

SOCIAL MEDIA ADDICTION AND ACADEMIC PERFORMANCE AMONG UNDERGRADUATE NURSING STUDENTS IN MARDAN: AN ANALYTICAL CROSS-SECTIONAL STUDY

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Abstract

Background: Social media is a key part of the everyday lives of students, impacting their relationships and learning. When used more often, however, these can become addictive and can affect academic performance. Objective: This study's aimed to evaluate and examine the relationship between social media addiction and academic performance of undergraduate nursing students of Mardan. Methods: 197 undergraduate nursing students were selected using convenient sampling technique from four nursing colleges of Mardan and a cross-sectional analysis was conducted. The data was gathered through a structured self-administered questionnaire with five-point Likert scale to assess social media use, use purpose, and behaviors associated with social media addiction. Mean scores were used to calculate Social Media Addiction (SMA) scores, which had a reliability check confirmed (Cronbach's $\alpha = 0.804$). Student's achievement was evaluated by their self-reported CGPA. Spearman Rank Order correlation was used in SPSS version 27; due to the non-normal distribution of the data, the significance level was established at $p < .05$. Results: Most of the participants expressed frequent use of social media platforms like Facebook and WhatsApp for learning and entertainment. A lot of students admitted that using social media negatively affected their academic work and led to addiction. The statistical analysis, however, showed that the correlation between the variables of social media addiction and academic performance was weak, negative ($r = -0.022$, $p = .756$) and was not significant ($p = .756$). Conclusion: The findings showed that using social media was prevalent and common behaviors linked to social media addiction was common among nursing undergraduates, and there was no discernible link between social media addiction and academic achievement. This implies that students can use social media successfully for both learning and other activities.

INTRODUCTION:

These days, social media is a crucial component of people's everyday lives, with more than 5.07 billion active users in the world as of 2024 (62.6% of the world's population) and around 320 million new users added every year ["Digital 2024" report]. In Pakistan alone, there were around 54.38 million social media users at the beginning of 2024, or 38.9% of the adult population, which is an unprecedented level of digital growth (1). One of the most active user groups is university students, who are active on platforms like WhatsApp, Facebook, Instagram and TikTok, for both personal and academic uses (2).

Social media has allowed for people to communicate and collaborate with one another in the educational environment, but there is an increasing concern with excessive and unregulated use of social media, which is commonly termed social media addiction (SMA). SMA is a behavioral phenomenon in which a person strives to engage in an activity compulsively, with a sense of loss of control, changing their mood, withdrawals, and interference in functional areas of life (3)(4).

In the world, the prevalence of SMA in University students is estimated at 18.4% and this is elevated to 22.8% in Asian population (5). More than 60% of college students have been found to have behaviors associated with problematic social media use that have impacts on mental health and academic performance (1,6). There are several ways in which SMA affects academic performance, such as academic procrastination due to diminished self-control and the Fear of Missing Out (FOMO) (7), poor sleep quality (8), and increased depression and anxiety (9). Overuse of social media has been found to be significantly correlated with increased stress, anxiety and depression among university students in Pakistan (10,11); recreational use compared to purposeful academic use of social media has been strongly associated with procrastination and negative academic outcomes (11).

Nursing students are a group of unique individuals of high vulnerability in this regard. Their course work, clinical and academic, is intensive and demands sustained attention to cognition and discipline in the business world. Excessive use of

social media and the fear of being without cell phone or mobile device (known as "nomophobia") can negatively impact students' attention, motivation, and academic achievement in the classroom (12). Social media addiction has been demonstrated to predict academic tiredness in nursing students, which is mediated by lower academic engagement and higher academic procrastination (13). In Mexico, a multicenter study showed a dose-response relationship between sleep disturbance and SMA in nursing students (14), and a Romanian cross-sectional study confirmed the relationship between higher SMA levels and psychological distress in the participants, which was also related to worse academic performance (9). In addition, (15) reported high prevalence rates of SMA among nursing students; (16) found correlations between internet addiction and poor time management that is known to impact academic performance among nursing students. In Pakistan, (17) identified the relationships between internet addiction, mobile phone overuse, and poor academic and health outcomes in undergraduate nursing students, thus highlighting the need for further investigation in Pakistani nursing institutions.

Although there is increasing evidence of the world, but empirical data on the nursing students of Khyber Pakhtunkhwa especially Mardan is scarce. In this context, it is crucial to grasp the connection between social media addiction and academic achievement to develop targeted educational interventions and institutional policies that encourage responsible online behavior. Therefore, this study aimed to assess social media addiction and examine its association with academic performance among Mardan's nursing undergraduates.

