

# Association between Social Media Addiction and Mental Health Among International Islamic University Malaysia (IIUM) Undergraduate Nursing

Nur Amira Azenal & Cho Cho Zaw\*

*Department of Professional Nursing Studies, Kulliyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia.*

## ABSTRACT

**Introduction:** Addiction to the social media could interfere with an individual's daily life and have an impact on their psychological well-being. The emergence of social media is seen to have many influences in students' life, and they tend to neglect their studies by spending more time on social media. Very few studies were conducted regard to social media and mental health in Malaysia. **Aim:** To study the association between social media addiction and mental health among nursing students. **Material and methods:** A cross-sectional study was conducted on 208 undergraduate nursing students, IIUM Kuantan. A questionnaire consists of four sections; socio-demographic data, social media usage, social media addiction, and mental health were distributed. The data were analysed by using IBM Statistical Package Social Science (SPSS) version 22.0. **Results:** It is found that most of nursing students, 54.3% (N=113) are slightly addicted to social media, 37.0% (N=77) of them are moderately addicted, 5.3% (N=11) are highly addicted and 3.4% (N=7) have no addiction to social media. On average, the students experienced moderately severe depression and anxiety with the same mean score for each with 28.99 (9.637). They also had mild stress with mean score of 8.47 (5.436). It is found that there is an association between social media addiction with depression ( $r = 0.448$ ,  $p < 0.05$ ), anxiety ( $r = 0.448$ ,  $p < 0.05$ ) and stress ( $r = 0.313$ ,  $p < 0.05$ ) respectively. For sociodemographic, there is no relationship between age, gender, level of study and CGPA. **Conclusion:** It was found that there is an association between social media addiction and mental health status. Social media can have a negative impact on mental health among the students. These findings seek for initiation of interventions for better social media management and mental health improvement. It could serve as a reference for future researchers to conduct their studies in the related area.

**Keywords:** Social Media, Addiction, Mental Health, Depression, Anxiety, Stress

## INTRODUCTION

Social media has become a widely used platform in the 21st century along with the availability of different technologies. There are at least 3.5 billion out of 7.7 billion people in the world online which means that social media platforms are used by 1 in 3 people in the world and more than two-thirds of all internet users (1). In United States, about 7 in 10 of them use social media to connect with one another, share information, entertain themselves and engage with news content. Adolescent were

included as the earliest adopters of social media, and they continue to be the users of these platforms at high level. The most widely used social media sites among adults are Facebook and Youtube, however, young adults are especially heavy users of Instagram and Snapchat [2].

In Malaysia, the most active social media platforms are YouTube, WhatsApp, and Facebook (3). A study by the Malaysian Communication and Multimedia Commission (MCMC) in 2017 showed that 89% of the respondents were addicted to the Internet with 60% of them showing elevated levels of anxiety and a third suffering from major depression (4). Another study explained that social network addiction is a behavioural addiction which could interfere with a person's daily life and cause problems for their physical as well as psychological health (5). Moreover, it was found that college students are addicted to social media and experience withdrawal symptoms similar to substance related addictions including spending more time than intended, unsuccessful desire to cut down, a

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\* Corresponding author:

**Cho Cho Zaw @ Raheema**

Department of Professional Nursing Studies,  
Kulliyah of Nursing,  
International Islamic University Malaysia,  
Jalan Sultan Ahmad Shah,  
25200 Kuantan, Pahang, Malaysia.

Email: raheema@iium.edu.my

great deal of time spent to recover from effects and recurring use resulting in a failure to fulfil major role obligations at school or work (6) (7). Mental health problems are on the rise among adolescents and young adults, and social media may be a driver behind the increase (6).

Some people claimed that digital world brings harm that it can cause digital addiction, decline of trust, lack of face-to-face skills, as well as higher rates of anxiety, stress, depression and lack of sleep (8). It was seen among the students of higher education level and a number of students is using social media ignoring their physical, mental and psychological health (9). Another study proved that the addictive use of social media was common among college students and it was negatively associated with mental health and academic performance. Prior studies done in Karabuk University, Turkey also showed the more frequent the students involve with social media, the higher their tendency to have stress (10).

