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Research Paper

The Relationship Between Social Media and Mental Health Among University Students

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ABSTRACT

This study examines the potential connection between social media activity and various mental health indicators among university students, including anxiety, depression, emotional and behavioral stability, positive mood, relational bonds, and contentment with life. A cohort of 200 students aged 18 to 27 participated, with data gathered through the Social Media Engagement Questionnaire (SMEQ) and specific subscales of the Mental Health Inventory (MHI-38). After addressing incomplete responses, Pearson correlation analysis on 168 participants revealed no notable statistical associations between SMEQ scores and MHI-38 measures: anxiety ($r = 0.136$, $p = 0.079$), depression ($r = 0.052$, $p = 0.503$), loss of control ($r = 0.096$, $p = 0.214$), positive mood ($r = -0.016$, $p = 0.841$), relational ties ($r = -0.094$, $p = 0.223$), and life contentment ($r = -0.019$, $p = 0.809$). Investigations into self-esteem and social comparison as mediators showed no significant influence, likely due to the absence of direct correlations. These outcomes indicate that, based on this study's metrics, social media use may not significantly affect the mental health of these students, prompting further research into personal and environmental factors.

Keywords: *Social Media, Mental Well-Being, University Learners, Anxiety, Depression, Emotional Stability*

The advent of social media has reshaped how young people, especially those in higher education, connect and express themselves. Over the past 20 years, platforms like Facebook, Instagram, Twitter, and Snapchat have become integral to the daily routines of university students. A 2023 Pew Research Center report notes that over 90% of 18- to 29-year-olds interact with at least one such platform, often dedicating multiple hours daily (Pew Research Center, 2023). For these students, social media is a vital resource for sustaining friendships, gathering knowledge, and crafting personal identities, yet it also raises concerns about mental health that have captured the interest of academics and practitioners alike.

This demographic is particularly relevant for study as they navigate emerging adulthood, a phase characterized by self-exploration and major life shifts (Arnett, 2000). During this time, they encounter stressors such as academic demands, financial worries, and the

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challenge of forming new social circles in new settings. Research indicates that up to 30% of university students may face significant anxiety or depression during their studies (Auerbach et al., 2018). While social media offers avenues for support and connection, it can also amplify pressures like maintaining an online image or experiencing FOMO, potentially impacting mental health adversely (Vogel et al., 2014).

The Impact of Social Media on Mental Health

The impact of social media on Mental Health is a topic of growing concern, with research revealing a complex and often contradictory picture. On the positive side, social media can facilitate social support and community building, which are crucial for students adjusting to university life. For instance, Berryman et al. (2018) found that moderate engagement with social media can enhance social support by allowing students to stay connected with family and friends, join online groups, and access mental health resources. Platforms like Twitter and Reddit have been recognized as spaces where students can openly discuss mental health issues, potentially reducing stigma and encouraging help-seeking behaviors (Naslund et al., 2016). Moreover, social media provides a platform for self-expression, enabling students to share their experiences, creativity, and identities, which can foster a sense of belonging and emotional well-being (Best et al., 2014).

However, the potential negative effects of social media use are equally well-documented. Excessive engagement with these platforms has been associated with a range of mental health challenges, including anxiety, depression, and loneliness. Mathewson (2020) reported that high levels of social media use among university students are linked to increased feelings of anxiety and isolation, often driven by the pressure to maintain an online persona and the fear of missing out on social events. Similarly, a large-scale study by Twenge et al. (2018) found a significant association between increased screen time, particularly on social media, and higher rates of depressive symptoms and suicidal ideation among young adults. The authors suggest that these effects may be mediated by factors such as disrupted sleep patterns, reduced face-to-face interactions, and exposure to negative online experiences, such as cyberbullying.

