

ASSOCIATION OF SYMPTOMATOLOGIC DEPRESSION WITH SOCIAL MEDIA ADDICTION AMONG UNIVERSITY STUDENTS IN MALAYSIA

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ABSTRACT

Introduction: Depression is a mental disorder that affects almost 2.3% of Malaysians and is more prevalent among Malaysian students. "Websites and applications that are utilized for interacting with others and their increasing prevalence have suggestive that people are obsessed to it" is the definition of social media. A strong correlation has been made between depression and social media addiction but there was a lack of such specific studies in Malaysia. This study is aimed at identifying the association of social media addiction with depression among university students in Malaysia. **Methods:** This research was conducted on Malaysian undergraduate and postgraduate students using an online questionnaire consisting of sociodemographic characteristics and two validated questionnaires of the Center for Epidemiologic Studies Depression Scale Revised (CESD-10) and Bergen Social Media Addiction Scale (BSMAS). **Results:** A total of 381 responses were analyzed and the Pearson Correlation was found to be ($r = 0.671$) with a p-value of < 0.001 which suggests a strong positive and statistically significant correlation between social media addiction and depression. **Conclusion:** In summary, an increase in addiction to social media causes depression.

Keywords: Depression, Social media addiction, Undergraduate student, Postgraduate student, University Student, Malaysia

Introduction:

Depression is a mental disorder characterized by persistent sadness and a lack of interest or pleasure in previously rewarding or enjoyable activities (WHO 2012). It is commonly associated with sleep disturbances, loss of appetite, tiredness, and poor concentration. Statistically, depression affects 2.3% of Malaysians (NHMS 2019). This highlights that it affects a significant amount of Malaysia's population. Therefore, the symptoms need to be identified as soon as possible to prevent the increased risk of suicide (Primack, et al., 2009). Based on Shamsuddin et al (2013), 27.5% of Malaysian University students have moderate depression while another 9.7% have severe depression indicating that students are a vulnerable group that is most likely to fall into depression.

Over 3.6 billion people were reported using social media worldwide, a number that is expected to increase to almost 4.41 billion in 2025 (Statistica 2022). Social media are defined as "websites and software programs used for social networking" (Oxford Dictionaries 2022). Today there are various forms of social media such as Facebook, Instagram, YouTube, WhatsApp, Snapchat, and others. The rise in social media would lead to an increased number of users which would mean they will be addicted to it. According to a paper by (Technology in Society. 2017), estimates suggest that over 210 million people worldwide suffer from internet and social media addictions. Allowing for a marked increase in social media usage from 210 million in 2017 to 333 million in 2021, which would mean, there will be more people with a digital addiction now (Geysler, W. 2021).

A strong correlation has been made between depression and social media addiction (Haand, R., & Shuwang, Z. 2020). In Malaysia, there has been a lot of research conducted to study internet addiction, however, there is scarce specific study regarding social media addiction. Therefore, it is important to study this area to understand its role in depression.

This cross-sectional study aims to identify the association of symptomatologic depression with social media addiction among university students in Malaysia, to determine the level of depression, level of social media addiction, and the association of socio-demographic factors with depression among university students in Malaysia.

Methods

This is a cross-sectional study to identify the association of symptomatologic depression with social media addiction among university students in Malaysia. This study was conducted from October 2022 till March 2023. This study targets an active undergraduate and postgraduate student population that is at least 18 years old of age and currently studying at universities in Malaysia. Convenience sampling was used in this research where respondents were recruited via an online questionnaire and distributed using various social media such as WhatsApp, email, Twitter, Instagram, and Facebook as well as saved contacts. The sample size was calculated with the formula below.

$n = [(z/m)^2 \times P (1-P)] + 20\% \text{ nonrespondents}$

The calculation was done with an estimation of 95% confidence interval (CI) and with a 5% margin of error, the population proportion was 73% and the sample size was 364 participants.

The approval of this study is done by the University of Cyberjaya Research Ethics Committee (CRERC) with reference number UOC/CRERC/AL-ER (38/2022). The participant's safety is not at risk because the information will remain secure also be used exclusively for research purposes. Respondents were required to read the respondent information section and give consent before proceeding on to the questionnaire. All collected data will be typed in Microsoft Excel and stored on the group's Google Drive to preserve the respondent's confidentiality. The data will only be maintained for the duration of the study.

The questionnaire was translated into English and Malay language. This questionnaire comprises 3 sections. A combination of 2 validated questionnaires were used in this study which consist of the Center for Epidemiological Studies Short Depression Scale (CESD-10) and the Bergen Social Media Addiction Scale into Google form Questionnaire.

Section A consists of questions about sociodemographic characteristics including 9 items on sociodemographic variables which are age, gender, ethnicity, education level, student status, occupation, relationship status, smoking status, and monthly household income.

