

## ORIGINAL ARTICLE

# Social Media Addiction and Its Association with Psychological Distress Among Paramedic Students at Ministry of Health Training Institute, Malaysia: A Cross-Sectional Study

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## ABSTRACT

**Introduction:** The rapid proliferation of social media has raised concerns about its potential adverse effects, mainly social media addiction, which is linked to various mental health issues such as depression, anxiety, and stress. **Objective:** This study examines the prevalence of social media addiction and its relationship with psychological distress among paramedic students at the Ministry of Health Training Institute, Malaysia. **Methodology:** A cross-sectional study was conducted with 398 paramedic students from Year 2 and Year 3, selected through simple random sampling. The Bergen Social Media Addiction Scale (BSMAS) and the Depression, Anxiety, and Stress Scale (DASS) were used for assessment. Data collection occurred over 12 months via Google Forms, with descriptive analysis and Mann-Whitney U tests performed using SPSS Version 29. **Results:** Most respondents were female (62.6%), with a mean age of 23.28 years (SD = 1.51). Most students spent five or more hours daily on social media (72.6%), with Instagram being the most popular platform (18.3%). Social media addiction was found in 20.6% of students. Addicted students reported significantly higher median scores for stress (15.00 vs. 3.00,  $p < .001$ ), anxiety (15.00 vs. 3.00,  $p < .001$ ), and depression (14.50 vs. 3.00,  $p < .001$ ). **Conclusion:** There is a significant association between social media addiction and increased psychological distress among paramedic students. These findings highlight the need for targeted interventions to address social media addiction and promote mental well-being in this population.

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characterized by compulsive use and an inability to control social media engagement despite its negative impacts on daily life (1). This issue is prevalent worldwide, with varying prevalence rates influenced by cultural values and classification schemes (2).

## INTRODUCTION

The rapid proliferation of social media has become a defining feature of contemporary society, particularly among younger demographics such as university students. While these platforms offer significant benefits, including enhanced connectivity and information sharing, there is increasing concern about the potential adverse effects of excessive social media use, mainly social media addiction. Social media addiction is

Research has consistently indicated a strong association between social media addiction and various negative mental health outcomes, including depression, anxiety, and psychological distress (3, 4). For instance, problematic social media use has been shown to correlate significantly with symptoms of depression, anxiety, and stress (4). Furthermore, specific patterns of social media use, such as excessive time spent and high emotional investment, have been linked to poor mental health outcomes, including disrupted sleep

quality and increased psychological distress (1, 5). In recent years, social media usage has become an integral part of the daily lives of university students, offering both connectivity and convenience. However, the time spent on these platforms has raised concerns about its potential impact on their psychological well-being. Social media usage among students in Malaysia, an average of 4-6 hours daily on social media. This high level of engagement was primarily concentrated on three major platforms—Facebook, WhatsApp, and Instagram (30).

The impact of social media addiction extends beyond mental health, influencing academic performance and daily activities. Studies have shown frequent social media use is associated with lower academic performance and significant impacts on health sciences undergraduates' daily activities (6). Factors contributing to social media addiction, such as the need for real-life relationship satisfaction, economic crisis, and psychological disorders, highlight the complex interplay between social media use and individual needs (7).

Paramedic students, due to the high demands of their academic and practical training, may be particularly vulnerable to social media addiction and its associated psychological impacts. The rigorous nature of their education, combined with the inherent stressors of their future profession, contributes to significant psychological distress (8, 9). Furthermore, socially anxious and lonely individuals, including students, are prone to using social media problematically, seeking social support online to compensate for the lack of in-person interactions (10).

Despite these recognized risks, there is a paucity of research specifically focusing on the prevalence of social media addiction and its psychological correlates among paramedic students in Malaysia. Understanding these dynamics is crucial for developing targeted interventions to promote mental health and well-being in this population. This study aims to fill this gap by examining the prevalence of social media addiction and its relationship with psychological distress among paramedic students in the Ministry of Health (MOH) Training Institute, Malaysia. Doing so seeks to provide empirical evidence to inform the development of preventive and therapeutic strategies within educational and clinical settings (2, 3).

