

Scrolling into Sadness: A Correlational Study Between Social Media Addiction and Depression among University Students

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ARTICLE INFO

Article history:

Received 6 July 2026

Revised 20 August 2026

Accepted 20 August 2026

Online first 15 September 2026

Published 15 September 2026

Keywords:

Social Media

Social Media Addiction

Depression

University Students

ABSTRACT

Social media have rapidly evolved, resulting in drastically changed communication behaviours and daily practices, especially among college students. Social media platforms offer a gateway for connectedness, connection, and information generation; but overuse primarily has been accompanied by psychological problems. This research intends to analyze and investigate the link between social media addiction levels and depression rates among university students. Researchers carried out a quantitative cross-sectional study by distributing a structured questionnaire to 440 students enrolled from all seven faculties in Universiti Teknologi MARA, Perlis Branch. Correlation analysis of the data showed a statistically significant, and positive correlation, between social media addiction and university students' depression. The study points out that targeted interventions, digital well-being awareness and mental health support in educational institutions are needed.

1. INTRODUCTION

Social media has revolutionized the way people communicate in society. It was, in fact, the influence of this evolution that played an influential and disruptive role in the shaping of social identity, interaction skills, and learning skills (especially among youth). Social media began with primitive applications, Friendster and MySpace first, which has grown significantly since the development into Facebook, Instagram, TikTok, X, and Threads applications today (Fadhel & Al Shamma, 2025). All of these apps and social media platforms have become a major part of modern life, to an extent. Worldwide, the volume of users of social media is in a state of exponential growth. Every day, billions connect with numerous social media applications (Raffoul et al., 2023). This broad adoption altered modes of communication alongside personal behavioural expectations (Zulfiqar et al., 2024). According to Khan (2025), as well as Feng and Qi (2024), increased penetration of internet, mobile accessibility, and digital literacy led to the strong growth of the use of social media in Asian countries. Asian countries also exhibit the most engaging engagement rate globally, and the peak users are the young adults (Chan, Lee & Chen, 2024). Interestingly, social media users view social media networks as a means of reaching a large trend-oriented public (Luttrell, 2025). Overall, social media platforms not only allow users to relate to trends, but to engage with the audiences as well (Luttrell, 2025; Mugil & Kenzie, 2025) to create more content. Another thing was the emergence of content creators and so-called influencers. Their opinion, action, and words received serious attention from other social media users. The mobile technology has advanced, and the borderless internet connections have played a vital role in the growth of social media and its users (Gobang, 2024). This progression was so significant that it was well seen by most people (including students), it became a part of their daily routine. Technology is certainly affecting how communication is configured, how academic performance is measured, loyalty to study, lifestyle, and mental-physical health (Alfraih, 2026; Rehman et al., 2023). In general, social media has been one of the main sources of activity that young adults and students use to collaborate, amuse, and socialize with each other. The proportion of these massive changes is disturbing in the context of the mental health of the students who are interacting actively on social media. Unquestionably, the high usage by young people aged 15–25 years of social media consumption was highly alarming (Ajayi & Kadiri, 2025; Al-Samarraie et al., 2022). In addition, the most important point is that the evolution of social media not only makes learning more efficient, promotes the consumption of entertainment choices and self-expression by different means, but also creates an alert in behavior that can become addicting (Bueso & Kim, 2025; Zhakin, 2023). Moreover, this habit takes the form of obsession and breaks an individual's normal daily life. Zhakin (2023) identifies young people as a vulnerable group because they are developing their social identity and self-awareness. Also, Islam (2024) and Ting et al. (2023) define students as a susceptible group, with both academic pressure and the heavy dependency on communication by digital means which lead them to become addictive.

2. LITERATURE REVIEW

Unquestionably social media addictive behavior leads to an inability to regulate use, concern about digital activities and impact on daily life (Świątek et al., 2023). In the context of communication studies, we consider addictive behaviour in relation to the use of social media as social media addiction. Panova and Carbonell (2022) define social media addiction as an individual who has lost control over their own use of social media platforms. The addiction too may become a matter for severe attention toward online activities and lead to feelings of withdrawal, irresponsibility, and social isolation when not connected, or cut off from activities done online (Remon, 2024). This addiction had a role in the change in mental and emotional

health well-being. Novel research that crosses the bridge between communication, education and psychology indicates that social media addiction has become a psychological problem leading to anxiety, loneliness and low self-worth has also been identified (Kalınkara & Talan, 2025). More than anything else, depression has now emerged as an important issue, especially for students and youth. Milind (2025) demonstrates with the mechanisms of an excessive display of selective content, comparison, cyberbullying and poor sleep pattern to cause the depressive symptoms. Existing literature on online social media addiction and psychological impact is often not appropriate for Asian context. Gordesli et al. (2024) suggest that factors such as collectivism and social expectations influence the impact of social media on mental health. Furthermore, due to the significant emergence of the newest social media platforms, it is clear that new empirical data should be obtained, which addresses the fact that more recent trends in social media use are in need of consideration and that it remains necessary to assess their effect on mental health.