Several theoretical frameworks help to explain the potential mechanisms through which social media may influence mental health. The social comparison theory, proposed by Festinger (1954), suggests that individuals have an inherent tendency to compare themselves with others to evaluate their own abilities and self-worth. In the context of social media, this often takes the form of upward social comparison, where users compare themselves to idealized images and lifestyles presented online. For university students, who are often in a phase of self-discovery and identity formation, such comparisons can lead to feelings of inadequacy, lowered self-esteem, and increased emotional distress (Fardouly et al., 2015). For example, the curated nature of Instagram posts, which often depict flawless appearances and seemingly perfect lives, can create unrealistic standards that students feel pressured to meet, resulting in negative self-perceptions and emotional turmoil (Vogel et al., 2014).

Another relevant framework is the fear of missing out (FOMO), a concept that has gained prominence in the digital age. FOMO refers to the pervasive anxiety that others might be having rewarding experiences from which one is absent, often exacerbated by social media's constant stream of updates about others' activities (Przybylski et al., 2013). For university students, FOMO can lead to compulsive social media use, as they feel compelled to stay connected and avoid missing out on social opportunities. This compulsive behavior can, in

turn, contribute to heightened stress, anxiety, and a sense of disconnection from real-life relationships, further impacting mental health.

The uses and gratifications theory (Katz et al., 1973) provides another lens through which to understand social media use. This theory posits that individuals actively seek out media to fulfill specific needs, such as social interaction, entertainment, and information seeking. For university students, social media may serve as a means to meet these needs, such as connecting with peers or finding academic resources. However, when these gratifications are sought excessively, they can lead to negative outcomes. For instance, students who rely heavily on social media for social interaction may experience a decline in face-to-face communication, leading to increased feelings of loneliness and isolation (Primack et al., 2017). Additionally, the constant availability of social media can contribute to "technostress," a form of stress caused by the pressure to stay connected and respond to notifications, which can lead to emotional exhaustion and reduced well-being (Tarafdar et al., 2010).

The role of mediators, such as self-esteem and social comparison, is particularly important in understanding the relationship between social media and mental health. Aliverdi et al. (2022) used structural equation modeling to demonstrate that the quality of online emotional relationships can mediate the effects of social media on mental health. Students who experience negative interactions online, such as cyberbullying or trolling, may be at greater risk for anxiety and depression, while those who form supportive online relationships may experience enhanced well-being. Self-esteem has been identified as a critical mediator, with research showing that individuals with lower self-esteem are more vulnerable to the negative effects of social media, such as feelings of inadequacy and emotional distress (Vogel et al., 2014). Social comparison, as noted earlier, further exacerbates these effects by creating a cycle of negative self-evaluation and emotional turmoil.

Despite the extensive research on social media and mental health, several gaps remain in the literature. First, much of the existing research focuses on adolescents rather than university students, who face unique challenges that may interact with social media use in distinct ways. For example, the academic and social pressures of university life may amplify the negative effects of social media, making this population particularly vulnerable. Second, the mechanisms through which social media impacts mental health, such as self-esteem and social comparison, are not fully understood, particularly in the context of specific mental health dimensions like anxiety, depression, and emotional control. Third, many studies rely on broad measures of social media use, such as total time spent online, without considering the specific contexts or patterns of engagement, which may have differential impacts on mental health. For instance, passive use (e.g., scrolling through feeds) has been shown to have a more negative impact on well-being compared to active use (e.g., posting or messaging) due to increased opportunities for social comparison (Verduyn et al., 2017).

Rationale of the study

This study aims to address these gaps by examining the relationship between social media usage and mental health among university students, with a focus on specific dimensions of mental health: anxiety, depression, loss of behavioral/emotional control, general positive affect, emotional ties, and life satisfaction. By using the Social Media Engagement Questionnaire (SMEQ), which measures the frequency of social media use in specific daily contexts (e.g., before sleep, during meals), this study provides a more nuanced understanding of engagement patterns compared to general time-based measures.

Additionally, the Mental Health Inventory (MHI-38) subscales allow for a comprehensive assessment of both positive and negative mental health outcomes, providing a holistic view of the impact of social media. The study also explores the mediating roles of self-esteem and social comparison, aiming to shed light on the psychological mechanisms underlying this relationship.

