

STUDY ON THE ASSOCIATION BETWEEN SOCIAL MEDIA INFLUENCE AND EATING DISORDER AMONG FEMALE ADOLESCENTS IN A VOCATIONAL COLLEGE IN PERAK

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ABSTRACT

The purpose of this study was to determine the possible associations between eating disorders and social media influence in female adolescents. A descriptive cross-sectional research approach was used from October 2022 to December 2022. For this study, a sample size of 145 aged 16 to 19 years old female students from Kolej Vokasional Seri Iskandar was required. The current study shows that the majority of participants was not develop eating disorder (72.4%) and only (27.6%) had an eating disorder. The results show that the highest age of participant that develop eating disorder was 19 years old (n=19) while the lowest age was 17 years old (n=7). For the frequency of social media influence and eating disorder among female adolescents shows that 26.2% of participants had eating disorder as result of social media influence while 13.8% had eating disorders without being affected by social media. The findings indicate that there is no significant relationship ($p > 0.005$) between social media influence and eating disorders in female adolescents. Hence, to assess the relationship between social media influence and eating disorders, particularly among female adolescents, further research can be done with other variables, such as family income, family problems and emotional health.

Keywords: Eating disorder, social media, influence, female, adolescents

INTRODUCTION

Eating disorder (EDs) defined are mental disorders characterized by abnormal attitudes towards food and unusual eating habits¹. EDs are eating behaviors that endangers an individual's physical and psychosocial health². EDs frequently occur among adolescent due to body image perception and weight obsession amongst them. According to the American Psychiatric Association diagnostic statistical manual 5th revision³, EDs are classified into three categories; anorexia nervosa, bulimia nervosa and other specified feeding or eating disorder (OSFED). Anorexia nervosa are referring to someone that sufferers restrict their eating to keep low weight while bulimia nervosa are people that repeat cycles of binge eating and purging. Symptoms EDs include anxiety, depression, self-starvation, laxative abuse or other extreme behavioral and emotional responses to eating food⁴.

EDs affect up to 24 million Americans and 70 million individuals worldwide⁵. In the United States, EDs are the third most prevalent chronic condition among female adolescents⁶. According to the American Psychiatric Association (2013), the EDs are more prevalent than they have ever been. The global EDs prevalence has increased 3.4% to 7.8% between 2000 and 2018⁷. The adolescents that suffering with EDs, mostly are from aged group 17 to 18-year-old as they had the highest prevalence (3%)⁸.

Social media is defined as form of media that includes interaction with one another visually⁹. Social media are also known as web-based applications that provide a function to share, group, having a conversation and relationships¹⁰. Excessive use of social media has impacts on individuals' lives and their interpersonal relationships¹¹. The majority of the research on the association between social media influence and EDs has focused on a specific platform, such as Facebook or YouTube¹².

Individuals with EDs reported being more active on social media in appearance-focused activities than individuals without EDs, such as editing their images before uploading them and spending more time on their photos¹³. Additionally, according to other studies by Mabe (2014)¹⁴, individuals with EDs had a higher Facebook score, indicating that they were more likely to value and use Facebook features than individuals without EDs, which means heightened concerns about their weight and appearance. In general, individuals with EDs may use social media more than individuals without EDs¹⁵.

In Malaysia, the most risk group to develop EDs are adolescents¹⁶. As they approach adolescence, a period of significant physical change, adolescents are beginning to feel more self-conscious about their bodies and facial features. They employ a

variety of techniques, some of which can be dangerous, to keep their bodies in shape¹⁷. The self-esteem and body dissatisfaction that adolescents experience is known predictors of EDs because adolescence is a crucial time for both the positive and negative development of body image¹⁸.

Growing knowledge on EDs showed by findings in several studies stated that Malaysians who having normal weight being afraid with the thought of being overweight and having desire to be thinner¹⁹. Therefore, this thought lead them for practicing eating disorder practices such as meal-skipping, excessive dieting and binge eating which could give negative impact on their health in a prolonged time²⁰. Hence, this study aimed to identify the association between social media influence and EDs among female adolescents.