Very few studies have been conducted in Malaysia regards to social media addiction among nursing students. One study was performed to identify social media addiction among Malaysia university students in which the results portrayed that 73% of them were under addict category of social networking [11]. Another study was found to conduct among the nursing students in UiTM in Malaysia [12] in which it was revealed that most of the students were addicted to social media with the total mean score of 86.40.

However, no studies have been conducted in Malaysia regards to the association between social media addiction and mental health. Thus, it is significant to have a study examining the effect social media addiction on students' mental health. Therefore, the purpose of this study is to determine the association between social media addiction and mental health status among undergraduate nursing students in IIUM Kuantan.

## METHODS

A cross-sectional study design was conducted between March to April 2021. The research population consisted of undergraduate nursing students who enrolled in Kulliyyah of Nursing, IIUM, Kuantan, Pahang of 2021 academic year. The inclusion criteria students of Bachelor of Nursing from Kulliyyah of Nursing, IIUM and those who were willing to participate in the study. The students were recruited using a non-probability convenience sampling method. The sample size was calculated using Raosoft sample size calculator from the 421 undergraduate

students. The recommended sample size was 202 and added with 10% of sample size to cover participant who declined the study, the sample size suggested was 221 students. However, total participant achieved in this study was 208 students.

This study used an online questionnaire which consists of four sections. Section 1 consists of questions on sociodemographic data of the participants including gender, age, level of study and CGPA. Section 2 was a survey on the participants' patterns of social media usage. This part contained 7 questions in the form of multiple-choice questions such as the type of social media they have, the frequency of visit per day, the time spent per visit, per day, per week, the number of friends, and followers, etc.

Section 3 was a survey on the participants level of addiction to social media which are in 5-point Likert scale including strongly disagree [1], disagree [2], slightly agree [3], agree [4] and strongly agree [5], which are scored from 1 to 5 respectively. The scoring was measured according to the scale classified by Young (1996) (8) in which 34-68 of them as no addiction, 69-102 as slightly addicted, 103-136 as moderately addicted and 137 to 170 as highly addicted. The reliability coefficient of the questions in this section for internal consistency was 0.904 using Cronbach's Alpha method.

For the last section, the participants were assessed on their mental health status which consists of depression, anxiety and stress. For depression and anxiety, there were 10 questionnaires in 5-point Likert scale ranging from 1 to 5. The questionnaires were adapted and adopted from Kreya and Wok (2020) after obtaining the author approval. And the scoring preference for both elements (depression and anxiety) were also referred to Kreya and Wok (2020) as the same scoring point referred in PHQ9 form (8). For depression, the scoring used were 1-8 (minimal depression), 9-15 (mild depression), 16-23 (moderate depression), 24-31 (moderately severe depression) and 32-50 (severe depression). For the anxiety part, the scoring was the same where 1-8 (minimal anxiety), 9-15 (mild anxiety), 16-23 (moderate anxiety), 24-31 (moderately severe anxiety) and 32-50 (severe anxiety).

For stress part, the questionnaire used were referred from Depression Anxiety Stress Scale (DASS-21) which consists of 7 questions with 4-point Likert scale ranging from 0 to 3. The scoring used were 0-7(normal), 8-9(mild), 10-12(moderate), 13-16(severe) and 17 and above (extremely severe).

The Cronbach's Alpha result for depression, anxiety and stress are ( $\alpha = 0.878$ ), ( $\alpha = 0.859$ ) and ( $\alpha = 0.841$ ) respectively obtained based on the result of pilot study conducted among 20 students.

## DATA ANALYSIS

IBM Statistical Package Social Science (SPSS) version 22.0 was used to analyze the data. A normality test of Kolmogorov-Smirnov showed normally distributed data  $p > 0.05$  for depression and anxiety, thus parametric testing which is Pearson correlation was used. For stress, the normality was not assumed since  $p < 0.05$ . Thus, Spearman correlation was used to analyze the data. Results of the descriptive analysis is presented in tables using frequency, percentage, mean and standard deviation. The relationship between variables were analyzed and interpreted using p-value with significant level is set below 0.05.