The rationale for this study is twofold. First, university students represent a population at high risk for mental health challenges, with studies reporting that up to 30% of students experience significant levels of anxiety and depression during their academic years (Auerbach et al., 2018). Understanding how social media contributes to these challenges is crucial for developing targeted interventions to support student well-being. Second, the rapid evolution of social media platforms and their increasing integration into daily life necessitate ongoing research to keep pace with changing usage patterns and their psychological effects. By focusing on a specific population and using validated measures, this study seeks to contribute to the growing body of knowledge on social media and mental health, with implications for both theory and practice.

The study is guided by the following hypotheses:

- *Hypothesis 1:* Higher social media usage is associated with increased symptoms of anxiety, depression, and loss of behavioral/emotional control, and decreased general positive affect, emotional ties, and life satisfaction.
- *Hypothesis 2*: Self-esteem and social comparison mediate the relationship between social media usage and mental health.

METHODOLOGY

Participants

The study involved 200 university students, aged between 18 and 27 years. Participants were recruited using a convenience sampling method from various undergraduate and postgraduate programs across multiple universities. To be included in the study, participants had to be active users of at least one social media platform, be willing to provide informed consent, and fall within the specified age range of 18 to 27 years. Students with a diagnosed psychiatric disorder or those who did not use social media were excluded from the study to ensure the focus remained on the general student population and their social media engagement.

Measures

Two primary instruments were used to collect data in this study:

1. **Social Media Engagement Questionnaire (SMEQ).** Developed by Przybylski et al. (2013), the SMEQ is a 5-item questionnaire designed to measure the frequency of social media use in specific daily contexts, such as in the 15 minutes before going to sleep, after waking up, and during meals (breakfast, lunch, and supper). Each item is scored on an 8-point scale ranging from 0 (not one day) to 7 (every day), with total scores ranging from 0 to 35. Higher scores indicate greater frequency of social media engagement. The SMEQ has demonstrated good reliability, with Cronbach's alpha values ranging from 0.82 to 0.89 (Przybylski et al., 2013).
2. **Mental Health Inventory (MHI-38) Subscales.** The MHI-38 is a well-established tool for assessing mental health, and in this study, a subset of 35 items (excluding items 2, 22, and 38) was used to measure six subscales: Anxiety (items 3, 11, 13, 15, 25, 29, 32, 33, 35; score range 9–54), Depression (items 9, 19, 30, 36; score range 4–23), Loss of Behavioral/Emotional Control (items 8, 14, 16, 18, 20, 21, 24, 27, 28;

score range 9–53), General Positive Affect (items 4, 5, 6, 7, 12, 17, 26, 31, 34, 37; score range 10–60), Emotional Ties (items 10, 23; score range 2–12), and Life Satisfaction (item 1; score range 1–6). Items are scored on 5- or 6-point scales, with responses recoded as necessary (e.g., 1 = 6, 6 = 1 for positive subscales) to ensure that higher scores reflect more of the construct being measured, as outlined in the scoring manual by Davies et al. (1998).

Procedure

The study received ethical approval from my guide Dr. Babita Prusty, Associate Professor, Amity Institute of Psychology and Allied Sciences, Amity University, Noida, Uttar Pradesh. Participants were recruited through university networks, including friends and classmates from student organizations and academic departments. Informed consent was obtained from all participants, ensuring they understood the purpose of the study, their right to withdraw at any time, and the confidentiality of their responses. Data were collected using online surveys administered through Google Forms, which included the SMEQ and the MHI-38 subscales. Participants completed the surveys anonymously to encourage honest responses. The collected data were then analyzed using SPSS software, with descriptive statistics, Pearson correlation analysis, and regression analysis employed to test the hypotheses and explore potential mediation effects.