METHODS

Study design and participants

This research was conducted in a cross-sectional design. This study was carried out at Kolej Vokasional Seri Iskandar which is located at Bota, Perak. Majority of secondary education in Malaysia are only between the ages of 13 and 17. Thus, this study site was chosen because Kolej Vokasional Seri Iskandar consists of adolescents aged between 16-19 years old which is more relevant to this study. Mid to late teenage years are consider as the peak age of onset for anorexia nervosa and bulimia nervosa²¹. The study participants were selected based on the exclusion and inclusion criteria which been set by the researcher for the study.

A convenience sampling method was used to select participants. The researchers selected the participants based on the proportion of female students in each batch and the day's shortest timetable to ensure that students had adequate time to complete the questionnaire. The subject requirement was conduct until the number of respondents reach the calculated required sample size, 145 participants.

Data collection method

Self-report questionnaires were administered through the Google Forms online survey platform. The survey was distributed to the WhatsApp group from each batch representative.

The questionnaires contain informed consent at the first page. Data collection was started after receiving ethical approval from Human Research Ethics Committee (HREC) of USM and Jabatan Pendidikan Negeri Perak (JPN Perak).

Research instruments

A set of self-report questionnaires in English and Bahasa Melayu that consisting of three three section of the questionnaire which are Part A: Socio Demographic, Part B: Social Media Usage Scale and Part C: Eating Behavior Questionnaire (EDE-Q 6.0). The sociodemographic consists of age, weight, height and "have you ever diagnosed with EDs?".

Bergen Social Media Usage Used was used to measure the level at which one is addicted to social media. This section has a total of six questions, all with regards to experiences in the past year, in which the participants rate on a 5-point Likert scale (1- Very rarely to 5- Very Often). The items correspond with diagnostic addiction criteria²². In order to get a total for this measure, the items are summed together, and a higher total would indicate a higher social media usage. It has been stated that if a person answers often or very often to more than four questions, they are addicted to social media. This means any score above 16 is considered addiction to social media. EDE-Q 6.0 method to assess EDs psychopathology. The EDE-Q 6.0 consist of 28 questions and collects data from two sources: subscale scores that represent the severity of EDs characteristics and frequency data on key behavioral traits of EDs as measured by the number of episodes of the behavior. Restraint, Eating Concern, Shape Concern, and Weight Concern are the subscales and global score. The more problematic eating behaviors and attitudes are indicated by a higher score on the overall scale and subscales.

Statistical analysis

Data obtained from the survey was analyzed by using the Statistical Package for the Social Science software (SPSS) Version 26.0. The socio demographic data of the respondents was analyzed using descriptive statistics and presented in terms of frequency and percentage. The prevalence of eating disorder among female adolescent and the frequency of social media type of platform and eating disorder among female adolescent was also be analyzed by using descriptive statistics and presented in terms of frequency and percentage. Pearson's Chi Square test was carried out to identify the association between social media influence and eating disorder among female adolescent. From the test, carried out, if the results of p-value <0.05, reject H₀, there is a significant association between social media influence and eating disorder among female adolescent. Meanwhile, if the results of p-value >0.05, there is no significant association.

RESULTS

Sociodemographic participants

A total of 145 female students, ($M_{age} = 17.64$, $SD = 1.23$). With correspond to age, the majority of female students were 19 years old (35.2%), while the lowest was 17 years old (14.5%). As for the weight, the finding displayed that the majority range of female students was 41 to 50 kg (38.6%). In terms of height, the data showed that the highest range of participants was 151-160cm (57.2%). Next, the students that already diagnosed with EDs were 37 (25.5%) and more than half are not been diagnosed with an EDs, 108 (74.5%). Table 1 represents the frequency and percentage of socio-demographic female students.

Prevalent of EDs among female adolescents

According to Table 2, the subscale with the highest mean score was shape concern ($M = 2.85$) while eating and restraint concern have same means ($M = 1.94$). Based on the data below (Figure 1) it was found that the majority of the participant (72.4%) were not develop EDs and only (27.6%) had an EDs. The result from table 3 shows that the highest age of participant that develop eating disorder was 19 years old ($n = 14$) while the lowest age was 17 years old ($n = 7$).