Hence, it is the goal of this paper to highlight the relative strength and significance of this relationship to furnish empirical data that can help to define interventions and digital well-being strategies on mental health in higher education sectors. For more than a few decades, social media has experienced a fast, sea change. Evolution has transformed communication and interaction among people all over the world. Social media sites started out as 'basic' networking and profile building tools. However, as the development of new media has progressed, applications gave rise to more complex networks comprising interactive, chatbox applications (Møller et al., 2026; Chen, Chen & Xia, 2022). This evolution has widened the perspective of social media, having transitioned to a more holistic digital ecosystem that brings together forms of communication, entertainment, information dissemination, content generation, and commercial activity. The world around it is seeing unprecedented levels of social media adoption, as for example billions of active users are using social media each second of the day (Hasanuzzaman et al., 2025). The changes that we have seen, however, have been facilitated through technology, enhanced internet access, and a desire to integrate social media updates (Hasanuzzaman et al., 2025; Zannat & Mahmud, 2023). Particularly, youths, especially students engage in this lively task for their everyday needs such as educational interests and entertainment, for enjoyment, or satisfying self-esteem, are engaged in this actively (Mat Hussin, 2022). These young users are the most active users of the applications as they are most familiar with the features and trends and application extension. Social media use is particularly high within the Asian region.

Among other contributors had been rapid urbanisation and technological advancement, along with smartphone penetration (Zheng, Zhang & Liu, 2025). Undoubtedly, social media uses, updates, and activities turned into people's lifestyles and habits and became routine. Hence, the impact of social and new media development on psychological states of individuals is one of the most extensively mentioned areas particularly to youths. The Social Media Addiction construct has received attention in Behavioral science disciplines. Mbioh (2025) describes social media addiction as a behavioural addiction in which compulsive use, control-deficient and addictive effects persist regardless of any harmful outcomes, even without a formal clinical definition. This effect is similar to other psychological addictions, such as internet gaming disorder and impulsive online purchases, as well as to behaviours to become both psychologically attached and motivated in order to obtain a desired outcome (Mosto, Barbieri & Rogier, 2026). İnce (2025) affirmed this line of reasoning by indicating that the social media addiction research has been widely acknowledged as a major psychological and social scourge with an important impact on human welfare.

Given the warm, exhilarating, immediate feedback-returning nature of social media, they have been rapidly affecting screen time (Montag & Elhai, 2023). However, they found out very late how damaging those behaviours were for mental health, how undermining they caused to interpersonal relationships and the quality of life. Consequently, people were affected in work productivity, emotional well-being, and physical well-being without anyone realising. Surprisingly, the group that is most exposed into this addiction is the

young teenager and adolescent between 15 and 25 years old, which, to the extent that is happening at all during the golden age of social identity development (Carcelén-García et al., 2023). Moreover, the school age majority of the young population were high school or university students. These social media addictions involuntarily affect the students self-confidence, self-esteem and academic performance. Thus, it is significant to comprehend the relationship between these addictions and the existing conditions of mental health, particularly relevant to students because they are in the developing stage and, in general, were fragile and subject to the harmful side effects of social media addiction.

More recent works have built in evidence that the correlation between the major social media addiction and depression was found (Wang et al., 2025). Clearly defining depression provides the framework for understanding this phenomenon. Depression degrades one's emotional well-being and extinguishes the desire to engage in everyday life (Yavari et al., 2023). Depression is known to influence one's behaviour to a negative extent. Based on a research report by Luo et al. (2025), social media addiction is one of the major agents that have an effect on depression among individuals.

Tong (2025) identifies social comparison as the principal mechanism. It is undeniable that social platforms often display carefully curated, idealised portrayals of users', influencers', and content creators' lives as seen through social media (Gammarano et al., 2025). All of which can result in social comparison and create desire in comparison, thus requiring one to compare himself/herself with other individuals. The idea of upward social comparison helps keep people feeling inferior and low self-esteem and thus promoting depression. Similarly, Fear of Missing Out (FoMO) exacerbates emotional distress by inducing feelings of exclusion from social experiences as well as online phenomena (Mutjaba, Khan & Zeshan, 2025; Gao et al., 2023). As a result, the occurrence of FoMO can be 'phubbing', or ignoring others in social situations, in order to concentrate on monitoring their phones (Albalá-Genol et al., 2025).

