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Gastroenterology

An Association between Social Media Addiction and Academic Performance among Undergraduate Nursing Students from IIUM Kuantan

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Abstract	Original Research Article

Objective: Social media is becoming more popular among university and college students. Therefore, it is urgent to find out what effect social media have on their users and, in a more specific way, how the use of social media affects the academic performance of nursing students at IIUM since no studies have been conducted among the students to investigate the linkage between social media usage and their academic performance. Considering the key role of nursing students in promoting the quality of physical and mental health in society, this study aims to find the association between social media addiction and the academic performance of nursing students. ***Methods***: A quantitative cross-sectional study with convenience sampling method was conducted among 243 nursing students at IIUM Kuantan Campus, from March 2022 to June 2022. Data were gathered by using Google Form survey and distributed to all undergraduate nursing students that fit into inclusion criteria of this study. The questionnaire consisted of two sections which are Section A and Section B. Section A consisted of 6 questions exploring students' sociodemographic information (gender, year of study, current GPA, which platform of social media mostly use, the number of hours spent for studying in a week (in hour) and the number of hours spent for accessing the social media in a week (in hour). Section B questionnaire adapted from Social Media Addiction Scale- Student Form (SMAS-SF) was used to determine the level of social media addiction of an individual. ***Results***: Nursing students of IIUM Kuantan have moderate level of social media addiction with mean score of 87.56 (*SD*=17.633). The majority of nursing students IIUM Kuantan are excellent in their academic performance as most of them are classified into First Class and Second Class (Upper) with average CGPA of 3.46 (*SD*= 0.2322). Majority chose WhatsApp (53.9%) as their social media platform of mostly used and only 2.5% of respondent chose Facebook. There is no association between social media addiction and academic performance as proved by One-Way ANOVA test where the p-value is 0.772, which is p > 0.05. ***Conclusion***: The findings in this study shown that social media addiction has no association with academic performance. Thus, there is no significant relationship between social media addiction and academic performance. This is because some students' academic performance remains unchanged as evidenced by high mean CGPA despite their moderate to high level of addiction to social media platforms.
Keywords: Social media, social media addiction, academic performance.

INTRODUCTION AND BACKGROUND OF THE STUDY

Nowadays, the Internet has taken a main place in people's lives. It is hard to imagine a teenager who at least one day did not check for any updates in social media and did not read through the timeline. The modern era needs people to stay connected and keep updated of the latest news and trends. The Internet is a knowledge technology that has permeated all aspects of life as a source of information, commerce, and communication. Although its original purpose was to provide secure, quick, and low-cost information and to facilitate communication, it has now caused significant changes in individuals and society [1]. The fact that internet usage occurs outside of time and space in a virtual environment leads to a new form of communication. Social media, which is an extension of internet technology, alters people's communication channels. The use of social media is growing on a daily basis, and the main benefit and value of these platforms is the user interaction provided [2].

When social media such as Facebook, YouTube, Instagram, TikTok, WhatsApp and Twitter existed, the world was divided into online and offline. Social media are online technology platforms that help connect people together far and near and to build

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relationship with people. With their existence, people can communicate with each other, even in different countries, watch videos, listen to music, view others' photos and much more.

Without a doubt, social media is one of the most favorite things among today's children, adolescents, and adults. It provides a platform for entertainment and communication for them, and it is naturally becoming one of the primary channels for gaining news and information. The usage of social media in Malaysia and across the globe is rising, with youths and students showing particular interest. It estimates that in 2022, there will be around 3.96 billion social media users around the globe, which is up from 1.83 billion in 2016 [3]. Meanwhile, the use of social media in Malaysia is so widespread that many people have multiple accounts and subscribe to multiple apps [4]. Malaysia is ranked among the highest users of social media in the Asia Pacific region and Malaysians spend an average of 3.3 hours on social media each day and it is third highest in the region [5]. This is contributed by the increased percentage of internet penetration into the country [6].

