puan kemukakan.

APPENDIX 3: QUESTIONNAIRE

BAHAGIAN A

Pengenalan: Berikut ialah soalan mengenai sosiodemografi. Sila jawab semua soalan dan tanda (✓) di kotak yang disediakan.

*Introduction: I would like to ask regarding your socio-demographic characteristic. Please answer **all** the questions and tick (✓) in the appropriate box for the response to the questions.*

Student ID/ Matric no. :

Telephone no. :

Email address:

No	Question	Response
1.	How old are you?	years old
2.	What is your gender?	Male ☐ Female ☐
3.	What is your race?	Malay ☐ Chinese ☐ Iban ☐ Bidayuh ☐ (specify).....Others ☐
4.	What is your religion?	Islam ☐ Christian ☐ Buddhist ☐ (specify).....Others ☐
5.	What is your level of education?	Master's degree ☐ Bachelor's degree ☐ Diploma ☐ Certificate ☐ (specify).....Others ☐
6.	Which social media account do you have?	Facebook ☐ Instagram ☐ Twitter ☐ Whatsapp ☐ Wechat ☐
7.	Time spend on social media	< 1 hour ☐

		1-3 hours	
		4-6 hours	
		>6 hours	

BAHAGIAN B

SOCIAL MEDIA USE TEST

1	2	3	4	5	0
Jarang <i>Rarely</i>	Kadang-kadang <i>Occasionally</i>	Kerap <i>Frequently</i>	Sentiasa <i>Often</i>	Selalu <i>Always</i>	Tidak berkenaan <i>Does not apply</i>

Question		Scale					
1	Berapa kerap anda mendapati bahawa anda telah melayari internet lebih lama daripada yang anda jangkakan? <i>How often do you find that you stay on-line longer than you intended?</i>	1	2	3	4	5	0
2	Berapa kerap anda mengabaikan kerja mengemas rumah untuk meluangkan masa melayari media sosial? <i>How often do you neglect household chores to spend more time on social media?</i>	1	2	3	4	5	0
3	Berapa kerap anda mendapati anda memilih keseronokan melayari media sosial berbanding bermesra bersama pasangan anda? <i>How often do you prefer the excitement of the social media to intimacy with your partner?</i>	1	2	3	4	5	0
4	Berapa kerap anda membina hubungan di media sosial yang baru bersama dengan pengguna media sosial? <i>How often do you form new relationships with fellow social media users?</i>	1	2	3	4	5	0
5	Berapa kerap orang lain di sekeliling anda telah mengadu mengenai jumlah masa yang anda guna untuk melayari media sosial? <i>How often do others in your life complain to you about the amount of time you spend on social media?</i>	1	2	3	4	5	0
6	Berapa kerap gred atau kerja sekolah anda terjejas akibat dari jumlah masa yang telah anda gunakan untuk melayari media sosial? <i>How often do your grades or school work suffers because of the amount of time you spend sosial media?</i>	1	2	3	4	5	0