Frequency of social media influence and EDs among female adolescents

According to Table 4 findings, only 26.2% of participants had EDs as a result of social media influence, while 68.8% did not have EDs but were still influenced by social media. However, only a small percentage of participants (13.8%) had EDs but were unaffected by social media.

The association between social media influence and EDs among female adolescent

The association between social media influence and EDs among female adolescents was shown in Table 5. Among female adolescents, there was no significant relationship between social media influence and EDs (p value = 0.061, greater than 0.05).

Table 1: Frequency and percentage of socio-

Demographic		Total, n (%)
Age	16	41 (28.3)
	17	21 (14.5)
	18	32 (22.1)
	19	51 (35.2)
	20	14 (9.7)
	21	7 (4.9)
	22	3 (2.1)
Weight (kg)	31-40	9 (6.2)
	41-50	56 (38.6)
	51-60	36 (24.8)
	61-70	22 (15.2)
	71-80	15 (10.3)
	81-90	3 (2.1)
	91-100	2 (1.4)
Height (cm)	>101	2 (1.4)
	140-150	16 (11.0)
	151-160	83 (57.2)
	161-170	41 (28.3)
	171-180	5 (3.4)
	181-190	1 (0.7)
	191-200	1 (0.7)
Have you ever been diagnosed with eating disorder?	Yes	37 (25.5)
	No	108 (74.5)

demographic data ($n=145$)

Table 2: Subscale and global score of EDs

	Mean	Median	Std. Deviation
Subscales			
Restrain	1.94	1.80	1.18
Eating concern	1.94	1.80	1.18
Shape concern	2.85	2.62	1.52
Weight concern	2.71	2.40	1.58
Global score	2.36	2.29	1.27



Figure 1: Prevalent of EDs among female adolescent

Table 3: Frequency of age-eating disorder

	Eating disorder		Total
	Yes	No	
Age			
16	7	34	41
17	8	13	21
18	10	22	32
19	14	36	51
Total	40	105	145

Table 4: Frequency and percentage of social media influence and EDs

	Eating disorder		Total
	Yes	No	
Social Media			
Yes	31 (26.2)	64 (68.8)	95
No	9 (13.8)	41 (36.2)	50
Total	40	105	145

Table 5: The association between social media influence and EDs among female adolescents

Variables	Eating disorder		X ²	P value
Social Media Influence			3.511 (1)	0.061
Yes	31(26.2)	64 (68.8)		
No	9 (18.0)	41 (82.0)		

DISCUSSION

Prevalent of EDs among female adolescents

The results indicate a moderate (27.6%) prevalence of EDs among female students. However, the people who had EDs at the highest rate were 19 years old while those at the lowest rate were 17 years old (14.5%). This is consistent with a 10- year longitudinal study that discovered that disordered eating behaviors were common in non- clinical samples of female adolescents and young adults, and that behaviors started in adolescence and increased or remained constant until early adulthood²³.

The findings correspond with Nizatul's (2020) study, which found that adolescent EDs, this emphasizes the necessity for preventative interventions, especially in the early stages of adolescence, and the concern regarding the possibility that eating behaviors will develop among adolescents as they transition into adulthood²⁴.

According to other comparable studies by Natthakarn et al (2020), female senior high school students spent more time online and on social media than male students did looking at content about body image. Additionally, senior high school students were more likely than junior high school students to have a low body image. Most middle school to late adolescent student's desire acceptance from others, especially from their peers.

In order to make friends, get popularity, and appeal on social media, they want to look beautiful physically. Thus, the result in this study shows that 19 years old respondents were higher in develop EDs than 16 years old. "People this age could become quite concerned with how they are portrayed online," because "young adolescence is a time when peer influences and appearance are both very important²⁵.

The means for subscale weight (2.71) and shape (2.85) concerns are also greater. According to a prior study, Malaysian adolescents were concerned about becoming thin and expressed some level of dissatisfaction with their body weight by comparing it to images of thin women in the media, even though their weight was normal and healthy²⁶.This study's findings also indicate that overweight and normal-weight individuals are most prone to developing eating disorders. Adolescents who are overweight may engage in EDs behaviors as a result of their desire to lose weight²⁷. Adolescents who are overweight or obese have a higher chance of developing eating disorders and using weight loss approaches compared to adolescents who are of a healthy weight²⁸.