The presence of smartphones and other gadgets in any circumstance may lead to social media addiction among university students. Social media has both advantages and disadvantages that may impact students' lives, either positively or negatively. The positive is that it allows students access to sharing and publishing some information at anywhere and anytime [7]. Excessive usage of social media has a favorable or detrimental effect on students' achievement, particularly their academic performance.

Teenagers, college, and university students aged 18 to 29 are the most frequent users of online social media, as they are constantly connected to social networking sites [8]. Students are one of the most important users of the virtual world and social networks. The overuse of social media has positive and negative academic, social, and health consequences for the students [9]. Poor academic performance is one of the most important consequences of social media overuse for students. Excessive time spent on social networking sites can divert attention away from the task at hand [10]. On the other hand, it can lead to the failure of the education system because many bloggers use social media to spread false information about education. This may lead to students misusing information related to their subjects. Furthermore, social media has broadened the negative outcomes, which can have an impact on health as a lot of time is wasted on social media.

METHODOLOGY
MATERIALS AND METHODS

The study has been conducted using a quantitative cross-sectional study that was carried out between March to June 2022. The convenience sampling method has been applied in this study which involved 243 undergraduate students from Kulliyyah of Nursing, International Islamic University (IIUM) Kuantan. The Raosoft sample size calculator was used, with the 5% of margin error, 95% confidence interval, 419 of total population size and 50% response rate. The required minimum sample size for this study was 201 participants. The inclusion criteria were undergraduate students from the Kulliyyah of Nursing at IIUM Kuantan and students who have at least one social media account. The exclusion criteria were students who were unwilling to participate in this study and first-semester students who did not yet have a CGPA.

The questionnaire consisted of two sections which are Section A and Section B. Section A consisted of 6 questions exploring students' sociodemographic information (gender, year of study, current GPA, which platform of social media mostly use, the number of hours spent for studying in a week (in hour) and the number of hours spent for accessing the social media in a week (in hour).

Section B questionnaire was adapted from Social Media Addiction Scale- Student Form (SMAS-SF) by (Sahin, 2018) (1) and was used to determine the level of social media addiction of an individual. The researcher obtained permission to use the questionnaire prior starting the study. SMAS-SF is a valid and reliable questionnaire with the Cronbach Alpha value of 0.93. SMAS-SF is a 5-point Likert type scale consisting of 29 items and 4 subscales. Virtual tolerance subscale consists of the first 5 items; virtual communication subscale consists of items between 6 to 14; virtual problem subscale consists of items between 15 to 23, and virtual information subscale consists of items between 24 to 29. The scale has no reverse items. The lowest possible score obtained from the scale is 29, while the highest possible score is 145. Individual who scores between 29 and 51 is categorized as "Not Addicted", 52 - 74 as "Low Level Addicted", 75 - 97 as "Medium Level Addicted", 98 - 120 as "High Level Addicted" and 121 - 145 as "Very High Level Addicted".

Ethical approvals were obtained from Kulliyyah of Nursing Postgraduates and Research Committee (KNPGRC) and IIUM Research and Ethical Committee (IREC) with the approval number of IREC 2022-KON/71 prior to data collection. Next, the informed consent was taken from the participants and each of the participants was provided with an information sheet about the objectives and background of this study. The participants were assured that the information given to the researcher was protected as confidential and solely for academic purposes.

Furthermore, the participants have the right to withdraw from the study at any time.

DATA ANALYSIS

IBM SPSS version 25.0 was used to analyze all the collected data since this software is more reliable and provides an accurate result for this study. Descriptive analysis of frequency counts and percentages was used to present the demographic data and platform of social media that nursing students were more exposed. Descriptive statistics of mean, standard deviation, minimum and maximum was used for determining the level of social media among nursing students, academic performance (CGPA) of overall nursing students, the average number of hours spent for studying in a week and the average number of hours spent for accessing the social media in a week. Meanwhile, inferential statistics (parametric analysis) One-Way ANOVA test is applied to determine the association between social media addiction and academic performance since the data is normally distributed since normality test of Kolmogorov-Smirnov showed that the value of 0.200 which was greater than 0.05, as well as the independent variable (level of social media addiction) is more than 2 categorical data and the dependent variable (academic performance/CGPA) is numerical data.