METHODOLOGY:

Undergraduate nursing students in Mardan participated in an analytical cross-sectional study to investigate the relationship between social media addiction and academic achievement. The study population consists of 400 undergraduate nursing students from four distinct institutions: Government College of Nursing Mardan, Medical Teaching Institute Mardan College of Nursing (Bacha Khan Medical College Mardan) Mardan,

Sarhad College of Nursing Mardan, and Institute of Health Sciences Mardan). A total of 197 participants engaged in the investigation using appropriate sample size estimation at a 95% confidence interval and 5% margin of error using Raosoft software. Data were gathered using a structured, self-administered questionnaire adapted from (18), administered to third- and fourth-year undergraduate nursing students. Only third- and final-year students who were present during data collection were included in the study. First-year and second-year students, those who did not use social media, and those who were absent and unwilling to participate were excluded from the study. The questionnaire comprises demographic characteristics and three sections assessing social media use patterns, preferences for educational and entertainment purposes. Every item was scored on a five-point Likert scale, where firmly disagree is represented by 1, and firmly agree by 5. To determine the overall amount of social media addiction, the Social Media Addiction (SMA) score was calculated by averaging the values from all three areas. The internal consistency of the combined SMA scale was evaluated using Cronbach's alpha, demonstrating strong dependability ($\alpha = 0.804$). Academic performance

was calculated using the cumulative grade point average (CGPA) that was self-reported, categorized into ordinal levels. SPSS version 27 was used to analyze data, to summarize the demographic data and response distribution descriptive statistics were used. The data were not normally distributed due to their ordinal nature; therefore, Spearman's rank-order correlation was applied to assess the association between social media addiction and scholastic success. A significance criterion of $p < .05$ was established.

RESULTS:

This study included 197 undergraduate nursing students. Most of the students (78.7%) were male, while only 21.3% were female. 75.6% of the participants were 22-25 years old, followed by 20.8% who were 18-21 years, and a small group of 3.6% were 26-29 years old. Regarding Academic year 53.8% of the students were in their 3rd year, and 46.2% were in their 4th year. Most of the students (54.3%) said they have a GPA in the range of 3.0 to 3.5, about 33% reported a higher GPA between 3.5 and 4.0, and fewer students had lower GPAs. Most students attended classes regularly, with many saying they were present 70% to 100% of the time (84.3%).

Section A: Demographics Data

Variable	Categories	Frequency	Percentages (%)
Gender	Male	155	78.7%
	Female	42	21.3%
Age	18-21	41	20.8%
	22-25	149	75.6%
	26-29	7	3.6%
Academic Year	3rd Year	106	53.8%
	4th Year	91	46.2%
Academic achievements (CGPA)	Bad (<2.5)	3	1.5%
	Less (2.5 to 3.0)	22	11.2%
	Average (3.0 to 3.5)	107	54.3%
	High (3.5 to 4.0)	65	33.0%
Attendance	Below 30%	1	0.5%
	30-50%	4	2.0%
	50-70%	26	13.2%
	70-100%	166	84.3%

Analysis regarding the social media used by the students shows that WhatsApp was the most frequently used social media platform, many students agreeing or strongly agreeing that they use

it the most often. A substantial proportion of participants reported frequent Facebook use, twitter and Instagram were used less frequently. Many students said they use social media a lot, and

several admitted to spending long hours online every day.

Section B (Part 1): Social Media Platforms Most Frequently Used by Students.

S. No	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	I most frequently use Facebook.	38(19.3%)	63(32.0%)	38(19.3%)	36(18.3%)	22(11.2%)
2.	I most frequently use WhatsApp.	96(48.7%)	73(37.1%)	14(7.1%)	8(4.1%)	6(3.0%)
3.	I most frequently use Twitter.	19(9.6%)	20(10.2%)	23(11.7%)	60(30.5%)	75(38.1%)
4.	I most frequently use Instagram.	22(11.2%)	44(22.3%)	37(18.8%)	48(24.4%)	46(23.4%)
5.	I use social media a lot.	46(23.4%)	69(35.0%)	42(21.3%)	20(10.2%)	20(10.2%)
6.	My daily screen time is more than 10 hours.	20(10.2%)	38(19.3%)	35(17.8%)	75(38.1%)	29(14.7%)

With regard to the purpose of social media use, majority of the students reported that they use social media to communicate with their family, friends and for educational purposes, including sharing educational materials and assisting in learning with each other on platforms like WhatsApp. But for many social media is for entertainment, and a big proportion of

respondents saying that they often used it for leisure instead of academic activities. Fewer students reported having engaged in academic discussions on platforms such as Twitter, many indicated that they had not engaged in any academic discussions, and did not view it as positive or negative for academic achievement.

Section B (Part 2): Students Preference of Using Social Media for Entertainment and Educational Purposes.

S. No	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7.	I often use social media for educational purposes.	46(23.4%)	96(48.7%)	36(18.3%)	10(5.1%)	9(4.6%)
8.	I often use social media for entertainment purposes.	65(33.0%)	87(44.2%)	36(18.3%)	6(3.0%)	3(1.5%)
9.	I engage in academic discussions on Twitter, and this has improved my academic performances.	14(7.1%)	48(24.4%)	28(14.2%)	44(22.3%)	63(32.0%)
10.	I make use of WhatsApp to disseminate knowledge to my classmate.	64(32.5%)	66(33.5%)	47(23.9%)	12(6.1%)	8(4.1%)
11.	Hours spent online can never be compared to the number of hours I spend reading.	38(19.3%)	72(36.5%)	51(25.9%)	26(13.2%)	10(5.1%)

A study on addiction-related behaviors showed that many students believe social media negatively affects their school work. Many of the participants agreed that social networking would take their attention away. The students indicated that they were not studying, and addiction to online social media was an issue for study. Many students indicated that reducing the use of social media in

exam periods was difficult. Others thought that they suffered from having to do their schoolwork at the same time while they were constantly on social media. These findings indicate that students are highly engaged in social media and some have behaviors that indicate that they may have a social media addiction.