7	Berapa kerap anda melayari akaun sosial media sebelum anda melakukan sesuatu yang anda perlu lakukan? <i>How often do you check your social media account before something else that you need to do?</i>	1	2	3	4	5	0
8	Berapa kerap prestasi kerja atau produktiviti anda telah terjejas akibat media sosial? <i>How often does your job performance or productivity suffer because of the social media?</i>	1	2	3	4	5	0
9	Berapa kerap anda mempertahankan diri atau merahsiakan apabila anda ditanya apa yang anda lakukan ketika melayari media sosial? <i>How often do you become defensive or secretive when anyone asks you what you do on social media?</i>	1	2	3	4	5	0
10	Berapa kerap anda menyekat pemikiran yang mengganggu hidup anda dengan pemikiran tentang media sosial yang menyenangkan? <i>How often do you block out disturbing thoughts about your life with soothing thoughts of the social media?</i>	1	2	3	4	5	0
11	Berapa kerap anda mendapati diri anda menjangkakan bila anda akan melayari media sosial lagi? <i>How often do you find yourself anticipating when you will go on social media again?</i>	1	2	3	4	5	0
12	Berapa kerap anda mendapati kehidupan tanpa media sosial akan menjadi bosan, kosong dan tidak bahagia? <i>How often do you fear that life without the social media would be boring, empty, and joyless?</i>	1	2	3	4	5	0
13	Berapa kerap anda menjerit atau bertindak menjengkelkan sekiranya seseorang mengganggu anda ketika anda melayari media sosial? <i>How often do you snap, yell, or act annoyed if someone bothers you while you are on social media?</i>	1	2	3	4	5	0
14	Berapa kerap anda telah kehilangan waktu tidur disebabkan melayari media sosial pada lewat malam? <i>How often do you lose sleep due to late-night log-ins?</i>	1	2	3	4	5	0
15	Berapa kerap anda berasa sibuk dengan media sosial ketika anda tidak melayari nya atau berimajinasi untuk melayari media sosial? <i>How often do you feel preoccupied with the social media when off-line, or fantasize about being on social media?</i>	1	2	3	4	5	0
16	Berapa kerap anda mendapati diri anda berkata “beberapa minit lagi” ketika melayari media sosial? <i>How often do you find yourself saying “just a few more minutes” when on social media?</i>	1	2	3	4	5	0
17	Berapa kerap anda cuba untuk mengurangkan masa yang anda guna untuk melayari media sosial dan gagal? <i>How often do you try to cut down the amount of time you spend on social media and fail?</i>	1	2	3	4	5	0

18	Berapa kerap anda cuba untuk menyembunyikan masa yang anda telah gunakan untuk melayari media sosial? <i>How often do you try to hide how long you've been on social media?</i>	1	2	3	4	5	0
19	Berapa kerap anda telah memilih untuk meluangkan lebih banyak masa terhadap media sosial berbanding keluar dengan rakan-rakan? <i>How often do you choose to spend more time on social media over going out with others?</i>	1	2	3	4	5	0
20	Berapa kerap anda berasa tertekan, emosi atau cemas ketika anda tidak melayari media sosial dan perasaan ini hilang apabila anda melayari media sosial semula? <i>How often do you feel depressed, moody or nervous when you are not on social media, which goes away once you are back on social media?</i>	1	2	3	4	5	0

BAHAGIAN C
PSYCHOLOGY TEST

0	1	2	3	4
Tidak sama sekali <i>Not at all</i>	A little bit	Moderately	Quite a bit	Extremely

	0	1	2	3	4
A) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
1. Gementar <i>Nervousness or shakiness inside</i>					
2. Pengsan atau pening					

<i>Faintness or dizziness</i>					
3. Terdapat idea bahawa seseorang boleh mengawal minda anda. <i>The idea that someone else can control your thoughts.</i>					
4. Merasakan bahawa orang lain dipersalahkan untuk kesusahan yang anda alami. <i>Feeling others are to blame for most of your troubles.</i>					
5. Susah untuk mengingati sesuatu. <i>Trouble remembering things.</i>					
6. Senang untuk berasa terganggu atau menjengkelkan. <i>Feeling easily annoyed or irritated</i>					
7. Berasa sakit di dada. <i>Pains in the heart or chest</i>					
8. Berasa takut ketika di tempat terbuka. <i>Feeling afraid in open spaces</i>					
9. Fikiran untuk menamatkan hidup anda. <i>Thoughts of ending your life</i>					
B) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
10. Berasakan bahawa kebanyakan orang tidak boleh dipercayai. <i>Feeling that most people cannot be trusted.</i>					

11. Kurang selera makan. <i>Poor appetite.</i>					
12. Tiba-tiba berasa takut tanpa sebab. <i>Suddenly scared for no reason.</i>					
13. Tidak dapat mengawal perasaan marah yang keterlaluan. <i>Temper outbursts that you could not control</i>					
14. Berasa sunyi walaupun bersama dengan orang di sekeliling. <i>Feeling lonely even when you are with people</i>					
15. Berasa dihalang apabila ingin menyiapkan sesuatu tugas. <i>Feeling blocked in getting things done</i>					
16. Berasa kesunyian. <i>Feeling lonely</i>					
17. Berasa sedih. <i>Feeling blue</i>					
18. Hilang minat terhadap sesuatu benda. <i>Feeling no interest in things.</i>					
	0	1	2	3	4
C) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
19. Berasa takut. <i>Feeling fearful.</i>					
20. Perasaan anda mudah dilukai.					

