



Social Media Addiction and Life Satisfaction among Undergraduate Students: The Mediating Role of Anxiety

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ARTICLE INFO	ABSTRACT
Received: April 20, 2026 Revised: May 04, 2026 Accepted: May 18, 2026 Available Online: June 02, 2026 Keywords: social media addiction, life satisfaction, anxiety, university students, mediation, Pakistan Corresponding Author: asmaamanat797@gmail.com	This study aims to explore the relationship between addiction to social media and life satisfaction among university students in Pakistan and the mediation of anxiety. Research design used quantitative explanatory research design, while the data collection method used a structured self-administered questionnaire with validated measurement scales which were filled out by 150 undergraduate students. The analysis of data was carried out using SPSS and SmartPLS. The results of the structural equation modeling (SEM) and bootstrapping analysis showed that social media addiction negatively affects life satisfaction. Anxiety level was a significant mediator in this process, suggesting that high social media usage increases anxiety that leads to reducing life satisfaction. The results indicate that, as a psychological risk factor, unregulated usage of social media has a significant role among students and anxiety is a mediating factor. The study provides empirical evidence which is novel in the Pakistani context and provides some practical suggestions for the mental health practitioners, university counselors and platform designers. It is recommended that future studies and research continue to use the longitudinal design and experimental design to investigate the causal dynamics further.

Introduction

Social media has been rapidly spreading around the world, and it has changed the way young adults communicate, interact with others and access information (Andreassen, 2015). Smartphone penetration and mobile internet access in Pakistan has resulted in a surge in the use of social media among University students, such as Facebook, Instagram, TikTok and WhatsApp being used extensively in the daily life of the students (Alam et al., 2021). Social media can provide a lot of good things such as connecting, learning, and creating, but there are also many signs that individuals can become addicted to social media and suffer psychological effects as a result of their excessive and compulsive usage (Kuss & Griffiths, 2011).

Problems with mental health related to social media addiction (such as life dissatisfaction) have been linked to a variety of negative mental health outcomes, such as a lack of control over social media use, obsession with social media and continuing to use social media despite the negative consequences (Andreassen et al., 2016; Satıcı & Uysal, 2015). Life satisfaction is a cognitive evaluative appraisal of overall life quality (Diener et al., 1985), and has been consistently associated with physical health, school performance, and social functioning. Students who express less satisfaction with their lives are more likely to feel disinterested in school, in interpersonal relationships, and to feel psychologically distressed (Harman & Sato, 2011; Javed & Malik, 2020).

Anxiety is suggested as a mechanism between Social Media Addiction (SA) and reduced life satisfaction (LS). Regularly checking social media notifications, fear of missing out (FOMO), and receiving idealized, curated content can trigger an excessive sense of anxiety that interferes with people's ability to make positive life evaluations (Twenge et al., 2018; Vannucci et al., 2017). A sense of social comparison further exacerbated by collectivist culture and greater competition in academic studies in Pakistan, may cause greater anxiety effects of social media addiction (Alam et al., 2021; Bukhari & Khanam, 2019).

The use of social media has had a dramatic impact on how young people communicate, build relationships and define themselves. University students are one of the most active groups of users of social networking platforms, because of their developmental stage, educational needs and need for social connectivity. Social media gives students opportunities to connect and get information but there have been concerns about problematic patterns of use that could impact on students' psychological health. More and more scientists are suggesting that the positive effects of social media rely heavily on how these are used and the amount of time spent on them.

The fact that people are relying on social media more and more has led many psychologists, teachers, and health care providers from all over the world to be concerned. Heavy use of social networks can result in individuals attending to social networking sites more than social events, which can lead to poor social forms and lower life satisfaction. Furthermore, the over-availability of digital content and the need to be connected can cause psychological stress, especially for university students who are already under significant academic and social stress. The situation thereby makes social media addiction an important phenomenon to be studied empirically.

The growing use of technology has been further accentuated by the recent technological advances that have been made in the use of social media platforms and features that have been created to engage students in using them. The use of technology has also increased in recent years, with personalized algorithms and constant notifications and short-form content that is intended to capture the user's attention. These can enhance user engagement, but can also lead to addictive use patterns and dependency on digital validation. As a result, students can develop feelings of inadequacy, life dissatisfaction, and comparison to others, increasing their risk of anxiety. This knowledge is crucial to build interventions that foster healthy digital behaviors and mental health for young adults.

