

Social Media Addiction as a Predictor of Self-Esteem among Nursing Students

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Introduction: The increasing integration of social media into academic life has raised concerns about its psychological impact on students, particularly those in demanding health profession programs. Nursing students face unique stressors from clinical postings and academic pressure that may drive compulsive social media use and threaten self-esteem. This study was done to determine the levels of social media addiction and self-esteem, examine whether social media addiction predicts self-esteem, and identify associated factors among undergraduate nursing students in Nepal. **Methods:** A cross-sectional analytical study was conducted among 158 undergraduate (B.Sc.) Nursing students (100% response rate) at Birat Medical College, Nepal, using a census approach. Data were collected using the Social Media Addiction Scale-Short Form (SMAS-SF) and Rosenberg Self-Esteem Scale (RSES). Descriptive statistics, independent t-tests, one-way ANOVA, Pearson's correlation, and simple linear regression were applied. **Results:** The mean social media addiction score was 95.72 (SD = 16.42), with 86.08% classified as having moderate-to-high addiction. Mean self-esteem was 17.50 (SD = 2.78), with 17.72% reporting low self-esteem and none reporting high self-esteem. Social media addiction significantly predicted lower self-esteem ($\beta = -0.40$, $p < 0.001$, $R^2 = 0.16$). Appearance dissatisfaction, senior year, and longer sleep duration were significantly associated with self-esteem ($p < 0.001$). **Conclusions:** Social media addiction significantly and negatively predicts self-esteem among nursing students in Nepal. The high prevalence of addiction and low self-esteem warrant targeted interventions addressing digital literacy, stress management, and self-esteem building in nursing curricula.

KEYWORDS: Nursing students; Rosenberg Self-Esteem Scale; Self-esteem; Social media addiction.

INTRODUCTION

The digital landscape has transformed communication, connectivity, and information seeking. The use of the internet has increased digital engagement among youth and higher education

students in Nepal.¹ Although social media can be used for academic purposes, its compulsive and dysregulated use can develop into behavioral addiction.^{2,3} This addiction is characterized by preoccupation, tolerance, and functional impairment similar to chemical substance abuse.^{4,5}

Nursing students face demanding theory hours, assessments, and clinical postings. This academic and clinical stress may drive students to engage in social media as a coping strategy to alleviate negative emotional states or satisfy unmet psychosocial needs.^{6,7} However, such engagement can contribute to procrastination, poor sleep quality, and increased social anxiety.^{7,8}

Self-esteem, defined as an individual's perception and evaluation of their own worth, acts as a protective factor against psychological stress.⁹ Leary's Sociometer Theory suggests that self-esteem is influenced by perceived social acceptance.¹⁰ Social media can provide peer validation and collaboration, however, excessive reliance under clinical stress may threaten mental well-being.¹¹ Thus, dependence

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on likes and comments can make self-worth reliant on external validation.² Festinger's Social Comparison Theory explains that addictive exposure to unrealistic, idealized images of body appearances online can promote upward comparison, resulting in feelings of inadequacy and underachievement.⁹

Despite inconsistent international findings and limited research among Nepalese nursing students,^{6,12} the unique academic and clinical demands of nursing education in Nepal warrant context-specific investigation. This study aimed to determine levels of social media addiction and self-esteem, examine whether addiction predicts self-esteem, and identify associated factors. We hypothesized that social media addiction would negatively predict self-esteem. Findings from this study will contribute to the growing body of evidence on this topic and inform mental health interventions, digital wellness programs, and policy development in nursing education in Nepal.

METHODS

A cross-sectional, analytical survey was conducted at Birat Medical College, School of Nursing, Morang District, Koshi Province, Nepal. Data were collected from late May to June 2026, following Institutional Review Committee (IRC) approval on 20 May 2026 (Ref. IRC-178-2082/83). Administrative permission was granted by the principal and class coordinators.

A written participant information sheet was distributed prior to questionnaire distribution, explaining the study objectives, voluntary participation, confidentiality protocols, and the right to withdraw without penalty. Signed written informed consent was obtained from all participants. No names were collected, and data were processed using anonymous numerical coding.

A census sampling technique was employed, inviting all 158 undergraduate B.Sc Nursing students (Years I–IV). All approached students participated (100% response rate; $N = 158$). Inclusion criteria were: enrollment in the nursing program, smartphone use, and at least one active social media account. Students on psychiatric medications were excluded; none were excluded from the final analysis. Given the finite and relatively small population, a census approach was deemed appropriate, as it eliminated sampling error and ensured representation of all students.

A structured questionnaire collected sociodemographic and behavioral information,

including age, gender, year of study, residence, religion, ethnicity, monthly family income, family type, daily social media hours, sleep duration, appearance satisfaction, comparison with others, validation seeking, social media use before sleep and after waking, social support, and medication use.