Reflecting on these findings, it's evident that prolonged social media usage has more far-reaching consequences than we might initially assume. It not only connects students to their peers but also exposes them to stressors that can detrimentally affect their mental health. These insights underscore the need for creating awareness and interventions aimed at promoting mindful social media use, reducing addiction, and addressing issues such as FOMO and cyberbullying that are becoming common in the digital landscape.

In summary, this study addresses the urgent need to understand the interplay between social media addiction and psychological distress in paramedic students, thereby contributing to the broader discourse on mental health in the digital age. By leveraging insights from existing literature, it aims to elucidate the specific challenges faced by this unique student population and offer pathways for enhancing their academic and personal well-being (4, 11, 12).

## **Methodology**

### **Study Design**

This quantitative cross-sectional study employed a questionnaire to collect data from paramedic students. Each participant completed the questionnaire once during the study period, with specific inclusion and exclusion criteria ensuring suitable participant selection.

### **Study Population**

The study involved paramedic students from the Ministry of Health Malaysian Training Institute, specifically Year 2 and Year 3. Year 1 students were excluded due to the COVID-19 pandemic. Participants were chosen using simple random sampling. Each student was assigned a unique number, and Microsoft Excel was used to select the sample size from this list randomly.

### **Participants Inclusion/Exclusion Criteria**

The inclusion criteria for this study were Year 2 and Year 3 Diploma paramedic students from the Ministry of Health Malaysian Training Institute who used social media and were willing to participate in the survey voluntarily. The exclusion criteria were paramedic students who had a previous diagnosis or treatment for psychiatric disorders and those undergoing intensive psychiatric treatment or therapy at the time of the data collection.

### **Research Instrument**

The questionnaire included three sections: Section A, Section B, and Section C. Section A collected socio-demographic data, including gender, age, ethnicity, year of semester, daily social media usage, and preferred social media platforms. Section B assessed social media addiction using the Bergen Social Media Addiction Scale (BSMAS) developed by Andreassen, Pallesen (13) to determine the extent of social media addiction. Adapted from the earlier Bergen Facebook Addiction Scale (BFAS), it incorporates six items that reflect the core addiction components: salience, mood modification, tolerance, withdrawal, conflict, and relapse (14, 15). The BSMAS has demonstrated high internal consistency, with a Cronbach's alpha of 0.88 in its original study and similar reliability scores in subsequent research (13, 16). Its psychometric properties have been validated through

various methods, including Item Response Theory (IRT) analysis, which confirmed the scale's reliability and discrimination capacity across different levels of addiction (17). The BSMAS has also been validated in multiple cultural contexts, supporting its applicability and reliability in diverse populations (18, 19). Cut-off scores for addiction have been proposed, with a cut-off score of 24 used to identify potential addiction for distinguishing between non-addictive and addictive social media use (13, 16).

The Depression Anxiety Stress Scales-21 (DASS-21) is a shortened version of the original 42-item scale (DASS-42) developed by Lovibond (20) as a concise measure of the emotional states of depression, anxiety, and stress that includes seven items for each of the three subscales. The DASS-21 has demonstrated high internal consistency, with Cronbach's alpha values typically exceeding 0.70 for the overall scale and each subscale, indicating good reliability (21, 22). Its construct validity is well-supported through factor analyses, confirming the three-factor structure, and it has shown good convergent validity with other similar measures (22). The DASS-21 has been validated in various languages and cultural settings, further supporting its reliability and validity (23, 24). This instrument is widely used for assessing depression, anxiety, and stress, providing valuable insights into the psychological well-being of diverse populations.

### Data Collection

Data collection began after receiving approvals from the Malaysian Ministry of Health Training Institute and the National Medical Research Register (NMRR). The survey was distributed to 474 randomly selected paramedic students using Google Forms, accessible via a link shared on WhatsApp. Participants had 30 minutes to complete the questionnaire. The study period was 12 months, from November 2022 to October 2023.