Furthermore, according to one study, adolescents and young adults with a history of EDs are overweight or obese, with prevalence rates ranging from 19.3% to 36.7%²⁹. These findings indicate that EDs are more prevalent in people who are overweight or obese than in people who are of a healthy weight because they are more concerned with their appearance.

Frequency of social media influence and EDs among female

Based on findings from this study, more than half ($n = 95$) of participants were influenced by social media. In addition, there were 31 participants who developed EDs under the influence of social media. The influence of social media can be cultural pressure, peer pressure, and emotional health, all of which can lead to eating disorders. Studies have shown that female adolescents compare their bodies to friends more often than to distant peers, and that this comparison with close friends greatly increases the probability that they will begin dieting³⁰.

Greater media exposure among female adolescents has been associated with lower self-esteem, a poor body image, and a greater desire to be physically thin. The development of a negative body image has been found to be more influenced by media messages that promote thinness than by family and friends³¹. As a result, social media influence can lead to EDs developing in female adolescents.

The association between social media influence and EDs among female adolescent

The study's main findings showed that, among female adolescents, there was no significant association between social media use and EDs. This result contradicts a study by³², which found a relationship between the prevalence of thin-ideal and appearance-focused content online and the use of social media, as well as between these two factors and concerns about body image and eating. Studies have also indicated that common underlying self-regulation deficits may be the cause of the association between Internet use and eating and body image concerns³³.

Other similar studies by Latzer (2014) want to examine the effects of two factors on the development of EDs in young girls: exposure to the media and self-empowerment³⁴. The findings, which support earlier research, show that exposure to harmful media messages is a predictor EDs, negative body image, and the drive for thinness in young girls. Higher exposure to these messages is also associated with higher rates of EDs and a more negative body image. According to the study's findings, girls who spent more time on Facebook had higher rates of bulimia, anorexia, physical

dissatisfaction, negative body image, unfavorable eating habits, and the desire to follow a diet.

Furthermore, in the present study shows that students were from non-health science students. Essentially, Kolej Vokasional students prioritize their technical training over academics. For Kolej Vokasional Seri Iskandar, however, the focus is mainly on learning business management, welding, and industrial machining technology courses. Specifically, the researcher chose the diploma business management (DBM) course for diploma students (18 and 19 years old) because it has the highest proportion of female students in both age groups. It was found that for two years, the students in these courses learned nothing about health science, which could have caused them not to be aware of EDs. The majority of students in the business management courses are female, so the researcher also selected these courses for the 16 and 17-year-old respondents. In contrast to diploma students, these students learn about science subjects, but only the basic ones.

In the previous study indicates that fewer health sciences students had EDs problem as compared to the non-health sciences students³⁵. It shows that, compared to non-science students, science students have higher knowledge of healthy eating and select slightly healthier food choices, which lowers their tendency to be at risk for disordered eating³⁶. Due to their lack of knowledge about EDs, this may as a result affect how the students respond to the questionnaire.

CONCLUSIONS

Low satisfaction with shape and weight concern is the main factor that can develop to EDs among adolescents and young adults. However, this conditions usually occur among female adolescents. The most common eating disorder are bulimia nervosa, anorexia nervosa, binge eating disorder and OSFED or EDs³⁷. Adolescents, especially females, have reported they received mostly negative insight about their bodies and perceived sexual attractiveness from social media, spurring body and self-dissatisfaction³⁸.

Hence, this study was conducted to determine the association between social media influence and EDs among female adolescent. The findings of this study for prevalent of EDs among female adolescents showed that majority of participant were not develop EDs. Additionally, the highest age of participant that develop EDs was 19 years old while the lowest age was 17 years old. According to data for frequency of social media influence and EDs among female adolescent showed that only a small percentage of participants had EDs due to social media influence.

As a result, there was no association between social media influence and EDs among female adolescents. Therefore, the findings from this study together with similar past studies can be used as guides to conduct effective intervention measure towards adolescent especially female regarding the EDs.

ACKNOWLEDGEMENTS

We would like to thank all participants and all those who have helped in this research.

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