Appearance satisfaction was assessed using a single-item question: "Are you satisfied with your physical appearance?" with "Yes" (Satisfied) or "No" (Unsatisfied) responses.

Social media addiction was assessed using the Social Media Addiction Scale-Short Form (SMAS-SF), a 29-item short form developed and validated by Sahin.¹³ The scale uses a five-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (5), encompassing four subscales: Virtual Tolerance (VT), Virtual Communication (VC), Virtual Problem (VP), and Virtual Information (VI). Total scores range from 29 to 145, with higher scores indicating greater addiction. Internal consistency in this study was confirmed with a Cronbach's alpha of 0.88.^{13,14}

Self-esteem was evaluated using the 10-item Rosenberg Self-Esteem Scale (RSES).¹⁵ The scale consists of five positively and five negatively phrased items, rated on a four-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (4). After reverse-scoring negative items, total scores range from 10 to 40. Scores between 15 and 25 are considered normal, below 15 indicate low self-esteem, and above 25 indicate high self-esteem. The scale demonstrated a Cronbach's alpha of 0.84 in the Nepalese student population.¹²

Questionnaires were distributed in paper format during classroom breaks, with a maximum of two days to complete and return them to research assistants, who were available for clarifications. After data collection, a short session on healthy social media use was conducted for participants.

Data were analyzed using PSPP 2.1.1. Descriptive statistics summarized demographic characteristics, addiction levels, and self-esteem scores. Inferential statistics included independent-samples t-tests (appearance satisfaction), Pearson's correlation (addiction and self-esteem), simple linear regression (addiction predicting self-esteem), and one-way ANOVA with Tukey's HSD post-hoc tests (addiction across academic years; self-esteem across daily usage durations). Significance was set at $p < 0.05$. Prior to regression, assumptions of linearity, normality of residuals (Shapiro-Wilk, $p > 0.05$), homoscedasticity, independence of residuals (Durbin-Watson), and absence of significant outliers

were verified.

To reduce bias, participants were assured of confidentiality and anonymity, informed there were no right or wrong answers, and original scoring procedures were followed for both scales.

RESULTS

A total of 158 nursing students participated in the study ($N = 158$). As shown in **Table 1**, the sample was predominantly female (98.73%), with a mean age of 20.43 years ($SD = 1.63$). The majority were aged 17–20 years (60.13%), enrolled in Year 1 (31.65%), and reported satisfaction with their appearance (56.33%). Most students used social media for 1–3 hours daily (50.00%) and slept 5–7 hours per night (70.25%). Complete demographic and behavioral details are provided in **Supplementary Table S1** available online.

Instagram was the most preferred platform (44.94%), followed by YouTube (36.08%) and TikTok (31.65%). The primary purposes of social media use were entertainment (100.00%), communication (90.51%), and academic activities (89.87%). Complete platform and purpose details are presented in **Supplementary Table S2** available online.

The mean social media addiction (SMA) score was 95.72 ($SD = 16.42$), with the majority of students classified as having medium (42.41%) or high (43.67%) levels of addiction. The mean self-esteem score was 17.50 ($SD = 2.78$), with 82.28% reporting normal self-esteem and 17.72% reporting low self-esteem. Notably, no student was classified as having high self-esteem (0.00%). Classification details are presented in **Table 2**.

Simple linear regression (**Table 3**) revealed that social media addiction significantly predicted self-esteem ($\beta = -0.40$, $p < 0.001$), indicating that higher addiction scores were associated with lower self-esteem. The model explained 16.20% of the variance in self-esteem ($R^2 = 0.16$, Adjusted $R^2 = 0.16$).

Age was positively correlated with SMA ($r = 0.18$, $p = 0.028$) and negatively correlated with self-esteem ($r = -0.26$, $p < 0.001$). Students unsatisfied with their appearance had significantly higher SMA scores ($M = 101.84$, $SD = 15.50$) compared to those satisfied ($M = 90.97$, $SD = 15.59$; $t = 4.36$, $p < 0.001$), and significantly lower self-esteem ($M = 16.23$, $SD = 2.77$ vs. 18.48 , $SD = 2.38$; $t = -5.39$, $p < 0.001$).