## RESULTS

A total of 208 students have voluntarily participated in this study. Majority of the respondents are female 79.3% and only 20.7% are male (Table 1). 43.3% of the respondents belong to the 19 – 21 age group and 56.7% of them were 22 years old and above. Most of the students were from Year 4 (34.1%), followed by Year 1 (26.4%), Year 3 (21.2%) and the rest were from Year 2 (18.3%). Majority of the students (51.0%) achieved CGPA of 3.01 – 3.49, 44.2% achieved 3.50 – 4.00 and the rest 4.8% obtained CGPA of 3.00 and below.

Variables		Frequency (n)	Percentage (%)
Gender	Male	43	20.7
	Female	165	79.3
Age	19 – 21	90	43.3
	22 and above	118	56.7
Level of study	Year 1	55	26.4
	Year 2	38	18.3
	Year 3	44	21.2
	Year 4	71	34.1
CGPA	3.00 and below	10	4.8
	3.01 – 3.49	106	51.0
	3.50 – 4.00	92	44.2

Table 1: Sociodemographic data of respondents (n = 208)

## Level of social media addiction

Table 2 shows the level of social media addiction among the students. The mean score for social media addiction is 100.64 (SD = +/-20.563). The results shows that majority of the students were slightly addicted (54.3%) to social media followed by moderately addicted (37.0%), highly addicted (5.3%) and not addicted (3.4%).

Variables	Frequency (n)	Percentage (%)	Mean (SD)
Social Media Addiction			100.64 (20.563)
No addiction	7	3.4	
Slightly addicted	113	54.3	
Moderately addicted	77	37.0	
Highly addicted	11	5.3	

Note. SD = Standard Deviation

Table 2: Level of social media addiction among IIUM Kuantan undergraduate nursing students. (n = 208)

## Mental health status among the participants

Table 3 shows the mental health status among the respondents, which are depression, anxiety and stress. The mean score for depression and anxiety is the same which is 28.99 (SD = +/-9.637) for each. This indicates that the respondents experienced moderately severe depression and moderately severe anxiety. The results shows that 41% (N=86) of the respondents experienced severe depression followed by 29.3% (N=61) had moderately severe depression. Those who had moderate and mild depression are 20.7% (N=43) and 8.7% (N=18) respectively. Based on the results, 39.4% (N=82) of the students reported moderate anxiety, 27.9% (N=58) had moderately severe anxiety and 22.6% (N=47) experienced mild anxiety. A small percentage of them 6.7% (N=14) and 3.4% (N=7) had severe anxiety and minimal anxiety respectively.

For stress, the mean score is 8.47 (SD = +/-5.436) which indicates the students had mild stress in average. The results show that 44.7% (N=93) had no stress, while 17.8% (N=37) and 16.3% (N=34) of them had severe and moderate stress respectively. The rest of the students 13.9% (N=29) and 7.2% (N=15) experienced mild stress and extremely severe stress respectively.

Variables	Frequency (n)	Percentage (%)	Mean (SD)
<b>Depression</b>			28.99 (9.637)
Minimal depression	0	0	
Mild depression	18	8.7	
Moderate depression	43	20.7	
Moderately severe depression	61	29.3	
Severe	86	41.3	
<b>Anxiety</b>			28.99 (9.637)
Minimal anxiety	7	3.4	
Mild	47	22.6	
Moderate anxiety	82	39.4	
Moderately severe anxiety	58	27.9	
Severe anxiety	14	6.7	
<b>Stress</b>			8.47 (5.436)
Normal	93	44.7	
Mild	29	13.9	
Moderate	34	16.3	
Severe	37	17.8	
Extremely	15	7.2	

Note. SD = Standard Deviation

Table 3: Mental health status (categories) among IIUM Kuantan undergraduate nursing students (n = 208)

Variable	Mean (SD)	Minimum	Maximum
<b>Depression</b>	28.99 (9.637)	10	50
<b>Anxiety</b>	28.99 (9.637)	10	50
<b>Stress</b>	8.47 (5.436)	0	21

Note. SD = Standard Deviation

Table 4: Mental health status among IIUM Kuantan undergraduate nursing students.

### Relationship between social media addiction and mental health status

Pearson correlation and Spearman correlation were used to test the relationship between the social media addiction (i.e., no addiction, slightly addicted, moderately addicted and highly addicted) with mental health status (depression and anxiety)

and stress respectively. Based on Table 5, there is a positive relationship between social media addiction with depression and anxiety with the strength of correlation is strong,  $r = 0.448$  ( $p < 0.05$ ) and  $r = 0.448$  ( $p < 0.05$ ) respectively. Thus, it was observed that social media addiction has a reasonable impact on depression and anxiety.