This behavior harms on-the-ground relationships and causes social exclusion which is also an important driver for the onset of depression. To some degree, another of the factors contributing to depression via online activities is cyberbullying and negative online contact (Wrights & Wachs, 2023). Unlike traditional forms of bullying, cyberbullying and negative online interaction are continuous and anonymous. The bullies pretended to be fake accounts to attack and create havoc. They all caused significant damages to the target population, because it is the online mistreatment that often generated anxiety, solitude and symptomatology depression (Maurya et al., 2022). In addition to that, Goyal (2025) stated the impact of cyberbullying often results into some sleep disturbance, because the users constantly scroll through social media at the night to stay up late looking for new attacks, and it in turn causes a long-term sleep deprivation and extreme emotional suffering producing headache and gastrointestinal problems. Importantly, although social media alone is by no means dangerous and it is not harmful, the pattern of addictive use will surely carry with it an elevated risk that will in particular adversely affect mental health outcomes.

3. METHODOLOGY

3.1 Research Design

The research design used in this present study used a quantitative cross-sectional methodology with focus on the association between social media addiction, independent variable and depression (dependent variable) and university students. It is appropriate to use a cross-sectional design, since it represents data at one point in time, to detect patterns among constructs and the association of variables. It is also based on

correlational design and aims to discern the quality and direction with which an independent variable (social media addiction) is related to the dependent variable (depression). This method facilitates empirical investigation while preserving ecological validity in real university environments. All ethical approval is obtained from the Research Ethics Committee of the Universiti Teknologi MARA (UiTM), which granted this research (Ref: REC/555/2025).

3.2 Participants and Setting

The study was carried out at Universiti Teknologi MARA Perlis (UiTMPs). This study utilizes stratified sampling techniques including the target population of undergraduate students of seven (7) faculties from different academic backgrounds whose characteristics can be generalized to other faculties at the institutional level. 440 respondents responded to the study. Such a sample size is deemed appropriate for statistical analysis, especially on correlation studies. Stratified sampling approach was employed to obtain proportional representation from each of the (7) faculties.

3.3 Instrument

Information was collected through a structured questionnaire. The questionnaire consisted of three main parts, which were:

Demographic Information (Section A)

This part provided information about the respondents: gender, age, faculty, frequency of use of social media per day and preferred social media platforms.

Section B: Social Media Addiction

Social media addiction was assessed using an adapted version of the validated Social Media Addiction Scale (SMAS) with a Cronbach alpha of 0.80. There are 14 items of the scale developed by Al-Menayes (2015). The survey participants responded with 5 points using the Likert scale range, from 1 (Strongly Disagree) to 5 (Strongly Agree).

Section C: Depression Level

Depression was measured using an adaptation of the validated Zung Self-Rating Depression Scale that had a Cronbach's alpha value of 0.88. The scale was developed by Zung (1965) and consists of 20 items. Respondents' responses were rated with a 4-point Likert Scale from 1 (a little of the time) to 4 (most of the time).

3.4 Data Collection Procedure

Ethical clearance from the faculty research board was sought before the researchers conducted a study. We explained to participants the aims of the study, protocols for maintaining data confidentiality, and the voluntariness of participation. Informed consent was obtained from all participants prior to data collection. We administered questionnaires in person in-class, as well as via Google Forms to make them accessible. The team finished the data collection stage in three weeks. The researchers ensured participant anonymity and their use only for academic research data was ensured. All data was checked by the researchers for accuracy before any analysis occurred).

3.5 Data Analysis

Statistical analyses in this study were performed using SPSS Version 27.0. Descriptive statistics were computed that summarised demographic characteristics and variable distributions in terms of means and frequencies. Data for both variables were checked with the Kolmogorov–Smirnov test ($p > .05$). Hence, this study statistically analysed the relationship between social media addiction and levels of depression using Pearson's product-moment correlation coefficient, r .

4. RESULTS

This section is compulsory. Demographic information for the sample (gender, age, faculties, social media use, and preferable platforms) was collected and coded to characterize the sample.