<i>Your feelings being easily hurt.</i>					
21. Merasakan bahawa seseorang itu tidak mesra atau tidak menyukai anda. <i>Feeling that people are unfriendly or dislike you</i>					
22. Berasa rendah diri. <i>Feeling inferior to others.</i>					
23. Berasa loya atau ketidakselesaan di perut. <i>Nausea or upset stomach.</i>					
24. Merasakan bahawa anda sedang diperhatikan atau orang lain bercakap mengenai anda. <i>Feeling that you are watched or talked about by others</i>					
25. Sukar untuk tidur. <i>Trouble falling asleep</i>					
26. Perlu memeriksa berkali-kali terhadap apa yang anda buat. <i>Having to check and double check what you do</i>					
27. Sukar untuk membuat keputusan. <i>Difficulty making decisions.</i>					
D) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
28. Berasa takut untuk menaiki bas atau keretapi. <i>Feeling afraid to travel on buses, subways, or trains.</i>					
29. Menghadapi kesukaran untuk bernafas.					

<i>Trouble getting your breath.</i>					
30. Mengalami keadaan panas atau sejuk yang tiba-tiba berlaku. <i>Hot or cold spells</i>					
31. Perlu mengelak sesetengah perkara, tempat atau aktiviti yang menakutkan anda. <i>Having to avoid certain things, places, or activities because they frighten you</i>					
32. Minda anda menjadi kosong. <i>Your mind going blank.</i>					
33. Berasa kebas atau kesemutan di bahagian badan anda. <i>Numbness or tingling in parts of your body.</i>					
34. Pemikiran bahawa anda patut dihukum sebab melakukan dosa. <i>The idea that you should be punished for your sins</i>					
35. Berasa putus harapan terhadap masa depan. <i>Feeling hopeless about the future</i>					
36. Sukar untuk menumpukan perhatian. <i>Trouble concentrating</i>					
	0	1	2	3	4
E) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
37. Berasa lemah di sesetengah badan anda. <i>Feeling weak in parts of your body.</i>					

38. Berasa tegang <i>Feeling tense or keyed up.</i>					
39. Berfikir tentang kematian. <i>Thoughts of death or dying</i>					
40. Mempunyai kehendak untuk memukul, dan mencederakan seseorang. <i>Having urges to beat, injure, or harm someone</i>					
41. Mempunyai kehendak untuk memecahkan barang. <i>Having urges to break or smash things</i>					
42. Berasa sadar akan diri sendiri apabila beli shopping sorang. <i>Feeling very self-conscious with others.</i>					
43. Berasa tidak selesa dikalangan orang ramai. <i>Feeling uneasy in crowds</i>					
44. Tidak pernah berasa rapat dengan seorang lain. <i>Never feeling close to another person</i>					
45. Kejadian cemas dan panic. <i>Spells of terror or panic</i>					
F) Dalam masa 7 hari yang lepas, adakah anda berasa tertekan dengan: <i>During the past 7 days, how much were you distressed by:</i>					
46. Kerap bergaduh. <i>Getting into frequent arguments</i>					
47. Berasa cemas ketika berseorangan di rumah. <i>Feeling nervous when you are left alone</i>					

