SOCIAL MEDIA ADDICTION, AND STRESS SYMPTOMS AMONG ADOLESCENTS IN PAKISTAN

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Abstract
The rapid growth of social media has significantly influenced adolescents' daily lives in Pakistan. This study examined the relationship between social media addiction and stress symptoms among 322 students aged 12–17 years (M = 15.61, SD = 1.39) enrolled from primary to intermediate levels. A cross-sectional correlational design was employed using purposive sampling. Social media addiction was measured with the Bergen Social Media Addiction Scale, and stress symptoms were assessed using the 7-item stress subscale of the DASS-21. Correlational analysis revealed a significant positive association between social media addiction and stress symptoms (r = .13, p < .05). Independent sample t-tests indicated that males reported significantly higher social media addiction (M = 20.01, SD = 4.05) than females (M = 18.57, SD = 4.94), t(318.85) = 2.86, p = .004, and higher stress symptoms (M = 20.33, SD = 10.31) than females (M = 14.78, SD = 9.57), t(320) = 5.00, p < .001. These findings highlight the impact of excessive social media use on adolescent stress and emphasize the need for digital literacy programs, parental supervision, and preventive strategies to support psychological well-being.

Keywords: Social Media Addiction, Stress Symptoms, Adolescents, Pakistan

Introduction

The advancement of digital technology has transformed communication patterns worldwide (Amelia & Balqis, 2023; Khan et al., 2024). Social networking platforms such as Facebook, Instagram, WhatsApp, and TikTok are widely used among adolescents in Pakistan (Basit et al., 2025; Mehmood et al., 2025). Increased access to smartphones and affordable internet packages has contributed to a sharp rise in daily social media engagement (Kögler et al., 2024; Tewu et al., 2025).

Social media addiction refers to excessive preoccupation with social networking platforms, leading to impairment in daily functioning (Aneja, 2025; Hoşgör et al., 2025). It shares characteristics with behavioral addictions, including mood modification, tolerance, withdrawal, and relapse (Andreassen et al., 2015; Irfan et al., 2025). Adolescence is a sensitive developmental stage marked by emotional instability and identity formation, making individuals more vulnerable to addictive behaviors and stress-related symptoms (Chaplin et al., 2018; Mastorci et al., 2024; Shahid et al., 2024).

Stress symptoms include psychological and physiological reactions such as irritability, difficulty concentrating, sleep disturbances, headaches, and emotional exhaustion (Attia et al., 2022; Ovsiannikova et al., 2024). A descriptive cross-sectional study (September–December 2022) examined 716 Turkish adolescents to assess the relationship between social media addiction and stress. Using SMASA and PSS, the findings revealed a low but significant positive association ($p < .01$), indicating that higher social media addiction predicts increased stress levels (Sarialioğlu & Oluç, 2024). Similarly, another cross-sectional online survey conducted in the USA examined 320 Facebook (Gen Y) and 230 TikTok (Gen Z) users to investigate social media addiction and stress. The findings showed that the need to belong increased addiction and stress, while Facebook addiction directly increased stress, moderated by gender and self-control (Coker et al., 2025).

This study is grounded in Uses and Gratifications Theory (UGT) (Du et al., 2024; Katz et al., 1973), which posits that individuals actively use media to satisfy psychological and social needs. Adolescents use platforms such as Facebook, Instagram, WhatsApp, and TikTok for entertainment and belongingness (Shahid et al., 2024; Wong et al., 2024; Xuan & Amat, 2020). Repeated gratification reinforces continued use, which may develop into addiction (Ferris et al., 2021). Excessive reliance on social media can disrupt daily functioning and emotional balance (Leo et al., 2023; Yao & Cao, 2017). Consequently, addictive use may increase stress symptoms among adolescents.

Although the literature has demonstrated a significant association between social media addiction and stress among adolescents, studies in the cultural context of Pakistan remain limited. Research is particularly needed, as the issue is widely observed but rarely examined empirically. Therefore, the objective of this study is to evaluate the relationship between social media addiction and stress symptoms, not only to fill this gap but also to provide practical implications.

Hypotheses

H1: There is a significant positive relationship between social media addiction and stress symptoms among adolescents in Pakistan.

H2: There are significant gender differences in social media addiction and stress symptoms among adolescents.

Method

Research Design
The present study employed a cross-sectional correlational research design to examine the association between social media addiction and stress symptoms among adolescents.

Participants
The sample consisted of 322 adolescents aged 12–17 years enrolled in schools and colleges in Pakistan. A purposive sampling technique was employed. Inclusion criteria required participants to have used social media platforms for at least one year prior to participation.

Instruments

Social Media Addiction
Social media addiction was assessed using the *Bergen Social Media Addiction Scale*, developed by Andreassen et al. (2016). The scale consists of six items rated on a five-point Likert scale ranging from 1 (Very rarely) to 5 (Very often). The scale has demonstrated good internal consistency ($\alpha \approx .80$). However, the reliability of the scale in the present study was .68, which is close to the satisfactory threshold of .70.

Stress
Stress was measured using the stress subscale of the *Depression Anxiety Stress Scale–21 (DASS-21)*, which consists of seven items rated on a four-point Likert scale ranging from 0 ("Did not apply to me at all") to 3 ("Applied to me very much or most of the time"). The stress subscale has demonstrated excellent internal consistency ($\alpha = .90$), indicating high reliability (Lovibond & Lovibond, 1995). In the present study, the internal consistency of this subscale was .82, which exceeds the satisfactory threshold of .70.

Ethical Considerations
The study adhered to the ethical guidelines of the American Psychological Association (7th edition). Permission to use the instruments was obtained from the respective authors where required. Informed consent was obtained from the participants, and parental consent was secured for minors. Confidentiality, anonymity, and voluntary participation were ensured. No physical or emotional harm was caused to the participants during the study.