Section B (Part 3): Assessment of the Social Media use by the students.

S. No	Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.	My academic achievement was negatively damaged by social networking.	27(13.7%)	97(49.2%)	40(20.3%)	24(12.2%)	9(4.6%)
13.	I have never put a temporary stop to using social media while taking an exam.	27(13.7%)	76(38.6%)	37(18.8%)	35(17.8%)	22(11.2%)
14.	Online social network addiction is a serious problem that interferes with my academic life.	53(26.9%)	73(37.1%)	34(17.3%)	27(13.7%)	10(5.1%)
15.	I am sidetracked from my academics by online social networks.	32(16.2%)	99(50.3%)	25(12.7%)	33(16.8%)	8(4.1%)
16.	I often have unrestricted access to Facebook, which has had a detrimental effect on my academic performance.	26(13.2%)	72(36.5%)	27(13.7%)	50(25.4%)	22(11.2%)
17.	Even if I quit using social media, my academic performance won't improve.	29(14.7%)	62(31.5%)	30(15.2%)	45(22.8%)	31(15.7%)

A combined score for Social Media Addiction (SMA) was created by putting together different aspects of how people use social media, why they use it, and behaviors related to addiction. This score showed good reliability, meaning it is consistent (Cronbach's alpha = 0.804). We used Spearman's rank-order correlation to look at the relationship between the combined SMA score and academic success. Spearman's correlation demonstrated a weak, non-significant negative association between SMA and academic achievement ($r = -0.022$, $p = .756$). This finding suggests that although social media use and addiction-related behaviors were commonly reported among the participants, overall social media addiction did not demonstrate a significant relationship with academic performance in this study population.

Section C: Social Media Addiction and its Influence on Academic Performance of Students.

		Academic achievements	SMA
Spearman's rho	Academic achievements	Correlation Coefficient	1.000
		Sig. (2-tailed)	.756
		N	197
SMA		Correlation Coefficient	-.022
		Sig. (2-tailed)	.756
		N	197

DISCUSSION: The findings of this study showed the association between social media addiction and academic performance among undergraduate nursing students in Mardan.

The result of this study showed that the social media use is prevalent among the students who participated in the study and the most frequently used platforms were WhatsApp and Facebook. Similarly, the participants reported using social media for both entertainment and educational purposes specifically sharing material and communicating with colleagues through messaging. Despite the widespread use of social media, statistical analysis showed a weak negative correlation between social media addiction and academic achievements ($r = -0.022$), which was not statistically significant ($p=0.756$). This suggests that although students frequently used social media, its association with academic performance was minimal.

Previous study showed that Internet addiction can negatively impact individual health and social well-being. It reinforces that internet addiction has been associated with social withdrawal and communication difficulties which can lead to an inability to communicate in the real world and, indirectly, affect academic performance and productivity(1). Furthermore, younger students, specifically college students are more likely to become addicted to smartphones or social media because of their greater exposure to and acceptance of modern technology(19,20).

Most of the studies have shown that higher levels of social media addiction are linked to problematic social media use and have a negative impact on academic performance (3).

However, although most students in this study acknowledged that social media could distract them from their studies, the association between social media addiction and academic performance was not statistically significant. This showed that students also used social media platforms for academic purposes, like sharing important materials and communicating with classmates, which may help them balance the potential negative effects of social media.

Similarly, previous studies showed that in younger population specifically college students' addictive nature of social media has become a major concern. The excessive use of technology may have a negative effect on academic, social, and psychological performance. This is because people

are drawn to the constant connectivity, seeking validation via likes and comments, and the fear of missing out (FOMO)(4).

In a related vein, the COVID-19 pandemic has altered most library services, increasing the reliance of patrons on electronic resources. Additionally, it was found that the students primarily supported their online learning via online databases, e-books, e-journals, and Internet resources (21).

Furthermore, research conducted on undergraduate nursing students in Sukkur showed that there is an association between general health, sleep quality, mobile phone overuse, social networking engagement, and internet addiction (17).

Finally, the result of this study indicates that social media use and addiction related behaviors are common among undergraduate nursing students, their direct impact on academic performance was limited.

CONCLUSION:

These findings suggest that, despite widespread use, no statistically significant relationship was identified between undergraduate nursing students' academic achievement and social media addiction. One possible explanation is that students utilize social media not only for entertainment but also for academic collaboration, communication, and resource sharing, which may help offset its negative effects.

Therefore, rather than completely restricting social media use, educational strategies should focus on promoting its responsible and productive use to enhance learning outcomes while minimizing potential distractions.

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