48. Orang lain tidak memberi kredit yang sepatutnya terhadap pencapaian anda. <i>Others not giving you proper credit for your achievements.</i>					
49. Berasa tidak tenang dan tidak dapat duduk diam. <i>Feeling so restless you couldn't sit still</i>					
50. Berasa tidak berharga. <i>Feelings of worthlessness</i>					
51. Berasa orang lain akan mengambil kesempatan jika anda memberi peluang <i>Feeling that people will take advantage of you if you let them</i>					
52. Berasa bersalah. <i>Feeling of guilt</i>					
53. Pemikiran dimana sesuatu itu salah terhadap minda. <i>The idea that something is wrong with your mind</i>					

BAHAGIAN D
EATING ATTITUDE TEST

BAHAGIAN 1
PART I

- 1) Sila tanda X sekiranya anda merasakan makanan yang dinyatakan dibawah adalah sihat dan penting untuk dimakan:
Mark with an X how healthy and necessary you consider consumption of each kind of food below:

a) Gula
Sugar

- ☐ Mengambil makanan ini selalunya sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kebiasaannya sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting

Not eating this food is healthy and necessary

Jejari kentang

French Fries

- ☐ Selalu mengambil makanan ini adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting

Not eating this food is healthy and necessary

Minyak

Oil

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

b) Roti

Breads

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Nasi

Rice

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Kekacang

Beans

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting

Eating this food occasionally is healthy and necessary

- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Pasta

Pasta

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Daging merah (lembu/kambing)

Red meat

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting

Not eating this food is healthy and necessary

Susu

Whole milk

- ☐ Mengambil minuman ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Keju

Cheese

- ☐ Mengambil minuman ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

c) Sayur-sayuran

Vegetables

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary

- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Buah-buahan

Fruits

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini adalah sihat dan penting
Not eating this food is healthy and necessary

Daging putih (ayam)

White meat

- ☐ Mengambil makanan ini selalu adalah sihat dan penting
Eating this food often is healthy and necessary
- ☐ Mengambil makanan ini kadang-kadang adalah sihat dan penting
Eating this food occasionally is healthy and necessary
- ☐ Tidak mengambil makanan ini kadang-kadang adalah sihat dan penting

Not eating this food is healthy and necessary

- 2) Adakah anda berasa seronok apabila anda makan?

Do you feel pleasure when you eat?

- ☐ Ya ☐ Tidak
Yes. No

- 3) Adakah anda pernah merasa bahawa makan itu sesuatu yang asing?

Does eating ever feel unnatural to you?

- ☐ Ya ☐ Tidak
Yes. No

- 4) Pernahkah anda tidak makan atau hanya minum selama sehari atau lebih daripada sehari kerana anda percaya cara sedemikian boleh mengurangkan berat badan?

Have you ever spent one or more days without eating or having only liquids because you believed you could lose weight?

- ☐ Ya ☐ Tidak
Yes. No

- 5) Adakah anda mengira jumlah kalori terhadap semua makanan yang anda makan?

Do you count the calories of everything you eat?

- ☐ Ya ☐ Tidak
Yes. No

- 6) Adakah anda berasa seronok apabila perut anda kosong?
Do you enjoy the feeling of an empty stomach?
☐ Ya ☐ Tidak
Yes. No
- 7) Adakah anda meninggalkan waktu makan supaya berat badan anda tidak naik?
Do you "skip" meals to avoid putting on weight?
☐ Ya ☐ Tidak
Yes. No
- 8) Adakah makan menyebabkan anda berasa "kotor"?
Does eating make you feel "dirty"?
☐ Ya ☐ Tidak
Yes. No
- 9) Adakah anda mempunyai ingatan yang indah mengenai makanan?
Do you have good memories related to food?
☐ Ya ☐ Tidak
Yes. No
- 10) Adakah anda suka untuk tidak perlu makan?
Would you like to not need to eat?
☐ Ya ☐ Tidak
Yes. No
- 11) Adakah anda percaya bahawa ianya sesuatu yang normal untuk makan sebab anda berasa sedih, kecewa dan bosan?
Do you believe that it is normal to eat sometimes just because you are sad, upset or bored?
☐ Ya ☐ Tidak
Yes. No
- 12) Apabila anda makan lebih dari kebiasaan, apakah sika panda selepas itu?
When you eat more than usual, what is your behaviour afterwards?
☐ Mula makan seperti biasa
Restart eating as usual
☐ Menganggap anda telah hilang kawalan dan terus makan dengan banyak.
Assume you have lost control and keep eating even more.
☐ Memutuskan untuk berdiet sebagai pampasan.
Decide to go on a diet to compensate.
☐ Menggunakan kaedah mengimbangi yang lain seperti aktiviti fizikal, muntah, ubat lawas system pencernaan.
Use some kind of compensation, such as physical activity, vomiting, laxatives and diuretics.