Section B consists of questions from the Center for Epidemiological Studies Short Depression Scale (CESD-10) which is a self-report measure of symptomatologic depression. According to the research done by Islam et al (2018), the internal consistency (Cronbach's alpha) is 0.87. This scale has 10 questions that measure the respondent's feelings and behavior for the past week. Each question scores from 0-3 on a scale from which a total score will be calculated for the sum of 10 questions. The level of depression has been measured and classified into 2 categories with subcategories. For any score of less than 10 was classified as no depression and any score of more than or equal to 10 will be classified as depression. The subcategory of depression is divided into no-mild depressive symptoms (0-9), moderate depressive symptoms (10-14), and severe depressive symptoms (≥ 15).

Section C includes questions from the Bergen Social Media Addiction Scale (BSMAS) which is a modified version that is adapted from the validated Bergen Facebook Addiction Scale (BFAS) by Andreassen et al (2012). According to a study by Wong et al (2020), the overall internal consistency (Cronbach alpha) of the BSMAS questionnaire was 0.819. It consists of 6 items that measure 6 basic addiction symptoms which are salience, conflict, mood modification, withdrawal, tolerance, and relapse. The 6 items include 'much rarely', 'rarely', 'sometimes', 'often', and 'very often' that will be utilized a five-point Likert scale by which 'much rarely=1', 'rarely=2', 'sometimes=3', 'often=4' and 'very often=5'. The total score of each participant was categorized into (≤ 19) for non-social media addiction and (> 19) for social media addiction.

Statistical Analysis

The data was collected by using Jeffrey's Amazing Statistics Program (JASP). There was use of descriptive statistics to describe the sociodemographic characteristics, level of symptomatologic depression, and degree of social media addiction. Chi-square also Pearson's correlation tests determined the connection between symptomatologic depression with social media addiction. A contingency table was used to find an association between sociodemographic characteristics and depression.

Result:

Overall, of 381 respondents, most students were between the ages of 18-25 (71.1%), female (64.8%), and Indian (38.1%). They were mostly undergraduate students of (72.4%) and full-time students of (78.8%). Most of the students currently were not working (74.5%) while studying. They were mostly single (68.8%) and never smoked (85.6%). The majority of them were from household monthly income of M40 (45.1%).

Table 1: Degree of symptomatologic depression in Malaysian university students

Level of Depression	Frequency (n)	Percentage (%)
No-Mild Depression	140	36.7%
Moderate Depression	113	29.7%
Severe Depression	128	33.6%

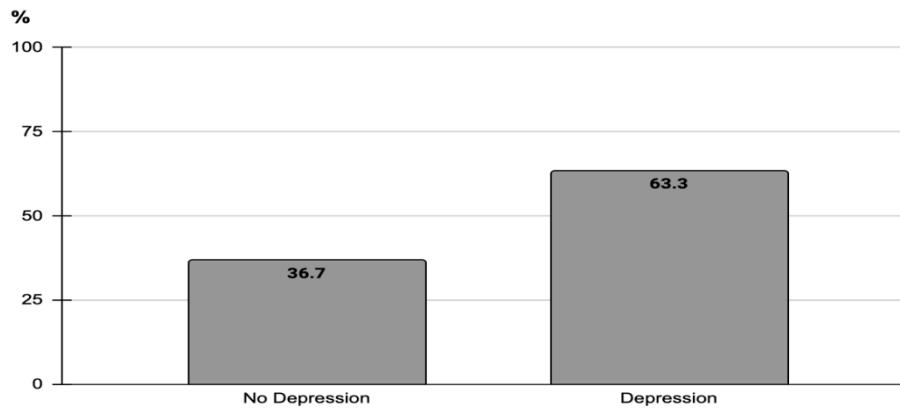


Figure 1: Prevalence of symptomatologic depression in Malaysian university students

Figure 1 shows that the overall frequency of symptomatologic depression among Malaysian university students is 63.3%. From Table 1, the depression degrees of the students were about 36.7% had no-mild depression, 29.7% students had moderate depression and 33.6% had severe depression.

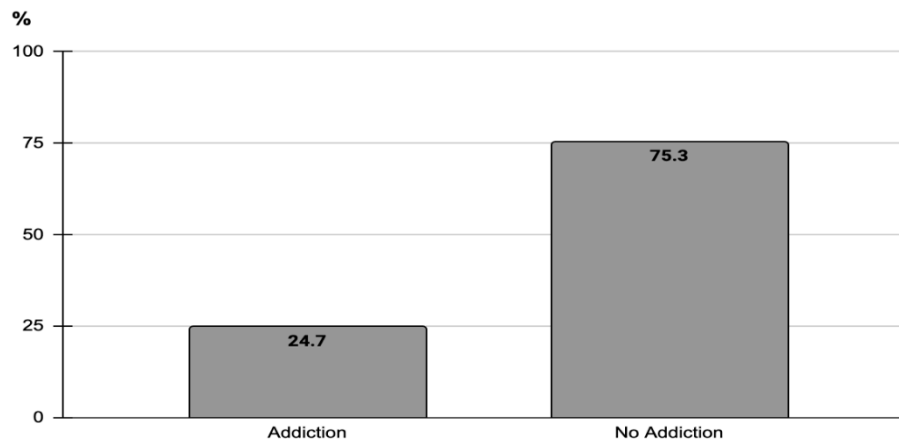


Figure 2: Prevalence of social media addiction among university students in Malaysia

The prevalence of social media addiction among university students in Malaysia is 24.7% from the figure 2.