Table 1: Demographic Profile of Respondents (N = 440)

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	185	42.0
	Female	255	58.0
Age	18–20 years	265	60.2
	21–23 years	102	23.2
	24–25 years	73	16.6
Faculty	Faculty of Sports Science and Recreation	200	45.5
	Faculty of Applied Science	80	18
	Faculty of Computer and Mathematical Science	40	9.1
	Faculty of Architecture, Planning and Surveying	35	8.0
	Faculty of Plantation and Agrotechnology	35	8.0
	Faculty of Accountancy	25	5.7
	Faculty of Business and Management	25	5.7
	< 2 hours/day	5	11.4
Social Media Usage	2–4 hours/day	185	42.0

Variable	Category	Frequency (N)	Percentage (%)
Preferable Social Media Platforms	5–7 hours/day	165	37.5
	> 7 hours/day	85	9.1
	TikTok	195	44.3
	Instagram	140	31.8
	Facebook	0	0
	X	15	3.4
	Thread	90	20.5

Table 1 shows a sample of 440 undergraduates at UiTMPs; a higher proportion of female than male survey respondents (58.0% and 42.0%, respectively). A majority of the sample was from age 18 to 20 (60.2%), confirming that this was a much younger population of students. Regarding academic background, respondents represented seven (7) faculties, with the Faculty of Sports Science and Recreation (45.5%) having the most participants. The majority of students reported that they spent between 2 and 4 hours (42.0%) to 5 and 7 hours (37.5%) on social media usage per day, with a high percentage of over 7 hours per day (19.3%), reflecting heavy use of social media. TikTok was the platform that students most preferred (44.3%), followed by Instagram (31.8%) and Threads (20.5%), which indicated that students are largely visual-oriented, algorithm-based. Descriptive statistics were computed to determine the mean level of social media addiction and depression among respondents.

Table 2: Descriptive Statistics of Study Variable

Variable	Mean (M)	Standard Deviation (SD)	Level
Social Media Addiction	3.94	0.80	High
Depression	3.53	0.65	High

Table 2 shows that the overall average level of social media addiction among UiTMP students was observed to be high ($M = 3.53$, $SD = 0.80$), this shows that the students showed high dependency and participation in social media and is indicative of compulsive usage trend in the sample. Likewise, the average depressive syndrome severity was also high ($M = 3.53$, $SD = 0.65$), which means that a substantial proportion of respondents' experiences elevated depressive syndromes. The concurrent high levels were found for both predictors and the finding in both cases suggests a worrying tendency, and it should be looked for the relationship of the two. A Pearson correlation analysis was performed to explore the relationship between social media addiction and depression.

Table 3: Pearson Correlation between Social Media Addiction and Depression

Variables		Depression
Social Media Addiction	Pearson Correlation	.722**
	Sig. (2-tailed)	.000
	N	440

Note: ** $p < 0.01$ (sig. 2-tailed)

Table 3 provides a strong and statistically significant positive relationship between social media addiction and depression ($r = .722^{**}$, $p < 0.01$). The outcome confirms that having more addiction to social media is correlated with more depressive symptoms in university students. The main three findings were: (1) High social media addiction among university students ($M = 3.94$), (2) High levels of depression among university students ($M = 3.53$) and (3) Strong and significant positively significant relationship between social media addiction and depression ($r = .722^{**}$, $p < 0.01$). Results also demonstrated that not only were university students highly engrossed with social media activities, they were also suffering from the highest level of psychological distress.

5. DISCUSSION AND CONCLUSION

This study had revealed a strong and positive relationship between social media addiction and depression among university students at UiTM Perlis Branch ($r = .722^{**}$). This indicates that students who experience higher level of social media addiction are markedly more likely to exhibit elevated levels of depressive symptoms.

In addition are the relationship strength exceeds the conventional threshold of .50 for strong association, social media addiction serves as a substantial correlate of psychological distress within student population. Inevitably, this study result was aligned with prior empirical literature investigating mental health among tertiary students in Malaysia. Specifically, recent findings by the Global Journal of Public Health Medicine (2024) confirmed a strong correlation between social media addiction and depressive symptoms among Malaysian university students ($r = .671^{**}$) which explains that social media overuse is definitely a critical public concern for Malaysian youth rather than just a minor distraction. Beyond the local context the present findings corroborate broader global evidence. Previously, a study by Liao et.al, (2025) and Sheng et.al, (2023) also sync the concurrent intensity of both variables indicates a possible relationship between them by which excessive use of social media increases emotional vulnerability. This strong association further indicates that students experiencing depression are most frequently linked to social media addiction.