Next, for the social media addiction and stress, the strength of correlation is  $r = 0.313$  ( $p < 0.05$ ). This indicates that there is a significant moderate positive correlation between social media addiction and stress. Since the p-value is less than 0.05, there is a significant difference between social media addiction and mental health. Hence, null hypothesis is rejected.

	Depression		Anxiety		Stress	
	r-value	p-value	r-value	p-value	r-value	p-value
<b>Social Media Addiction</b>	0.448	0.000	0.448	0.000	0.313	0.000

Table 5: Relationship between social media addiction and mental health status among IIUM Kuantan undergraduate nursing students.

### Relationship between gender and age with social media addiction

A Mann Whitney test is used to identify the relationship between sociodemographic and social media addiction. Based on Table 6, there is no significant difference between gender and age with social media addiction with  $z = -1.396$  ( $p > 0.05$ ) and  $z = -1.328$  ( $p > 0.05$ ) respectively. Since p-value is more than 0.05, null hypothesis is accepted. There is no association between gender and age with social media addiction among IIUM Kuantan undergraduate nursing students.

Variable	N	%	Median	IQR	Z-value	p-value
<b>Gender</b>					-1.396	0.163
Male	43	20.7	105.0	25		
Female	165	79.3	100.0	25		
<b>Age</b>					-1.328	0.184
19 – 21	90	43.3	102.0	22		
22 and above	118	56.7	98.0	26		

\*Mann-Whitney test,  $p < 0.05$  as significant level 95% CI

Table 6: Relationship between sociodemographic and social media addiction among IIUM Kuantan undergraduate nursing students (n= 208)



### Relationship between level of study and CGPA with social media addiction

A Kruskal Wallis test is used to determine the relationship between level of study and CGPA with social media addiction. Based on table 7, there is no significant difference between level of study and CGPA with social media addiction with  $z=3$  ( $p>0.05$ ) and  $z=2$  ( $p>0.05$ ) respectively. Since the p-value is more than 0.05, null hypothesis is accepted. There is no association between level of study and CGPA with social media addiction among IIUM Kuantan undergraduate nursing students.

Variable	N	%	Median	IQR	Z-value	P-value
Level of study					3	0.787
Year 1	55	26.4	101.0	21		
Year 2	38	18.3	102.0	30		
Year 3	44	21.2	97.5	30		
Year 4	71	34.1	101.0	25		
CGPA					2	0.852
3.00 and below	10	4.8	98.5	36		
3.01 - 3.49	10	51.0	101.0	26		
3.50 - 4.00	92	44.2	100.0	24		

\* Kruskal Wallis test,  $p < 0.05$  as significant level 95% CI

Table 7: Relationship between sociodemographic and social media addiction among IIUM Kuantan undergraduate nursing students (n= 208)

### DISCUSSION

The result from this study shows that majority of the students are addicted to the social media in which their mean score indicated they are slightly addicted to social media. However, their level of addiction is varied from no addiction, slightly, moderate, and highly addicted. It could be said that social media plays a considerable role in their life as it brings addiction to them.

These findings are supported by other studies in which the undergraduate university students spent substantial amount of time in the social media (13) and the rate of addiction to social networking among Iranian students of medical

sciences was moderate (14). Moreover, majority of the nursing students addicted to the social media were observed in a study conducted in a university in Malaysia (12). Another study done among Malaysia university students revealed that 73% of them were under addict category of social networking (11).

In regard to students' mental health, these study results revealed that IIUM Kuantan undergraduate nursing students experienced moderately severe depression and anxiety as well as mild stress. These findings are similar to a study reported (15) in which it was mentioned that professions involving consistent close contact with human and emotional engagement such as medicine, psychology and nursing are prone to stress and burnout which could appear as early as before employment. In addition, majority of undergraduate nursing students in their study reported mild to extremely severe symptoms of depression, anxiety, and stress (16). Similarly, a study in Taiwan showed that 32.6% of junior college nursing students reported high score on the Adolescent Depression Inventory (ADI), signifying that they had depressive symptoms (17).