Table 2: Relationship between depression and social media addictions in Malaysian university students

	Addiction to social media	Depression
Addiction for social media	1	0.671*
Depression	0.671*	1

*p < 0.001

Table 2 shows the result obtained from a two-variable Pearson Correlation Analysis which is depression and addiction to social media. One discovered the Pearson Correlation coefficient to be (r= 0.671) which shows a robustly beneficial association between social media addiction as well depression. The p-value was < 0.001 which suggests a statistically significant correlation. So, when Depression also rises in tandem with the extent of social media use.

Table 3: Relationship among depression and sociodemographic traits

Sociodemographic Variables	Depression Level			Statistical Test	
	No Depression (n %)	Depression (n %)	Total (n %)	X ² (df)	p-value
Age					
18-25	110 (40%)	165 (60%)	275 (72.1%)	3	0.110
26-30	22 (25.6%)	64 (74.4%)	86 (22.6%)		
31-35	7 (41.2%)	10 (58.8%)	17 (4.5%)		
35 & above	1 (33.3%)	2 (66.7%)	3 (0.8%)		
Gender					
Male	40 (29.9%)	94 (70.1%)	134 (35.2%)	1	0.040*
Female	100 (40.5%)	147 (59.5%)	247 (64.8%)		
Ethnicity					
Malay	40 (32.5%)	83 (67.5%)	123 (32.3%)	3	0.159

Chinese	40 (42.1%)	55 (57.9%)	95 (24.9%)		
Indian	50 (34.5%)	95 (65.5%)	145 (38.1%)		
Others	10 (55.6%)	8 (44.4%)	18 (4.7%)		
Education Level					
Undergraduate	109 (29.5%)	167 (60.5%)	276 (72.4%)	1	0.071
Postgraduate	31 (29.5%)	74 (30.7%)	105 (27.6%)		
Student Status					
Full Time Student	117 (39%)	183 (61%)	300 (78.7%)	1	0.079
Part Time Student	23 (28.4%)	58 (71.6%)	81 (21.3%)		
Occupation					
No Working	112 (39.4%)	172 (60.6%)	284 (74.5%)	2	0.159
Part-time working	22 (30.1%)	51 (69.9%)	73 (19.2%)		
Full-time working	6 (25%)	18 (75%)	24 (6.3%)		
Relationship Status					
Single	108 (41.2%)	154 (58.8%)	262 (68.8%)	3	0.025*
In Relationship	28 (30.1%)	65 (69.9%)	93 (24.4%)		
Married	4 (16.7%)	20 (83.3%)	24 (6.3%)		
Divorce / widow	0	2 (100%)	2 (0.5%)		
Smoking Status					
Smoking	3 (7.5%)	37 (92.5%)	40 (10.5%)	2	< 0.001*
Ex-smoker	4 (26.7%)	11 (73.3%)	15 (3.9%)		
Never smoking	133 (40.8%)	193 (59.2%)	326 (85.6%)		
Household monthly income:					

B40 (<RM 4,849)	62 (37.6%)	103 (62.4%)	165 (43.3%)	2	0.912
M40 (RM 4,850-10,959)	63 (36.6%)	109 (63.4%)	172 (45.1%)		
T20 (>RM 10,960)	15 (34.1%)	29 (65.9%)	44 (11.6%)		

*Statistically significant at <0.05

From Table 3, sociodemographic variables of gender, relationship status, and smoking status were significantly associated with depression. Male university students were reported to experience a higher frequency of depression than female university students (70.1% vs 59.5%, $p=0.040$). The university students who were currently married had the highest prevalence of depression at 83.3% ($p=0.025$). The university students who were currently smoking were reported to have a higher frequency of depression compared who weren't (92.5% vs 73.3%, $p<0.001$).

Discussion

This study's main goal is to investigate the connection between social media use and depression addictions among Malaysian university students. Predictably, there was a strong positive connection between the use of social media addictions and depression, which, when compared to other studies, indicated a strong relationship between the two variables. (Haand & Shuwang, 2020, Gong et al., 2021, Jasso-Medrano & López-Rosales, 2018, Donnelly, 2017, Ahmad et al., 2018 & Jeri-Yabar et al., 2018). Therefore, the degree of social media addiction escalates the severity of depression. Additionally, studies conducted on China's medical University Students justify a statistically noteworthy link between social network addiction with depression, both direct and indirect manner (Gong et al., 2021).