Data Analysis
Data were analyzed using SPSS version 26. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed for demographic variables. Pearson product–moment correlation was used to examine the relationship between social media addiction and stress symptoms. Independent samples t-tests were conducted to assess gender differences.

Results

Table 1
Characteristics of the Participants (N=322)

Characteristics	Frequency	Percentage	Mean	SD
Age			15.61	1.39
Gender				
Male	150	46.6		
Female	172	53.4		
Education Level				
Intermediate	137	42.5		
Matric	123	38.2		
Middle	34	10.6		
Primary	28	8.7		
Socioeconomic Status of Participants' Family				
Lower Class	142	44.1		
Middle Class	104	32.3		
Upper Class	76	23.6		

Note. *SD* = Standard Deviation

Table 1 presents the demographic characteristics of the participants (N = 322). The sample included 150 males (46.6%) and 172 females (53.4%), with a mean age of 15.61 years (SD = 1.39). Most participants were enrolled at the intermediate level (42.5%), followed by matriculation (38.2%), middle school (10.6%), and primary school (8.7%). Regarding socioeconomic status, 44.1% of participants belonged to the lower class, 32.3% to the middle class, and 23.6% to the upper class. These characteristics provide a context for understanding the relationship between social media addiction and stress among adolescents in Pakistan.

Table 2
Correlational Analysis (N=322)

Characteristics	1	2
1.Social Media Addiction	-	.13*
2.Stress Symptoms		-

Note. *p<.05

The correlational analysis (Table 2) indicates a significant positive relationship between social media addiction and stress symptoms among adolescents (r = .13, p < .05). This suggests that higher levels of social media addiction are associated with increased stress symptoms.

Table 3
Gender Differences in Study Variables (N = 322)

Variables	Male (n = 150)		Female (n = 172)		t	p	Cohen's d
	Mean	SD	Mean	SD			
SMA	20.01**	4.05	18.57	4.94	2.86	.004	0.31
SS	20.33***	10.31	14.78	9.57	5.00	<.001	0.55

Note. **p < *.01,* ***p < *.001, M* = Mean, *SD* = Standard Deviation, SMA = Social Media Addiction, SS = Stress Symptoms

Table 3 shows that male adolescents reported significantly higher social media addiction (M = 20.01, SD = 4.05) than females (M = 18.57, SD = 4.94), t = 2.86, p = .004, with a small-to-medium effect size (Cohen's d = 0.31). Males also exhibited higher stress symptoms (M = 20.33, SD = 10.31) compared to females (M = 14.78, SD = 9.57), t = 5.00, p < .001, with a medium effect size (Cohen's d = 0.55), indicating that male adolescents experience greater social media addiction and stress than females.

Discussion

There is substantial literature regarding social media addiction and stress across the globe, but in Pakistan, such studies are limited, particularly among students from primary to intermediate levels. The objective of this study was to examine the relationship between social media addiction and stress symptoms among adolescents, in order to fill the literature gap, provide insights for academia, and suggest practical implications.

The correlational analysis of the study showed that social media addiction is significantly and positively associated with stress symptoms among adolescents (r = .13, p < .05). This indicates that higher engagement in social media platforms may increase stress levels, supporting previous research highlighting the psychological impact of excessive social media use. A previous study conducted on adolescents in Pakistan found that social media addiction is significantly linked to depression and anxiety (Shahid et al., 2024). Similarly, studies in other countries have reported that problematic social media use is associated with stress and poor psychological well-being among young users (Boer et al., 2020; Hoşgör & Güngördü, 2024). The present findings are consistent with these studies, emphasizing that excessive social media engagement may disrupt emotional balance and daily functioning.

The independent samples *t*-test indicated that male adolescents reported significantly higher levels of social media addiction and stress symptoms. These results suggest that male students may be more vulnerable to the negative effects of social media, possibly due to greater engagement or differences in coping strategies. A similar previous study conducted in Pakistan among young adults reported that men scored significantly higher on social media addiction, whereas women scored higher on depression (Shahid et al., 2024).

The reason adolescents scored higher on social media addiction and stress may be attributed to their limited awareness of healthy usage patterns, greater emotional reactivity, and novelty-seeking tendencies associated with their developmental stage. Preventive strategies, digital literacy programs, and parental supervision can help mitigate these risks. Schools should provide counseling services and guidance on responsible social media use, and students should be encouraged to adopt stress management strategies to maintain psychological well-being.

Limitations and Recommendations

The first limitation of the study is its cross-sectional correlational design, which restricts the ability to establish causal relationships between social media addiction and stress symptoms. Future research should adopt longitudinal designs to examine changes in social media use and stress over time. The study only included students from primary to intermediate levels; however, non-studying adolescents may exhibit different patterns of social media addiction and stress.

Future studies should include non-studying cohorts to gain a more comprehensive understanding of these phenomena. Another limitation is the absence of a cut-off criterion for social media addiction, which could have differentiated between problematic and non-problematic users. Future research should classify participants accordingly and examine differences in stress symptoms. Additionally, demographic imbalances in gender and socioeconomic status limited further subgroup analyses. Future studies should ensure more balanced sampling to allow for robust comparisons across these variables.

Implications

Despite these limitations, the study offers several strengths with important practical implications. It highlights that social media addiction is significantly associated with higher stress symptoms among adolescents, with males exhibiting greater vulnerability. These findings emphasize the importance of mental health awareness and preventive interventions targeting excessive social media use. Schools should implement digital literacy programs, provide counseling services, and encourage stress management strategies. Parents should actively monitor and guide adolescents' social media habits to reduce negative psychological outcomes. The study also underscores the need for culturally sensitive approaches to address the growing impact of social media on adolescent mental health in Pakistan.

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