Furthermore, this study found that there is a significant association between social media addiction and mental health status among IIUM Kuantan undergraduate nursing students. The results show a positive relationship between social media addiction with depression and anxiety with  $r = 0.448$  ( $p<0.05$ ) for both variables. This indicates that if the students had higher level of social media addiction, it will have more negative impact on their mental health status in terms of depression and anxiety. For stress, the data also shows a positive relationship with  $r = 0.313$  ( $p<0.05$ ). It indicates that increase in addiction of social media could upsurge their stress level. It can be concluded from the results that social media addiction has considerable impact on the mental health status of the respondents. The findings of this study are consistent with other studies in which internet addiction could lead to 45% of depression, 40% of anxiety and 40% of stress and the higher addiction to the Internet the higher anxiety and stress among the students are observed (18) and there is a significant positive relationship between social media addiction and anxiety (5).

Increased social media usage has become a serious source of stress (19) and the excessive use of internet addiction cause anxiety, stress and psychologically depressed (20). However, one

study pointed out the contradicted results in which it was mentioned that social media able to reduce social isolation and loneliness, and indirectly improve mental health (21). In general, the results from this study are aligned with majority of the findings from previous studies which concluded that social media addiction affected mental health of the participants negatively.

In addition, this study found that there is no association between sociodemographic background which are gender, age, year of study and CGPA with the level of social media addiction among the participants (with p-value less than 0.05). Some studies supported the findings in which social media addiction did not differ in term of gender (22) (23) and a study from Malaysia revealed that Facebook addiction is not affected by the gender since the ratio of addiction among males and females are approximately similar (24). However, other studies discovered that the mean score for the social media or internet addiction is significantly higher in male compared to female and inversely (25) (26). This might be due to the small sample size of the current study compared to the other studies conducted before. Furthermore, there is lack of variation in terms of the category involved for each variable such as age and CGPA which may contribute to these insignificant results of the study.

In terms of age, the results from this study were similar with other studies in which no significant difference in Internet addiction were seen between those aged 20 years or younger with those older than 20 years (27) and age was not found to be a substantial influence on social media addiction (28). However, a previous study from Turkey showed a significant relationship between the participants ages and Social Media Addiction Scale in which the age group with the highest social media addiction was in a range of 18-25 (29) and age was related to the social media addiction as the highest ratio of addiction in different categories of age was found among students younger than 20 years old (57%) (24).

For the CGPA and level of study, this study found no relationship between the two variables and social media addiction. There were limited studies discussed on the relationship between these variables even though one of the previous studies had the similar results where it showed that the class level (grade) did not affect the Internet addiction level of the participants. On the other hand, the findings of this study differ from

another study where they found that there was a significant different between bachelor's and Master's in their mean scores of Internet Addiction Test (25). However, this study focus was only the Undergraduate nursing students with various year of study only, and there is not much differences in their educational level.

To sum up, this study found that age, gender, level of study and CGPA did not significantly influence the level of social media addiction among the students. However, there were few previous studies contradicted with the results from this study. Thus, further research needs to be conducted to find out the most accurate relationship between age, gender, level of study and CGPA with social media addiction.

## CONCLUSION

In conclusion, the participants from this study were relatively addicted to the social media and majority of them experienced from depression, anxiety and stress in various level. Results from this study suggests that social media addiction negatively affected mental health of the students. With the continuous advancement of the gadget such as smartphone and tablet, addiction to social media will remain as a huge concern. The involved authorities including parents, university and the students themselves need to initiate interventions for better social media management and mental health improvement. It is suggested that an awareness on the impact of social media addiction on the public should be raised. Further studies using different tools to assess social media addiction, and applying different methodologies are recommended. Moreover, the relationship between social media addiction and the nursing students' performance in their clinical and academic need to be explored.

## ETHICAL CONSIDERATIONS

Prior to data collection, the ethical approval was obtained from the Kulliyyah of Nursing Postgraduate Research Committee (KNPGRC) and IIUM research ethic committee (IREC 2021-KON/68), and the consent from the participants were also taken.

## CONFLICT OF INTEREST

The researcher declares that there is no conflict of interests.

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