BAHAGIAN II PART II

13) Saya berasa bersalah apabila saya makan sesuatu yang saya tak sepatutnya makan.

I feel guilty when I eat something that I thought I should not eat for some reason.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
 pernah
Always Usually Often Sometimes
 Rarely/Never

14) Saya berhenti memakan makanan yang saya dapat tahu mengandungi kalori.

I quit eating a kind of food if I find out it has more calories than I thought.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
 pernah
Always Usually Often Sometimes
 Rarely/Never

15) Saya berasa risau tentang jenis makanan yang saya makan, berapa banyak dimakan, cara penyediaan makanan, dan adakah saya patut makan atau tidak.

I worry all the time about what I am going to eat, how much to eat, how to prepare food and whether I should eat or not.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
 pernah
Always Usually Often Sometimes
 Rarely/Never

16) Saya risau akan sesetengah jenis makanan atau minuman akan menyebabkan berat badan saya naik.

I worry about how much a certain kind of food or meal will make me gain weight.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
 pernah
Always Usually Often Sometimes
 Rarely/Never

17) Saya berasa marah apabila saya lapar.

I am angry when I feel hungry.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
 pernah
Always Usually Often Sometimes
 Rarely/Never

18) Ianya adalah sukar untuk memilih apa untuk dimakan sebabkan saya fikir saya perlu makanan yang kurang hebat dan memilih makanan lebih rendah kalori.

It is hard to choose what to eat, because I always think I should eat less or choose the option with fewer calories.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

19) Apabila saya menginginkan sesetengah masalah, saya tahu saya tidak akan berhenti makan sehingga saya dah habiskan makanan itu.
When I desire a specific kind of food, I know I won't stop eating until I have finished with it.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

20) Saya ingin mempunyai selera makan dan tabiat makan dibawah kawalan sepenuhnya.

I would like to have my appetite and eating behavior under total control.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

21) Saya cuba untuk makan dengan kurang dihadapan orang lain supaya saya boleh makan berlebihan ketika saya berseorangan.

I try eating less in front of others in order to overeat when I am alone.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

22) Saya takut untuk mula makan dan tidak dapat berhenti dari makan.

I am afraid to start eating and not be able to stop.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

23) Saya bermimpi terdapat pil yang boleh menggantikan makanan.

I dream of a pill that would replace food.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually Often Sometimes
Rarely/Never

24) Saya berasa gementar dan hilang kawalan diri di parti dan buffet disebabkan oleh jumlah makanan yang ada.

I get nervous and/or lose my self-control at parties and buffets, due to a great amount of foods available.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually pernah Often Sometimes
Rarely/Never

25) Hubungan saya dengan makanan telah merosakkan kehidupan saya.

My relationship with food messes up my life as a whole.

☐ Sentiasa ☐ Selalu ☐ Kerap ☐ Kadang-kadang ☐ Tidak
Always Usually pernah Often Sometimes
Rarely/Never

GANTT CHART

Activities	Sept 201 9	Oct 201 9	Nov 201 9	Dec 201 9	Jan 202 0	Feb 202 0	Mac 202 0	Apr 202 0	Mei 202 0	Jun e 202 0	July 202 0	Sept 202 0
Identify research area.												
Formulate research questions.												
Formulate research strategy, research design and methodolog y.												
Write research proposal												
Literature review												
Research proposal defense				9& 10 Dec								
Data collection												
Data analysis												
Final research write-up												
Final research presentation												14 sept