RESULTS/ FINDINGS
Demographic Data

Table 1: Demographic data

Variable	Frequency	Percent (%)
Gender		
Male	54	22.2
Female	**189**	**77.8**
Year of study		
1	57	23.5
2	52	21.4
3	61	25.1
4	**73**	**30.0**

Table 2: Demographic data

Variable	Mean	Standard deviation	Minimum	Maximum
The number of hours spent for studying in a week (in hour)	**12.21**	11.184	1	65
The number of hours spent for accessing the social media in a week (in hour)	**22.13**	16.801	2	70

Table 1 and Table 2 above show the descriptive analysis of demographic data of this study. There was female predominance 189 (77.8%) while the male participants were only 54 students (22.2%) including 73 students from Year 4 (30.0%), 61 students from Year 3 (25.1%), 52 students of Year 2 (21.4%) and the rest 57 students from Year 1 (23.5%). The average number of hours spent studying in a week is 12.21 hr with a standard deviation of 11.184. Lastly, the average number of hours spent for accessing the social media in a week is 22.13 with standard deviation of 16.801.

Academic performance (CGPA) of overall nursing students

Table 3: CGPA of current semester

Variable	Mean	Standard deviation	Minimum	Maximum
CGPA of current semester	**3.46**	0.2322	2.63	4.00

Table 4: Class of CGPA

Class of CGPA	Range	Frequency	Percentage
First Class	3.50 – 4.00	116	47.7
Second Class (Upper)	2.80 – 3.49	126	51.9
Second Class (Lower)	2.00 – 2.79	1	0.4

Table 3 shows the mean CGPA of overall nursing students is 3.46 with standard deviation of 0.2322. Table 4 illustrates class of CGPA of the nursing students IIUM Kuantan. Most of students are in Second Class (Upper) (N= 116, 47.7%) followed by First Class (N= 126, 51.9%) and only one student (0.4%) is in Second Class (Lower).

Social media platforms mostly used by nursing students

Table 5: Social media platform is most used by nursing students.

Variables	Frequency	Percentage
Facebook	6	2.5
Twitter	12	4.9
Instagram	26	10.7
YouTube	20	8.2
TikTok	48	19.8
WhatsApp	131	53.9

Table 5 shows social media platform is most used by nursing students. Out of the 243 participants, most of them used WhatsApp (N=131, 53.9%), followed by TikTok (N=48, 19.8%), Instagram (N= 26, 10.7%), YouTube (N= 20, 8.2%), Twitter (N= 12, 4.9%) and the least was Facebook (N= 6, 2.5%).

The level of social media among nursing students

Table 6: Mean score of total and 4 subscales

Variables	Mean	Standard deviation	Minimum	Maximum
Total	**87.56**	**17.633**	**31**	**145**
Subscales				
Virtual tolerance	17.21	3.921	7	25
Virtual communication	25.56	6.656	9	45
Virtual problem	23.48	6.736	9	45
Virtual information	21.31	4.209	6	30

Table 6 shows the mean score are collected in 4 sub-dimensions which are virtual tolerance, virtual communication, virtual problems, and virtual information. The mean for the subscale of virtual tolerance was 17.21 (*SD*= 3.921) with a maximum score of 25 and a minimum score of 7. The mean was 25.56 (*SD*= 6.656) for virtual communication, with a maximum score of 45 and a minimum score was 9. However, mean, and standard deviation for virtual problem subscales 23.48 (*SD*= 6.736) with a maximum score 45 and a minimum score was 9. The mean for virtual information subscales was 21.31 (*SD*= 4.209) with a maximum score 30 and a minimum score was 6. To sum up, the total mean is 87.56, standard deviation of 17.633 with a minimum score 31 and a maximum score 145.