Significant differences in both SMA and self-esteem were observed across academic years ($p < 0.001$ for both). Post-hoc analyses (Tukey's HSD) revealed that Year IV students had the highest SMA

Table 1: Key Sociodemographic Characteristics of Participants ($N = 158$)

Characteristic	Category	n	%
Age	17–20	95	60.13
	21–25	63	39.87
Gender	Female	156	98.73
	Male	2	1.27
Year of Study	Year 1	50	31.65
	Year 2	40	25.32
	Year 3	39	24.68
	Year 4	29	18.35
Appearance Satisfaction	Unsatisfied	69	43.67
	Satisfied	89	56.33
Daily Social Media Use	<1 hour	4	2.53
	1–3 hours	79	50.00
	3–5 hours	51	32.28
	>5 hours	24	15.19
Sleep Duration	<5 hours	3	1.90
	5–7 hours	111	70.25
	>7 hours	44	27.85

Table 2: Social Media Addiction (SMA) and Self-Esteem Levels ($N = 158$)

Variable	Classification	n	%
SMA	Not Addicted	1	0.63
	Low Level	17	10.76
	Medium Level	67	42.41
	High Level	69	43.67
	Very High Level	4	2.53
Self-Esteem	Low	28	17.72
	Normal	130	82.28
	High	0	0

scores ($M = 107.72$, $SD = 16.25$) and the lowest self-esteem ($M = 14.79$, $SD = 2.68$) compared to all other years ($p < 0.05$).

Daily screen time and sleep duration were significantly associated with self-esteem ($p < 0.001$) but not with SMA. Students using social media for 3–5 hours daily reported the highest self-esteem ($M = 18.59$, $SD = 2.40$), while those using it for 1–3 hours reported the lowest ($M = 16.65$, $SD = 2.94$). Students sleeping >7 hours had the highest self-esteem ($M = 18.61$, $SD = 2.63$) compared to those sleeping 5–7 hours ($M = 16.98$, $SD = 2.71$). Complete bivariate associations, including post-hoc comparisons, are presented in **Supplementary Table S3**.

Table 3: Simple Linear Regression Analysis of Social Media Addiction Predicting Self-Esteem

Predictor	B	SE	B	t	p	R ²	Adj. R ²
SMA Score	-0.07	0.01	-0.40	-5.49	<0.001	0.16	0.16

In summary, social media addiction significantly and negatively predicted self-esteem among nursing students, with higher addiction scores associated with lower self-esteem.

DISCUSSION

This study examined whether social media addiction predicts self-esteem among undergraduate nursing students in Morang, Nepal. Social media addiction was a statistically significant negative predictor of self-esteem ($\beta = -0.40$, $p < 0.001$), explaining 16.20% of the variance ($R^2 = 0.16$). This is remarkably consistent with research among Chinese vocational students, which reported nearly identical findings ($\beta = -0.40$, $R^2 = 0.16$).¹⁶

However, our findings contrast with several international studies. Research from Saudi Arabia reported a positive correlation between smartphone addiction and self-esteem among nursing students.⁸ A study from Cuttack, Odisha, found a non-significant correlation between social media dependency and self-esteem.¹⁷ Similarly, research among South Indian nursing students reported positive correlations between digital connection and self-esteem.⁷ These discrepancies may reflect cultural differences in social media norms, variations in participant characteristics, and differences in measurement tools (smartphone vs. social media addiction). Where social media use is more socially integrated and less associated with maladaptive comparison, negative psychological effects may be attenuated.

A key finding was the non-linear relationship between daily screen-time duration and self-esteem, with moderate daily use (3–5 hours) associated with significantly higher self-worth than minimal use (1–3 hours). This is supported by the Davis Cognitive-Behavioral Model.⁴ Additionally, fourth-year senior students—similar to findings from Saudi Arabia—exhibited the highest addiction levels.⁸ Those dissatisfied with their physical appearance exhibited the most severe technological dependency and lowest self-esteem, aligning with Vogel et al., who concluded that social media platforms act as spaces for idealistic presentations and comparisons that trigger destructive upward social comparisons.⁹ Social media addiction can make students depend

on online approval, feeling valuable only when receiving likes, comments, or positive feedback, leading to repeated checking.⁹

The inverse relationship between social media addiction and self-esteem can be understood through multiple mechanisms. First, likes, comments, and positive feedback activate the brain's reward system, encouraging compulsive checking.^{18,19} Over time, this external validation dependency may erode intrinsic self-worth, making self-esteem contingent on online approval. Second, as Arora et al. (2024) concluded, using social media as a temporary solution for psychological relief ultimately compromises prefrontal self-control and erodes self-esteem.⁶ Third, long-term stress and excessive screen use may impair emotional regulation, making it harder to maintain a positive self-view.^{11,16}

Our findings align with international investigations highlighting a negative association between social media dependency and self-esteem. Studies among Spanish undergraduate cohorts and young adults have reported that compulsive platform usage promotes negative self-evaluations and lowers self-worth.²⁰ Our results are also consistent with research from Diponegoro University, Indonesia, which demonstrated a significant negative correlation ($r = -0.34$, $p = 0.001$) between social media addiction and self-esteem among preclinical trainees.²¹ These convergent findings across diverse Asian contexts suggest that the negative psychological impact of social media addiction transcends national boundaries.