There is an increasing interest in the psychological implications of social media consumption, but empirical research has been limited in Pakistan that looked at anxiety as a mediator variable between social media addiction and life satisfaction. While most research has been undertaken in Western contexts (Andreassen et al., 2016; Kuss & Griffiths, 2011), there is a critical need for research that recognises the cultural, socioeconomic and institutional particularities of South Asian student groups. This is addressed in the present study through testing a mediation model in which social media addiction was found to mediate the relationship between anxiety and life satisfaction among undergraduate students in universities located in Gujrat, Pakistan.

This study is based on two theories, the Uses and Gratifications Theory (Katz et al., 1973) and the Cognitive Behavioral Model of Internet Use (CBMIU) (Davis, 2001). The results would contribute to theory and practice in the field of mental health promotion of students in Pakistan.

Literature Review

Social Media Addiction and Life Satisfaction

Social media addiction is a form of behavioural addiction characterised by excessive preoccupation, compulsive usage, and a lack of control over social media engagement (Andreassen, 2015). Numerous research have repeatedly demonstrated that social media addiction is inversely correlated with life satisfaction in young adults. Satici and Uysal (2015) determined that problematic social media usage negatively correlates with subjective well-being, with loneliness and psychological capital serving as intermediary variables. Similarly, Andreassen et al. (2016) discovered that in a substantial Norwegian sample, addicted social media usage had a negative correlation with life satisfaction and a positive correlation with psychiatric discomfort.

The existing, albeit limited, literature suggests that excessive social media usage adversely impacts students' academic performance, social interactions, and subjective well-being in Pakistan (Javed & Malik, 2020; Alam et al., 2021). The contentment with quality of life and experiences of loneliness and alienation among students who excessively utilise social media for an

inordinate duration align with findings from other national contexts (Harman & Sato, 2011). The correlation between CSMB and psychological well-being among Pakistani students was found to be strong, with CSMB adversely affecting their psychological well-being (Bukhari & Khanam, 2019), underscoring the importance of this relationship within the Pakistani setting.

H1: Social media addiction adversely affects life satisfaction among university students in Pakistan.

Anxiety and Life Contentment

It is a common and disabling mental health disorder that involves chronic, generalized anxiety, increased vigilance, and negative thinking (Clark & Beck, 2010). The relationship between anxiety and life satisfaction is well documented in the psychology literature and is consistently found that increased anxiety is associated with decreased subjective wellbeing and life satisfaction (Diener et al., 1985; Twenge et al., 2018). Anxiety interferes with a person's capacity to do positive self-assessment, social relationships and positive emotional experiences, which are essential for attaining life satisfaction.

In Pakistan, anxiety has been identified as one of the main obstacles to psychological wellness and life fulfillment of the university students. Bukhari and Khanam (2019) found that there was a significant negative correlation between anxiety symptoms and life satisfaction among the students of Pakistan. The results are consistent with other international studies showing that anxiety disorders are the main determinants of subjective well-being and quality of life in populations (Vannucci et al., 2017; Clark & Beck, 2010; Twenge et al., 2018). The mechanism is through constraints in positive affect, not continuing to pursue a goal, and less engagement in meaningful life activities.

H2: Results of the study showed that there are inverse relationships between anxiety and life satisfaction among university students in Pakistan.

Learn to break free from Social Media dependency and anxiety

There has been an increasing number of studies that have been published documenting a positive relationship between social media addiction and anxiety. Some of the mechanisms by which anxiety related to excessive use of social media emerge involve fear of missing out (FOMO), social comparison, exposure to cyberbullying, and sleep and daily life disruption (Vannucci et al., 2017; Twenge et al., 2018). The Bergen Social Media Addiction Scale has been used in several studies, and all of these studies reveal that people with higher scores feel more anxious and have other internalizing symptoms (Andreassen et al., 2016; Kuss & Griffiths, 2011).

In Pakistan, Alam et al. (2021) found that social media addiction is significantly linked with anxiety symptoms among the university students, especially those who use social media extensively at night. The sociocultural context is important because in a collectivist society, social acceptability and reputation are of great value so social media platforms can be a space where social comparison is even more extreme, thus exacerbating anxiety responses (Javed & Malik, 2020). Davis (2001) proposed a cognitive-behavioral model of internet addiction which posits that psychological discomfort is the mediator between addictive usage patterns and maladaptive cognitions around the usage of social media, such as catastrophic thinking around the consequences of missing out on social media.