According to Shamsuddin et al., (2013), the frequency of depression among Malaysian university students was 37.2%. A study carried out by Ashraful Islam et al., (2018) showed about 30% of Malaysian university students experiencing depression with approximately 25% 4.4% of those with severe depression and 5.4% with moderate depression. However, on our investigations, the overall prevalence of symptomatologic depression in Malaysian university students is 63.3% with depression levels in the students who have no-mild depression at about 36.7 %, those who had moderate depression at 29.7% and severe depression at 33.6%. However, this result is higher when compared to the previous study conducted in Malaysia, Kenya, Pondicherry, India, and Northeastern China. (Shamsuddin et al., 2013, Ashraful Islam et al., 2018, Othieno et al., 2014, Deb et al., 2016 & Chen et al., 2013). The latest study carried out by Asif et al., (2020) showed the frequency of depression among university students in Sialkot, Pakistan was found at 75% with 41% within the range of normal to mild depression, 35.8% moderate depression and 23.2 % severe depression which when compared to our study is slightly similar. These variations resulted from various geographical factors, measurement techniques, methodologies and significant but brief stage of life as a university student comes with unique academic, financial, and interpersonal challenges. (Chen et al., 2013). Overall, this study shows

a high frequency of symptomatic depression in Malaysian university students and these conclusions highlight the need for specialized interventions, support systems, and additional research to fully address the numerous problems that depression poses among university students.

In this study, the prevalence of social media addiction among university students in Malaysia is 24.7%. This result is comparable to a study conducted by Tang & Koh, (2017) which found the frequency of addictive social media is 29.5%, and Hou et al., (2019) where 14.7% of the respondents are exhibiting social media addiction. Despite this, there is research by Alaika et al., (2020) among Moroccan University students showing the prevalence of social media addiction to be about 57%. The cause of this result is due to students using online networks for instance WhatsApp, Twitter, TikTok, Facebook, and Instagram to engage in daily online conversation and share their interests, activities, actions, and opinions to get feedback from friends which could lead to obsessive or addictive behaviour.

Our study found that male students have a higher degree of depression (70.1%) than female students. This result is supported by Asante & Andoh-Arthur, (2015) where comparing male and female students' depression symptoms, there was no statistically significant difference. (p value = 0.663). However, this result runs counter to several of the earlier studies (Ashraful Islam et al., 2018, Othieno et al., 2014) that although it showed that female students experienced a greater degree of depression than male students, these differences were not statistically noteworthy. This is because both genders have similar types of experiences such as a desire to go for higher education and being economically independent. This factor appears as a common stressor between both genders which contributes to depression. (Deb et al., 2016).

Moreover, in this current study, it was discovered that students who were currently married had a high prevalence of depression at 83.3% ($p=0.025$). In addition, it was more commonly found that married first-year students had depressive symptoms. (Othieno et al., 2014). However, research that Teh et al., (2015) conducted among students of Melaka Manipal Medical College, Melaka, Malaysia, found students that who were not in any relationship were found to be more depressed. It is presumed that single individuals are more prone to depression due to the reason of not being able to communicate their daily stressors to anyone which leads to a lack of social support.

In this research, it was detected that a higher prevalence of depression was found in students who were currently smoking than those who were not (92.5% vs 73.3%, $p<0.001$). This can be proven by previous research that shows a strong association between smoking with depression (Milic et al., 2020, Othieno et al., 2014, Celikel et al., 2009). Othieno et al., (2014) conducted a study that showed that nearly 73.3% of students who smoke have low to average depression, and 11% experience extreme depression. This unhealthy trend was anticipated as a variety of compounds found in cigarettes interact with high-affinity nicotinic acetylcholine receptors and subtly trigger the release of dopamine, resulting in a sense of reward and reinforcement.

There are several limitations to this study; first, because it was cross-sectional, it only shows a relationship between two factors. Subsequently, a longitudinal study is recommended to acquire new data that will illuminate more factors contributing to the influence of social media addiction and depression. Another limitation that was found in our study was the lack of information on the usage of

social networking per day. Therefore, it will be advisable in future studies to investigate social media addiction measured by daily time spent on social media, participant internet usage features, and which social media platform spends more time on.

Conclusion

In conclusion, the study found that in Malaysia, there is a greater incidence of depression among university students, and some of them have social media addictions. According to our research, there is a direct link between depression and social media addictions among Malaysian university students. It can be gathered that social media addiction hurts mental health. This may be summed up as follows: a student's despair will increase with their level of addiction.

Conflicts of Interest

The authors declare no conflicts of interest.

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