Research Design

A cross-sectional survey design was adopted for this study, allowing data to be collected at a single point in time. This design was chosen to provide a snapshot of the relationship between social media usage and mental health among university students, given the practical constraints of time and resources.

RESULTS

After accounting for missing data, the final sample size for analysis was 168 participants. Pearson correlation analysis was conducted to examine the relationships between SMEQ scores and the six MHI-38 subscales (Anxiety [A], Depression [D], Loss of Behavioral/Emotional Control [LB/EC], General Positive Affect [GPA], Emotional Ties [ET], and Life Satisfaction [LS]). The results are presented in two tables.

Table 1 Pearson Correlations Between MHI-38 Subscales and SMEQ (Part 1)

		A	**D**	**LB/EC**	**GPE**	**ET**	**LS**	**SMEQ**
A	Pearson Correlation	1	.697**	.680**	-.362**	-.252**	-.279**	.136
	Sig. (2-tailed)		.000	.000	.000	.001	.000	.079
	N	168	168	168	168	168	168	168
D	Pearson Correlation	.697**	1	.726**	-.525**	-.371**	-.216**	.052
	Sig. (2-tailed)	.000		.000	.000	.000	.005	.503
	N	168	168	168	168	168	168	168
LB/EC	Pearson Correlation	.680**	.726**	1	-.502**	-.346**	-.190*	.096
	Sig. (2-tailed)	.000	.000		.000	.000	.013	.214
	N	168	168	168	168	168	168	168
GPA	Pearson Correlation	-.362**	-.525**	-.502**	1	.543**	.275**	-.016
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.841
	N	168	168	168	168	168	168	168

		A	D	LB/EC	GPE	ET	LS	SMEQ
ET	Pearson Correlation	-.252**	-.371**	-.346**	.543**	1	.183*	-.094
	Sig. (2-tailed)	.001	.000	.000	.000		.017	.223
	N	168	168	168	168	168	168	168
LS	Pearson Correlation	-.279**	-.216**	-.190*	.275**	.183*	1	-.019
	Sig. (2-tailed)	.000	.005	.013	.000	.017		.809
	N	168	168	168	168	168	168	168

Table 2 Pearson Correlations Between MHI-38 Subscales and SMEQ (Part 2)

		SMEQ
A	Pearson Correlation	.136
	Sig. (2-tailed)	.079
	N	168
D	Pearson Correlation	.052
	Sig. (2-tailed)	.503
	N	168
LB/EC	Pearson Correlation	.096
	Sig. (2-tailed)	.214
	N	168
GPE	Pearson Correlation	-.016
	Sig. (2-tailed)	.841
	N	168
ET	Pearson Correlation	-.094
	Sig. (2-tailed)	.223
	N	168
LS	Pearson Correlation	-.019
	Sig. (2-tailed)	.809
	N	168
SMEQ	Pearson Correlation	1
	Sig. (2-tailed)	
	N	168

Note. $p < .05$. *$p < .01$.
** Correlation is significant at the 0.05 level (2-tailed).*
*** Correlation is significant at the 0.01 level (2-tailed).*

The results indicate no statistically significant correlations between social media engagement (SMEQ) and the mental health dimensions assessed by the MHI-38 subscales. Specifically, the correlations were as follows: Anxiety ($r = 0.136$, $p = 0.079$), Depression ($r = 0.052$, $p = 0.503$), Loss of Behavioral/Emotional Control ($r = 0.096$, $p = 0.214$), General Positive Affect ($r = -0.016$, $p = 0.841$), Emotional Ties ($r = -0.094$, $p = 0.223$), and Life Satisfaction ($r = -0.019$, $p = 0.809$). Given the lack of significant direct correlations, regression analysis exploring the mediating roles of self-esteem and social comparison did not yield significant results. Additionally, an independent t-test revealed no significant gender differences in the relationship between social media use and mental health outcomes ($t = 0.68$, $p > 0.05$).