The association between social media addiction and academic performance of nursing students

Table 7: Descriptive statistics of Level SMA and CGPA

Descriptives								
CGPA / Level SMA	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
Not addicted	2	3.4000	.21213	.15000	1.4941	5.3059	3.25	3.55
Low level addicted	45	3.5018	.19558	.02916	3.4430	3.5605	3.15	4.00
Medium level addicted	139	3.4526	.23204	.01968	3.4137	3.4915	2.90	4.00
High level addicted	49	3.4712	.26777	.03825	3.3943	3.5481	2.63	3.94
Very high level addicted	8	3.4388	.24235	.07861	3.2529	3.6246	3.00	3.70
Total	243	3.4646	.23217	.01489	3.4352	3.4939	2.63	4.00

Test of Homogeneity of Variances

Table 8: Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
CGPA of current semester	Based on Mean	.663	4	238	.619
	Based on Median	.623	4	238	.647
	Based on Median and with adjusted df	.623	4	216.406	.647
	Based on trimmed mean	.634	4	238	.639

Based on Table 8, Levene's test result where p-value is not significant (0.639). The p-value is > 0.05 for Levene's Test thus, variances in each group is equal.

Table 9: ANOVA test for CGPA of current semester

ANOVA					
CGPA of current semester	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.098	4	.025	.451	.772
Within Groups	12.946	238	.054		
Total	13.044	242			

Based on Table 9 (the ANOVA output), the result for p is not significant where p-value is 0.772 (p> 0.05). If ANOVA test is not significant, it indicates that we fail to reject the null hypothesis, HO and there is no significant mean difference between Level SMA and CGPA of current semester. Thus, there is no association between social media addiction and academic performances of undergraduate nursing students IIUMK.

DISCUSSIONS

In this study, female students were the majority with the number of 189 students (77.8%) where only 54 male students (22.2%) volunteered to be the respondents. The research was done by [11] showed that 566 (56.7%) female students and 432 (43.3%) male students while (Sahin, 2018) [1] showed that 184 (57%) female students and 140 (43%) male students participated voluntarily. Year 4 students conquered the study with the highest participants (N=73, 30.0%) volunteered to answer the survey. Researcher also successfully achieved the desired number of participants Year 1, Year 2 and Year 3 students which is at least 49 representatives from each batch (N= 57, 52, 61 respectively).

This study noted that majority of the students were being addicted by social media. To place the results in perspective, the mean for the social media addiction was mostly related with total score of SMAS-SF which the mean score is 87.56 compared to those found in the study of effect of social media addiction on academic performance among nursing students UiTM Puncak Alam Campus done by (Fauzi, 2021) [12], which had 86.40 total mean score. Based on the scoring system of SMAS-SF provided by (Sahin, 2018) [1], individual who scored 75-97 indicates that he or she has moderate level addiction to social media. Hence, it can be concluded that nursing students of IIUM Kuantan have moderate level of social media addiction. This is evidenced by the average number of hours spent accessing social media in a week is 22.13 hours which is quite lengthy.

In contrast to the findings of this study, the mean total scores of 609 nursing students at a public university located in the northwest part of Turkey using "SMAS-SF" are 67.65 indicating students' social media addictions were low [13]. However, the result of this study is still parallel with the study by (Aslam, 2021) [14], in which most of the teenager in rural Areas of

Indonesia has a moderate social media addicted (77.6%) using SMAS-SF.

Regarding academic performance of the students, the mean CGPA of overall nursing students is 3.46. Meanwhile, the mean CGPA of nursing students at UITM Puncak Alam is 2.13 [12] and study by Simcharoen *et al.,* [15] showed that mean CGPA of Chiang Mai medical students is 3.38. Moreover, the mean CGPA of the students of the Kumasi Nursing and Midwifery Training College and Seventh Day Adventists (SDA) Nursing and Midwifery Training College was 2.89 [16].