H3: The addiction rate among the University students in Pakistan is quite high and their anxiety is positively related with social media addiction.

Moderating influence of anxiety

The literature reviewed indicated that anxiety could be a mediating factor between social media addiction and life happiness. Social media addiction can cause high levels of anxiety which affect psychological resources needed to make positive life assessment (Satici & Uysal, 2015; Andreassen, 2015). This mediation pathway is based on the Cognitive Behavioural Model of Internet Use (Davis, 2001) which states that negative Internet use creates negative thoughts and feelings (e.g., anxiety), which in turn results in reduced psychological functioning and life satisfaction.

Many recent investigations have confirmed this empirical evidence of the mediational mechanism. The authors of Vannucci et al. (2017) demonstrated that social media frequency predicted anxiety, which decreased markers of well-being. The same conclusion was reached by Twenge et al. (2018), who found that excessive social media use led to increased anxiety and a lower overall life satisfaction among young adults. In the Pakistani educational setting, cultural norms such as examination pressure, social norms,

and the absence of a robust mental health support system (Javed & Malik, 2020; Bukhari & Khanam, 2019) can further amplify these interactions. This research is a formal test of the mediational hypothesis to offer context specific evidence.

H4: University students of Pakistan have significantly lower positive correlation between social media addiction and life's happiness when compared with its negative correlation.

Methodology

This study used an explanatory research method in quantitative approach with research hypothesis that there is a correlation between social media addiction, anxiety, and life satisfaction. The 150 university students surveyed in Gujrat, Pakistan were measured using a self-administered structured questionnaire. The students currently enrolled as undergraduate and postgraduate students were accessed using convenience sampling. Hair et al. (2017) state that at least ten times more data than measurements is required for PLS-SEM analysis. The ratio proposed by Hair et al. (2017) is considered to be a good guideline and the sample size for this research was 150.

The Bergen Social Media Addiction Scale (BSMAS) by Andreassen et al. (2016) is a 6 item scale measuring salience, mood modulation, tolerance, withdrawal, conflict, and relapse in relation to social media addiction. Anxiety was assessed using the Generalised Anxiety Disorder-7 (GAD-7) scale (Spitzer et al., 2006) which is a well validated 7 item instrument often used in student health research. Satisfaction with Life Scale (SWLS) was designed by Diener et al. (1985) and consists of five items rated on a 7-point Likert scale about how satisfied are they with their lives.

They were rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) except for the components of the life satisfaction measure where it was rated using a 7-point scale. A pretest of 20 students was used to test out the items prior to primary testing. The questionnaire was conducted in both English and Urdu so that it would be easily understood. The data collection lasted five weeks, and all the answers were anonymous.

Data analysis was performed descriptively in SPSS version 26 and correlation analysis using pearson correlation. The measurement and structural model was tested using SmartPLS version 3.3.9. Cronbach's alpha and Composite dependability were employed to evaluate the dependability of each instrument. To assess the convergent validity, the Average Variance Extracted (AVE) was used, while the Fornell-Larcker Criterion and the HTMT ratio were used to assess the discriminant validity. Both direct and indirect effects were explored through SEM and bootstrapping with 5,000 resamples was used to test the significance of the mediation pathway. In addition, model fit indices (SRMR and predictive relevance (Q²)) were presented.

Results

Demographic Overview

Table 1 presents the demographic characteristics of the 150 respondents. The sample comprised 55% male students and 45% female pupils. Seventy percent of them were aged 18 to 24 years. Sixty-five percent of the respondents were enrolled in undergraduate programs, while thirty-five percent were in postgraduate programs. Regarding social media usage, 48% reported using it for over five hours daily, 35% for three to five hours daily, and 17% for less than three hours daily.

Table 1

Demographic Profile of Respondents (N = 150)

Variable	Category	Frequency (%)
Gender	Male	82 (55%)
	Female	68 (45%)

Age	18-24 years	105 (70%)
	25-30 years	33 (22%)
	Above 30	12 (8%)
Academic Level	Undergraduate	98 (65%)
	Postgraduate	52 (35%)
Daily SM Usage	> 5 hours	72 (48%)
	3-5 hours	52 (35%)
	< 3 hours	26 (17%)
Total		150 (100%)

Descriptive Statistics and Reliability

Table 2 shows descriptive statistics and reliability and validity indicators. The mean score for social media addiction was relatively high ($M = 3.66$, $SD = 0.72$), with the mean score for anxiety being 3.48 ($SD = 0.69$), and the score for life satisfaction being 3.12 ($SD = 0.74$), meaning there was moderate to moderately low life satisfaction in this sample. All constructs had Cronbach's alpha scores >0.70 and Composite Reliability scores >0.85 . AVE was greater than 0.50, which is indicative of good convergent validity.