A notable and clinically significant finding is the non-linear relationship between daily social media duration and self-esteem ($p = 0.001$), closely mirroring Arora et al. (2024).⁶ They reported that nursing students with moderate daily usage (4–6 hours) maintained the highest self-esteem, whereas those with low usage (1–3 hours) scored lowest. Moderate social media use may serve as a beneficial tool, offering opportunities for peer support, social validation, and academic collaboration. In contrast, very low usage might indicate a lack of digital integration, leading to social isolation in a highly connected student environment.⁹ However, as daily usage exceeds five hours, self-esteem begins

to decline, likely driven by prolonged exposure to idealized peer representations and negative upward social comparisons. Notably, daily duration did not significantly affect addiction scores ($p = 0.610$), supporting the premise that addiction is characterized by compulsive behavioral patterns rather than screen duration alone. This is consistent with the Compensatory Internet Use Theory (CIUT), which posits that individuals turn to the internet to compensate for unmet psychosocial needs, potentially affecting psychological well-being.⁵

This study also identified appearance dissatisfaction as an important factor associated with social media addiction. Students dissatisfied with their physical appearance had significantly higher SMA scores ($M = 101.84$, $SD = 15.50$) than those satisfied ($M = 90.97$, $SD = 15.59$; $p < 0.001$). This is explained by Festinger's Social Comparison Theory, which posits that social media exposes users to highly edited, filtered, and idealized images of appearance and lifestyle.^{5,9} Students dissatisfied with their appearance may engage in upward social comparisons, triggering feelings of inadequacy and driving increased social media use as they seek validation.

Highly significant differences in addiction levels were observed across academic years ($F(3,154) = 7.95$, $p < 0.001$), with fourth-year students reporting the highest addiction scores ($M = 107.72$, $SD = 16.25$). This is consistent with research on Chinese medical students, where intense academic over-competition and distress drove students to use social media as a temporary escape from stress.¹⁸ Senior nursing students face increased clinical responsibilities, internship pressures, and anxiety about professional transition. These cumulative stressors may increase vulnerability to maladaptive coping strategies including excessive social media use.

The high prevalence of moderate-to-high social media addiction (86.08%) suggests that screening for problematic social media use should be integrated into routine mental health assessments in nursing education. Particular attention should be paid to senior students (Year IV), who demonstrated the highest addiction scores and lowest self-esteem. The association between appearance dissatisfaction and lower self-esteem highlights the need for body image interventions, particularly given nursing students' frequent exposure to idealized images on platforms like Instagram and TikTok. Nursing curricula should include digital literacy modules addressing healthy social media use, critical evaluation of online content, and strategies for managing social

comparison. Stress management and self-esteem building programs should be integrated throughout nursing education, with particular emphasis on senior students who face transition-related stress.

This study has several strengths. It addresses a significant gap by examining this relationship among Nepalese nursing students. The use of validated instruments (SMAS-SF and RSES) enhances reliability. The census sampling approach minimized selection bias (100% response rate). Comprehensive data collection allowed for nuanced analysis of subgroup differences and non-linear relationships. Finally, robust statistical techniques were employed, including appropriate adjustments for violations of statistical assumptions.

Several limitations should be acknowledged. The cross-sectional design precludes causal inferences; longitudinal studies are needed. Data were collected from a single institution, limiting generalizability. The sample was overwhelmingly female (98.73%), limiting generalizability to male nursing students. Self-report measures are subject to social desirability and recall bias, though anonymous data collection minimized this. The study did not assess clinical diagnoses of depression or anxiety, which may confound the relationship. Finally, appearance satisfaction was assessed using a single-item question, which may not capture the full complexity of body image perception.

Based on these findings, we recommend: (1) longitudinal studies to establish causal relationships; (2) multicenter studies across different nursing institutions in Nepal; (3) qualitative research exploring why Year 4 students are at highest risk; (4) intervention studies testing whether digital literacy programs improve self-esteem; (5) studies examining depression and anxiety as mediating or moderating variables; and (6) studies using objective measures of social media use rather than self-report.

CONCLUSIONS

This study demonstrates that social media addiction is a significant negative predictor of self-esteem among undergraduate nursing students in Nepal. The high prevalence of moderate-to-high addiction (86.08%) and the complete absence of high self-esteem in the sample are concerning findings that warrant attention from nursing educators and mental health professionals. Senior students and those dissatisfied with their appearance are particularly vulnerable. The non-linear relationship between daily usage and self-esteem suggests that

moderate social media engagement (3–5 hours) may not be harmful and may even support social connectedness, but that excessive use is associated with psychological detriment. These findings underscore the need for integrated interventions addressing digital literacy, stress management, and self-esteem building in nursing curricula. Further research is needed to establish causality and explore the mechanisms underlying these associations in the unique context of Nepalese nursing education.

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Conflict of Interest:

The authors declare that no competing interests exist

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