Moreover, the results also align with study by Taha et.al, (2023) which documented a statically significant positive relationship between social media addiction and depression ($r = .430^{**}$, $p < .01$), this study was also conducted among the undergraduate students in Malaysia. Another study by Shanshal and Al Qazaz (2024) proved that excessive social media consumption correlates directly with the heightened depressive states in university. On top of that, another study also found that higher level of social media consumption leads to a higher level of depressive symptoms especially among adolescents in Malaysia (Victor et.al, 2024).

This further extends the value of the study by aligning with Social Comparison Theory (Festinger, 1954) as noted by Vogel et al. (2014), which posits that people assess their worth by considering others against oneself. Social media sites increase upward comparison as users are exposed to curated and idealised content that can result in feelings of unworthiness and emotional pain. According to Uses and Gratifications Theory (Katz et al., 1973) although users are interested in entertainment and belonging online, the idea that the virtual experience can have the opposite effect (Whiting & Williams, 2013) on the individuals based on the role of social experiences as well as the way in which they use or create the internet can drive them to use their resources to engage in maladaptive responses as it encourages a shift from self-identification of oneself as a user and toward acceptance of digital validation rather than physical emotional needs.

The study fits in with the FoMO framework as people experience increased anxiety and use of social media, driven by an interpretation of others living more fulfilling lives, and social media use driven compulsivity (Tandon et al., 2025). Not participating in or partaking in the online activities, there may be depression, sadness, and an anxious state of mental health well-being. Then all of it will build up and build addiction to the social media platforms and content to keep up their relevance and validation from their new friends online. Contextually, TikTok and Instagram as visual-driven platforms fuel these psychological mechanisms further. These are the result of using an algorithm-based platform, which is algorithm-driven towards high engagement (Mastantuono, 2024). The Mastantuono study relates to the social media platform of choice by the students in this study, with TikTok (44.3%) and Instagram (31.8%) being most used. These platforms tend to encourage non-stop scrolling, and that scrolling behaviour can lead to emotional overload or reduced self-regulation (Amiri, 2025). Overall, the findings indicated that social media addiction is not just a behavioural habit but a potent psychological risk factor which is strongly associated with developing depressive symptoms (especially among university students). This study highlights a strong correlation between social media addiction and depressive symptoms among university students particularly at UiTM Perlis Branch.

The strong magnitude of this correlation demonstrates that compulsive social media use is not merely a benign distraction but a crucial issue that correlate with psychological distress among the students. What's more is that excessive social media engagement is also an alarming concern and its psychological impact in the new media era as reflected by the study. Social media addiction is strongly associated with growing depressive symptoms, underscoring the need to consider digital behaviours as a component of student mental health programs. Finally, this study added empirical evidence from a Malaysian university context to the literature. This highlights the need for interventions on the part of institutional, educational, and policy-level actors in the promotion and design of a healthier digital lifestyle among users of social media. Future studies are recommended in identifying the level of social media addiction and depression among the university students as well as the relationship between social media addition, depression and academic performances. Other than that, a qualitative method is also suggested to be used in the future studies to get an in-depth result of understanding the relationship between social media addiction and depression.

6. ACKNOWLEDGEMENTS/FUNDING

This section is compulsory. The following is an example of an acknowledgement statement:

The authors are grateful to **UiTM Perlis Branch** for the institutional support provided during this research. We would like to thank the student participants for their cooperation and the peer reviewers whose comments will help improve the quality of this work. No specific funding was received for this study.

7. CONFLICT OF INTEREST STATEMENT

Authors declare there is no conflict of interest for this study.

8. AUTHORS' CONTRIBUTIONS

Ellail Ain Mohd Aznan: Conceptualisation, investigation and writing-original draft; **Siti Amalina Mohd Yazid:** Methodology, and formal analysis; **Ahamd Fikri Mohd Kassim:** Formal analysis, and validation; **Harith Rusydin Abdul Rahman:** Writing- review and editing, and validation, **Mohamad Firdaus Ahmad:** Writing- review and editing, and validation, **Nurhidayah Yaakop:** Writing- review and editing, and validation.

9. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this work, the author(s) used Grammarly Premium in order to review the grammatical error. After using this tool/service, the author(s) reviewed and edited the content as needed and took(s) full responsibility for the content of the publication.

10. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

i. Data included in the article:

All data generated or analysed during this study are included in this published article

11. ETHICS STATEMENT

This study was reviewed and approved by the Institutional Ethics Committee of Universiti Teknologi MARA Malaysia (Approval No: REC/555/2025). All procedures involving human participants/animal subjects were in fulfilment of the ethical standards of the 1964 Helsinki Declaration. Informed consent was obtained from all participants, and data anonymity was strictly maintained throughout the study.

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