Table 2

Descriptive Statistics, Reliability, and Validity

Construct	Mean	SD	Alpha	CR	AVE	Items
Social Media Addiction	3.66	0.72	0.83	0.87	0.53	6
Anxiety	3.48	0.69	0.80	0.85	0.51	7
Life Satisfaction	3.12	0.74	0.86	0.90	0.54	5

Discriminant Validity and Correlation Analysis

The Fornell-Larcker criterion was used to test the discriminant validity, and the results supported the discriminant validity as the square root of the AVE values of the constructs were greater than the intercorrelations between the constructs. All the HTMT were below the 0.85 threshold and indicating discriminant validity. Pearson correlation analysis revealed that social media addiction negatively correlated with life satisfaction ($r = -0.48$, $p < 0.01$) but had a positive correlation with anxiety ($r = 0.52$, $p < 0.01$). A negative correlation was found between anxiety and life satisfaction ($r = -0.46$, $p < 0.01$). The bivariate relationship gives preliminary support for the hypothesized model.

Structural Model Results

The results of the structural model are summarized in Table 3. Social media addiction negatively directly affected life satisfaction ($\beta = -0.29$, $t = 3.68$, $p < 0.001$) supporting H1. Anxiety had a significant negative relationship with life satisfaction ($\beta = -0.34$, $t = 4.21$, $p < 0.001$) supporting H2. H3 was supported by social media addiction which had a significant positive relationship with anxiety ($\beta = 0.44$, $t = 5.73$, $p < 0.001$).

Table 3

Structural Model Results

Hypothesis	Path	β	t-value	p-value	Decision
H1: SMA $\rightarrow$ Life Satisfaction	Direct	-0.29	3.68	0.000	Supported
H2: Anxiety $\rightarrow$ Life Satisfaction	Direct	-0.34	4.21	0.000	Supported
H3: SMA $\rightarrow$ Anxiety	Direct	0.44	5.73	0.000	Supported
H4: SMA $\rightarrow$ Anxiety $\rightarrow$ Life Sat.	Indirect	-0.15	3.52	0.000	Supported

Note. SMA = Social Media Addiction; β = standardized path coefficient; bootstrapping $n = 5,000$.

Mediation Analysis

The indirect process of the link between social media addiction and life satisfaction via anxiety was estimated using the bootstrapping method (5,000 resamples). There was an indirect effect, and that effect was significant and negative ($\beta = -0.15$, $t = 3.52$, $p < 0.001$) with a 95% bias corrected confidence interval of $[-0.24, -0.07]$ that did not include zero. This partially confirmed the mediation of social media addiction on life satisfaction, with the direct pathway between the two still being significant after controlling for anxiety, confirming H4. The SRMR was 0.063, which was viewed as acceptable model fit, and the Q^2 was 0.21 for the life satisfaction, which was seen as adequate predictive relevance.

Discussion

This study aimed to investigate the role of anxiety between social media addiction and life satisfaction in undergraduate university students of Gujrat, Pakistan. All 4 hypotheses were confirmed, and empirical contribution to the literature on the south Asian context of social media addiction and psychological well-being among students.

The direct negative effect of social media addiction on life satisfaction (H1) was supported by the findings of previous studies in Western and Asian context (Andreassen et al., 2016; Satıcı & Uysal, 2015; Javed & Malik, 2020). The students that show addictive social media behaviors engage in a great deal of social comparison, and they have less social interaction in reality which are correlated with lower life satisfaction. The negative impact of social media addiction on life evaluation could be more severe, especially in the Pakistani context where social acceptance and community status are culturally important (Bukhari & Khanam, 2019; Alam et al., 2021).

The negative relationship between anxiety with life satisfaction (H2) has been supported by the psychological literature (Clark & Beck, 2010; Diener et al., 1985) and is echoed by empirical evidence from Pakistani students. Social media addiction has a positive influence on anxiety (H3), which supports the role of compulsive consumption of social media in inducing psychological discomfort, as reported by Vannucci et al. (2017) and Twenge et al. (2018). This sample seems to experience anxiety following the fear of missing out, sleep disruption, and idealized social comparisons that are part of the heavy social media use, consistent with the cognitive-behavioral model proposed by Davis (2001).