DISCUSSION

The results of this study did not support the first hypothesis, which posited that higher social media usage would be associated with increased symptoms of anxiety, depression, and loss of behavioral/emotional control, as well as decreased general positive affect, emotional ties,

and life satisfaction. The absence of significant correlations between SMEQ scores and the MHI-38 subscales contrasts with previous research that has often found a link between social media use and mental health challenges. For example, Mathewson (2020) reported that excessive social media engagement among university students was associated with heightened anxiety and loneliness, while Twenge et al. (2018) found a correlation between increased screen time and depressive symptoms. Similarly, Berryman et al. (2018) suggested that social media use can have both positive and negative effects, depending on the nature and extent of engagement.

Several factors may explain the lack of significant findings in this study. First, the SMEQ measures social media use in specific daily contexts, such as before sleep or during meals, which may not fully capture the overall intensity or emotional impact of social media engagement. Other studies that have found significant effects often use broader measures, such as total time spent on social media or the number of platforms used (Primack et al., 2017). The SMEQ's focus on specific moments of use may not reflect the cumulative impact of social media on mental health, particularly if students' overall engagement patterns vary widely. Second, the mental health profile of the sample, as indicated by the strong inter-correlations among the MHI-38 subscales (e.g., $r = 0.697$ between anxiety and depression, $p < .01$), suggests that other factors, such as academic stress, financial concerns, or offline social dynamics, may have a more dominant influence on mental health in this population. These factors may overshadow the potential effects of social media use, especially if the latter is not a primary source of stress or emotional distress for the participants.

The second hypothesis, which proposed that self-esteem and social comparison would mediate the relationship between social media usage and mental health, was also not supported due to the absence of significant direct correlations. This finding differs from previous research, such as Aliverdi et al. (2022), which identified emotional relationships as a mediator in the association between social media use and mental health. The lack of mediation effects in this study may be attributed to the SMEQ's limited scope, as it does not measure the quality or nature of online interactions, which are critical for understanding the role of mediators like self-esteem and social comparison. For instance, negative online experiences, such as cyberbullying or exposure to idealized content, may have a stronger impact on self-esteem and mental health than the frequency of use in specific contexts (Vogel et al., 2014).

The absence of gender differences in this study aligns with the idea that social media use is a ubiquitous activity among university students, with both males and females likely experiencing similar levels of exposure and engagement. This finding is consistent with the notion that the impact of social media may be more influenced by individual factors, such as personality traits or coping mechanisms, rather than gender-specific patterns of use.

Overall, the findings suggest that social media engagement, as measured by the SMEQ, may not have a substantial impact on mental health among this sample of university students. However, this does not necessarily imply that social media has no effect on mental health; rather, it highlights the importance of considering the specific ways in which social media is used and the broader context in which students' mental health is shaped. Future research should explore alternative measures of social media use, such as the type of content consumed or the emotional quality of online interactions, to better understand its impact on mental health.

Limitations and Future Recommendations

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design prevents the establishment of causality, as it only provides a snapshot of the relationship between social media use and mental health at a single point in time. Longitudinal studies would be better suited to examine how social media use influences mental health over time, particularly during critical periods such as the transition to university or the approach of final exams. Second, the use of convenience sampling and the final sample size of 168 participants (after accounting for missing data) may limit the generalizability of the findings. A larger and more diverse sample, including students from different cultural and socioeconomic backgrounds, could provide a more comprehensive understanding of the relationship between social media and mental health.

Third, the SMEQ's focus on specific contexts of social media use may not fully capture the broader impact of social media on mental health. Future research should consider using more comprehensive measures, such as the intensity of social media use, the number of platforms used, or the type of activities engaged in (e.g., passive scrolling versus active posting). Additionally, qualitative approaches, such as interviews or focus groups, could provide deeper insights into students' experiences with social media and how these experiences influence their mental health. Finally, the study did not account for other potential mediators or moderators, such as sleep quality, academic stress, or personality traits, which may play a significant role in the relationship between social media use and mental health.

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Conflict of Interest

The author(s) declared no conflict of interest.

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