CGPA of the majority of nursing students IIUMK are in Second Class (Upper) (N= 126, 51.9%) followed by First Class (N= 116, 47.7%) and only one student (0.4%) is in Second Class (Lower). Based on IIUM grading, those who achieved between 2.00 to 2.79 is considered as Second Class (Lower), 2.80 to 3.49 is Second Class (Upper), 3.50 above considered as First Class. From this result, it can be said that the majority of nursing students IIUM Kuantan are excellent in their academic performance as most of them are classified into First Class and Second Class (Upper). Furthermore, this can be proved by the average number of hours nursing students IIUM Kuantan spend studying in a week is 12.21 hours which is quite lengthy.

Regarding social media platform usage, majority students choose WhatsApp (53.9%) as their platform and only 2.5% of respondent chose Facebook. However, statistics on social media that is most popular in Malaysia shown the contrast findings where Facebook become the highest platform with 83.46% [17]. Moreover, another study [18] revealed that Facebook (66.4%) as the most favourite social media sites and WhatsApp (19.9%) is the second.

Related with the association of the social media addiction, and academic performance of nursing students, the current research findings shown that excessive use of social media did not give a negative effect on nursing students' academic performance, and there is no association between the two. This has been proved by One-Way ANOVA test where the F-value for academic performance (CGPA of current semester) is 0.451 and p-value is 0.772, which is p > 0.05 and not significant. Thus, it is noted that academic performance of some students remains unchanged as evidenced by

high mean CGPA despite their moderate to high level of addiction to social media platforms.

This finding was supported by the research study of Othman *et al.*, (2017) in which there was no significant relationship between social media usage and academic performance and the main factors that contribute to the poor academic performance of the students was their behaviour and poor time management [19]. Added to this, another study by Sutarno (2019) indicted that the usage of social media basically gave positive impact on student GPA, moreover the usage of social media for class related research has helped them improves their grade [20].

However, a study conducted by Azizi *et al.*, (2019) on the relationship between social networking addiction and academic performance in Iranian students of medical sciences contrast with the current study findings. Their study showed that a growth in the excessive use of social media declines the academic performance [21]. In line with that, another study (Ahmad, 2021) also stated that excessive social media use, leading to addiction, has a significant negative effect on academic performance of Generation Z student-athletes during Malaysia's COVID-19 lockdown [22]. Alaika (2020) added that social media addiction has negative impacts on studies, health, relationship, and general well-being of Moroccan university students whereby 57% of the students had a BSMAS score $\geq$ 18 showing that they may have or be developing an actual addiction to using social media [23]. From this, it is noted that social media usage has both negative and positive effect, and the time management of the students, and the appropriate usage of social media for teaching and learning activities to be improved.

CONCLUSION

The findings from this study shown that there is no significant relationship between social media addiction and academic performance of students. Social media platform is an immense field in which the barriers to communication were indeed vanishing and network connectivity has considerably increased. Nursing students from IIUM Kuantan often used social media as a means of tool for communication, especially WhatsApp as the main tool. Undoubtedly, social media can cause addiction as this study results in moderate to high level of addiction among the nursing students. At the same time, it also boosts the productivity and academic performance of the students if they use it wisely as the study reveals that the mean CGPA of nursing students from IIUM Kuantan is 3.46 and almost all students are in First Class and Second Class (Upper).

This study findings are supported by other numerous studies, at the same time, some studies findings opposed to it. A self-reported questionnaire only used to measure the effect of social media addiction on academic performance among students might be contributed as one of the limitations of the study. In addition, unequal distribution of participants by gender was noted and the ration of the participants (male to female) ratio is approximately 1:8. However, it is worthy to note these study findings to improve the usage of the social media platform as an effective tool for teaching learning activities. Thus, further research is recommended to explore more about the usage of social media addiction, and students' academic performance by using different tools in a variety of settings.

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