The partial mediation of anxiety (H4) suggests that there is a significant portion of the negative relationship between SM addiction and life satisfaction that is explained by anxiety, and that other pathways can be involved as well. Other mediators could be loneliness, and self-esteem and academic stress could be added to future research. In application, the results highlight the importance of the establishment of university-based digital wellness programs that enable the promotion of mindful digital consumption (Kuss & Griffiths, 2011; Harman & Sato, 2011) and anxiety management techniques to help students better manage their social media consumption. Anxiety screening and social media-literacy education should be encouraged as preventive intervention in university mental health services in Pakistan.

Conclusion

The present study provided empirical evidence between SMA and life satisfaction of university students of Pakistan, which indicated that anxiety act as a moderator between both variables. The research method used was the quantitative explanatory design with an analysis method of the smartPLS based SEM with Bootstrapping method. The indirect effect of social media addiction on life satisfaction, which was mediated by anxiety, was 0.342, and the direct effect was -0.778. This indicated that social media addiction negatively affected life satisfaction, directly and indirectly, via the mediation of anxiety. The implications of these findings bring the social media addiction literature to the context of Pakistani universities, and emphasize the need to treat addictive digital behaviors as a mental health issue. Time has come that the University authorities, mental health councillors and the policy makers give importance to evidence-based, digital wellness & anxiety management programs tailored to the Pakistani student body. A longitudinal design and an experimental design are recommended for future research, and additional psychological and cultural factors are recommended to gain a better understanding of these relationships.

Recommendations

A few recommendations can be made based on the results of this study for universities, mental health practitioners, policy makers, families and future researchers. The design of whole-school digital wellness programs in universities to promote healthy and balanced social media use among students is important. Holistic, whole-school digital wellness programs to promote healthy and balanced social media use among students are important. The programs may include workshops, awareness sessions and training on the adverse effects of social media usage on mental health for students. To reduce problematic usage and foster wellbeing, screen health habits should be developed and practical advice provided to students to help them manage their screen time.

Secondly, the mental health services of University Counseling Centers should be encouraged to be improved and expanded, and include anxiety screening and intervention programs into general student support systems. Therefore, since anxiety was determined to be a major mediator between social media addiction and life satisfaction, anxiety symptom recognition could prevent development of additional psychological problems. Counselling practitioners should provide cognitive-behavioural interventions, stress management training and skills for emotional regulation that will support students to learn more about managing anxiety associated with excessive usage of social media.

Third, digital literacy and digital responsibility need to be included in school curricula. Pupils must be made aware of the dangers of social comparison, searching online for confirmation, fear of missing out (FOMO) and the possible psychological effects of spending long periods of time on social media. Self-regulation educational programs that teach students about mindful technology use and skills to regulate one's relationship with technology can support students' healthy relationship with technology and psychological well-being.

Further, social media companies and platform designers should strive to change the culture of people using social media by implementing features that will incentivize positive social media usage behavior. These can range from screen-time alerts and usage monitoring features to optional controls and digital well-being dashboards where users can monitor and manage their online presence. These technological interventions can help minimize compulsive patterns of use and assist users to have a healthier online/offline balance.

Parents and families also influence healthy technology habits of young adults. Students in universities are generally self-supportive, but it is also important to have family support to prevent anxiety and psychological stress. Encourage families to talk about digital habits, emotional well being and responsible use of social media. Familiar settings that are supportive may facilitate

students' ability to develop healthier coping patterns, and diminish need for social media as a means of emotional support and validation.

The results also highlight the need for national policies to include digital mental health programs in national youth development and higher education policies for policy makers. There should be policies developed in collaboration with government, schools and mental health providers that will encourage healthy digital behaviors, psychological health and well-being, and responsible use of technology among youth. Education on social media addiction and its psychological effects through digital communication might be another tool used to develop a positive online environment.

Finally, future studies should take a longitudinal and experimental approach to infer causality between the relationship between social media addiction, anxiety and life satisfaction. Other mediators and moderators that could be explored in future research are self-esteem, loneliness, fear of missing out, resilience, social support, emotional intelligence and academic stress. Research in other parts of Pakistan with larger and more varied samples would help to increase the generalizability of the results and would facilitate the understanding of the cultural factors related to digital activities and mental health.

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