### Data Analysis

Descriptive analysis was performed on the participants' socio-demographic characteristics, and normality tests were conducted to determine the appropriate measure of central tendency using SPSS Version 29. Social media addiction was treated as a categorical variable, while scores for stress, anxiety, and depression were treated as continuous variables. Mann-Whitney U tests analyzed the relationships between social media addiction with stress, anxiety, and depression. A p-value < 0.05 was considered statistically significant.

### Ethical Considerations

Approval was obtained from Malaysia's Medical Research Ethics Committee (MREC) via the NMRR, has approved this research protocol – NMRR ID-22-

02437-19E (IIR) and authorization was secured from the Malaysian Ministry of Health Training Institute. All participants were assured confidentiality and anonymity, with written consent obtained through a Google Form. The form outlined the study's nature and objectives, emphasized voluntary participation, and assured participants of their right to withdraw at any time. Data were stored in a password-protected database and connected solely to a study identification number. After data collection, the Google Form link was disabled, and the data were recorded offline. Data on the computer were copied to compact discs (CDs) and erased from the computer, with CDs stored securely for at least three years before destruction.

## RESULTS

This study involved a questionnaire distributed to 474 paramedic students at the Ministry of Health Malaysian Training Institute, with 398 students completing and submitting the questionnaire, resulting in a response rate of 84%. The following sections detail the socio-demographic characteristics, daily time spent on social media, and favorite social media platforms among these students (see Table I).

**Table I: Socio-demographic Characteristics, Daily Time Spent on Social Media, and Favorite Social Media Platforms of Paramedic Students (n = 398)**

Characteristic	n (%)	Mean ± SD
<b>Gender</b>		
Female	249 (62.6)	
Male	149 (37.4)	
<b>Age</b>		
		23.28 ± 1.51
<b>Ethnicity</b>		
Malay	391 (98.2)	
Indian and Others	7 (1.8)	
<b>Education Year and Semester</b>		
Year 2 Semester 1	103 (25.9)	
Year 2 Semester 2	77 (19.3)	
<b>Year 3 Semester 1</b>	126 (31.7)	
Year 3 Semester 2	92 (23.1)	
<b>Number of Hours Spent on Social Media Daily</b>		
< 1 hour	1 (0.3)	
1 to 2 hours	18 (4.5)	
3 to 4 hours	90 (22.6)	
≥ 5 hours	289 (72.6)	
<b>Favorite Social Media Platforms</b>		
Instagram	361 (18.3)	
WhatsApp	348 (17.6)	
TikTok	293 (14.8)	
<b>Twitter</b>	245 (12.4)	
Facebook	220 (11.1)	
YouTube	211 (10.7)	
Telegram	153 (7.7)	
Messenger	108 (5.5)	
Others	34 (1.7)	
WeChat	3 (0.2)	
<b>Social Media Addiction Level</b>		
Addicted	82 (20.6)	
Not Addicted	316 (79.4)	

### Socio-demographic Characteristics

The participants were predominantly female students (62.6%), with males making up 37.4% of the participants. The mean age of the students was 23.28 years (SD = 1.51). Most participants were Malay (98.2%), with a small representation of Indian and other ethnicities (1.8%). Students were distributed across different academic years and semesters, with 25.9% in Year 2 Semester 1, 19.3% in Year 2 Semester 2, 31.7% in Year 3 Semester 1, and 23.1% in Year 3 Semester 2.

### Daily Time Spent on Social Media

The study revealed significant engagement with social media among paramedic students. Most students reported spending five or more hours daily on social media (72.6%). Smaller proportions of students spent 3 to 4 hours (22.6%), 1 to 2 hours (4.5%), and less than 1 hour (0.3%) on social media each day.

### Favorite Social Media Platforms

Instagram emerged as the most popular social media platform, used by 18.3% of the students, followed closely by WhatsApp (17.6%) and TikTok (14.8%). Other popular platforms included Twitter (12.4%), Facebook (11.1%), and YouTube (10.7%). Less frequently used platforms were Telegram (7.7%), Messenger (5.5%), other unspecified platforms (1.7%), and WeChat (0.2%).

### Prevalence of Social Media Addiction

The BSMAS was used to assess social media addiction among the students. The results showed that most students (79.4%) were not addicted to social media, scoring 24 or below. However, 20.6% of the students scored above 24, indicating social media addiction.

### Level of Social Media Addiction

The BSMAS was also employed to comprehensively assess the extent of social media addiction among paramedic students. This scale evaluates various dimensions of social media addiction, including cognitive preoccupation, compulsive use, and the impact of social media on daily life. The distribution of responses across the six items of the BSMAS reveals significant insights into the students' social media usage patterns and their potential implications on their mental health and academic performance (see Table II).

A considerable proportion of students (54.5%) reported "often" thinking or planning about their social media usage, while an additional 14.1% did so "very often." This proportion indicates a high cognitive preoccupation with social media among the students. Similarly, a substantial number of students (56.8%) felt the urge to use social media "often," and 16.1% felt this urge "very

**Table II: Distribution of BSMAS Responses Among Paramedic Students (n=398)**

BSMAS items	n (%)				
	Very rarely	Rarely	Sometimes	Often	Very often
1. Thinking/planning about social media usage too much.	14 (3.5)	31 (7.8%)	80 (20.1%)	217 (54.5%)	56 (14.1%)
2. Feeling the urge to use social media more.	8 (2.0%)	28 (7.0%)	72 (18.1%)	226 (56.8%)	64 (16.1%)
3. Use social media to forget about personal problems.	8 (2.0%)	26 (6.5%)	70 (17.6%)	219 (55.0%)	75 (18.8%)
4. Not successful in cutting down on social media usage.	4 (1.0%)	40 (10.1%)	90 (22.6%)	206 (51.8%)	58 (14.6%)
5. Feeling restless if social media usage is prohibited.	20 (5.0%)	39 (9.8%)	107 (26.9%)	175 (44.0%)	57 (14.3%)
6. Extensive social media use until negatively impacted job/studies.	40 (10.1%)	34 (8.5%)	173 (43.5%)	116 (29.1%)	35 (8.8%)

often," suggesting a solid compulsion to engage with social media platforms.

The use of social media as a coping mechanism to forget personal problems was reported by 55.0% of the students "often" and 18.8% "very often." This high frequency suggests that social media is frequently used as an emotional escape. Additionally, more than half of the students (51.8%) acknowledged that they were "often" unsuccessful in cutting down their social media usage, with 14.6% reporting this "very often," highlighting difficulties in regulating their social media habits.

Feelings of restlessness when unable to use social media were experienced "often" by 44.0% of the students and "very often" by 14.3%, indicating withdrawal symptoms associated with social media use. Furthermore, 43.5% of the students admitted that their extensive use of social media "sometimes" negatively impacted their job or studies, with 29.1% experiencing this impact "often" and 8.8% "very often."

**Relationship between Psychological Distress Symptoms and Social Media Addiction among Paramedic Students**  
The findings, summarized in Table III, reveal significant differences in the median scores of stress, anxiety, and depression between students who are not addicted to social media and those who are. Students classified as addicted to social media exhibit markedly higher median scores for all three psychological distress symptoms compared to their non-addicted counterparts.

For stress, the median score for non-addicted students is 3.00, whereas for addicted students, it rises to 15.00, with the Mann-Whitney U test yielding a value of 2938.50 and a p-value of less than .001, indicating statistical significance. Similarly, the median anxiety score for non-addicted students is 3.00, while addicted students have a median score of 15.00. The Mann-Whitney U

test for anxiety has a value of 3020.00 and a p-value of less than .001, underscoring a significant difference.

Depression scores follow the same pattern, with non-addicted students reporting a median score of 3.00 compared to 14.50 for addicted students. The corresponding Mann-Whitney U test yields a value of 3189.50 and a p-value of less than .001, confirming the statistical significance of the observed difference.

**Table III: Relationship between Psychological Distress Symptoms (Stress, Anxiety, Depression) and Social Media Addiction among Paramedic Students**

Variables	Stress			Anxiety			Depression		
	Median	U	p value	Median	U	p value	Median	U	p value
Not Addicted	3.00			3.00			3.00		
Addicted	15.00	2938.50	*	15.00	3020.00	*	14.50	3189.50	*

\*p < 0.001

**Table IV: Distribution of DASS 21 (Depression, Anxiety, Stress) scale among paramedic students**

Scale	Depression (n (%))	Anxiety (n (%))	Stress (n (%))
Normal	206 (51.8)	185 (46.5)	235 (59.0)
Mild	42 (10.6)	25 (6.3)	15 (3.8)
Moderate	17 (4.3)	41 (10.3)	44 (11.1)
Severe	77 (19.3)	18 (4.5)	72 (18.1)
Extremely severe	56 (14.1)	129 (32.4)	32 (8.0)

Median depression score: 5.00      Median anxiety score: 6.00      Median stress score: 6.50

## DISCUSSION

The study aimed to examine the prevalence of social media addiction and its relationship with psychological distress among paramedic students at the Ministry of Health Training Institute in Malaysia. This research is highly relevant, given the increasing integration of social media into daily life and its potential adverse effects, particularly among younger populations like university students. The study addresses a critical gap in the literature by focusing on paramedic students, a group that may experience unique stressors due to the demanding nature of their training and future profession.

The findings indicate an important prevalence of social media addiction among paramedic students, with 20.6% of participants classified as addicted. This finding is concerning, given the high levels of stress, anxiety, and depression reported among addicted students compared to their non-addicted counterparts. The median scores for psychological distress symptoms were markedly higher among the addicted group, with statistically significant differences confirmed through Mann-Whitney U tests.

The results suggest a strong association between social media addiction and heightened psychological distress. These results align with existing literature indicating that excessive social media use can exacerbate mental health issues (3, 4). The high levels of stress, anxiety, and depression observed among addicted students could be

due to the compulsive nature of social media use, which disrupts academic performance and personal life (1, 5, 6).

Recent research indicates that the significant association between social media addiction and psychological distress – namely depression, anxiety, and stress – may be attributed to several vital mechanisms. Social media platforms often foster social comparison, leading users to compare their lives with the curated and idealized representations of others, which can diminish self-esteem and heighten feelings of inadequacy and depression (25). The phenomenon of Fear of Missing Out (FOMO), driven by the constant updates on social media, exacerbates anxiety and stress as individuals feel compelled to stay continuously connected and informed (26).

Additionally, excessive social media use, especially before bedtime, disrupts sleep patterns, contributing to poor sleep quality, which is a well-established risk factor for depression and anxiety (27, 28). Furthermore, the prevalence of cyberbullying on social media platforms introduces significant stress and anxiety, particularly among younger users who may be more vulnerable to online harassment (29). These mechanisms collectively elucidate why individuals addicted to social media exhibit higher levels of psychological distress compared to those with controlled usage. Understanding these dynamics is crucial for developing targeted interventions aimed at mitigating the adverse mental health impacts of social media addiction.

The study also highlights that social media is often used as a coping mechanism for personal problems, which may lead to a vicious cycle of addiction and increased psychological distress (10). The findings underscore the need for targeted interventions to mitigate the negative impacts of social media addiction, particularly within the educational context of paramedic training.

## Limitations and Future Research

Despite its strengths, the study has limitations. The cross-sectional design precludes the establishment of causality. Longitudinal studies are needed to explore the temporal relationships between social media addiction and psychological distress. Additionally, the reliance on self-reported data may introduce bias. Future research should incorporate objective measures of social media use and mental health outcomes.

Furthermore, exploring the underlying mechanisms driving social media addiction and its psychological impacts can inform more effective intervention strategies. Given the cultural context of the study, comparative research across different cultural settings could provide deeper insights into the role of cultural factors in social media addiction (2). However, the same study can

be done exclusively among nursing students. As a researcher, the number of nursing students in Malaysia is large and can include government-sponsored and private students. The results of the study will be obtained comprehensively (31).

## CONCLUSION

This study provides crucial insights into the prevalence of social media addiction and its association with psychological distress among paramedic students in Malaysia. The findings highlight the urgent need for preventive measures and support systems to address social media addiction and promote mental well-being in this population. By understanding and addressing these issues, educational institutions may enhance their students' academic and personal well-being, ultimately contributing to better outcomes in their professional careers.

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## Conflict of Interest

The authors declare no conflict of interest in this study.

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