



# Social Isolation in the Digital Age: A Study of Management Undergraduate Students in Chitwan

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## Abstract

Social isolation refers to feelings of disconnection and limited meaningful social interactions. In today's digital era, young adults increasingly rely on online platforms for communication and learning, which may influence their social well-being. This study examines social isolation among management undergraduate students and its relationship with digital behaviors, including social media use, digital communication preferences, online learning engagement, and screen time. Data were collected using structured questionnaires, and binary logistic regression analysis was employed to assess the influence of these digital behaviors on social isolation. The results indicate that screen time was a significant predictor of social isolation, with higher levels of screen exposure associated with an increased likelihood of social isolation. In contrast, social media use, digital communication preferences, and online learning engagement did not show a statistically significant association with social isolation. These findings highlight the potential risks of excessive screen time for students' social well-being and underscore the importance of promoting balanced digital use alongside meaningful face-to-face interactions. The study offers valuable insights for educators, policymakers, and mental health practitioners seeking to foster social connect- edness in increasingly digital learning environments.

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## 1. Introduction

Digital technologies have become an integral part of young adults' daily lives, particularly among university students who increasingly rely on social media, online communication, and digital learning platforms. While digital tools offer new opportunities for connection, scholars have raised concerns that excessive or unstructured screen-based engagement may weaken face-to-face interactions and contribute to feelings of social isolation. From a psychological perspective, humans possess a fundamental need to belong and maintain meaningful interpersonal relationships, and when this need is unmet, individuals may experience loneliness and emotional distress (Baumeister & Leary, 1995; Cacioppo & Hawkley, 2009).

Empirical research presents mixed findings regarding the social consequences of digital engagement. Several studies suggest that high levels of screen time and problematic social media use are associated with increased loneliness and perceived social isolation among adolescents and young adults (Primack et al., 2017; Wu et al., 2024). However, other evidence indicates that the impact of digital technologies depends on the quality and purpose of use rather than the amount alone. Meaningful online communication, supportive social interactions, and balanced screen use have been linked to greater social connectedness and psychological well-being (Nowland et al., 2018; Anderl et al., 2024).

In the context of Nepal, digital adoption among undergraduate students has increased rapidly, yet empirical evidence examining its social implications remains limited. Particularly in semi-urban regions such as Chitwan, little is known about whether structured digital behaviors such as intentional social media use, preferred digital communication modes, engagement in online learning, and regulated screen time can reduce feelings of social isolation. Addressing this gap, the present study investigates social isolation among management undergraduate students in Chitwan, Nepal, with the aim of providing context-specific insights to inform educational practices and digital well-being policies.

## 2. Literature Review

Empirical studies show that digital behaviors among adolescents and young adults can influence social isolation and psychological well-being. Excessive or unstructured screen time is associated with increased loneliness, anxiety, and reduced social connectedness. Anderl, Hofer and Chen (2024) found that smartphone usage patterns, particularly the purpose and quality of engagement, predict perceived social connectedness. Choi, Christiaans and Duerden (2025) reported that extended social media posting and scrolling increase anxiety, while Qirtas et al. (2024) highlighted device use patterns as key predictors of loneliness. Wang, Chen, and Liu (2024) showed that excessive social media use correlates with loneliness, moderated by traits such as shyness. Kuss and Griffiths (2017) emphasized that addictive social networking behaviors negatively affect mental health and social relationships. Borraccino et al. (2022) reported that problematic social media use and limited social support increase the risk of cyber aggression and emotional difficulties among adolescents.

Not all digital engagement is harmful. Caba Machado et al. (2023) demonstrated that active, purposeful social media use can enhance perceived social support, and Przybylski and Weinstein (2017) suggested that moderate, intentional screen use may be neutral or beneficial. Supportive online interactions improve psychological resilience and well-being (Jiang et al., 2023; Kou, 2024; Nagata et al., 2025; Younis, Khan, & Fazal, 2024).

In Nepal, research on undergraduates is limited. Baral (2022) reported digital divides and growing online engagement but little evidence on social impact, while Spiekerman et al. (2023) highlighted that the type of online interaction influences emotional adjustment. The findings are mixed, indicating the need for this study to clarify how mindful and purposeful digital use affects social connectedness among Nepali



**Table 1:** Summary of Literature Review on Digital Behaviors and Social Isolation

undergraduates.

In the contemporary digital environment, online communication, social media use, and screen-based

Authors (Year)	Objective	Method	Key Findings	Research Gap
Anderl, Hofer, and Chen (2024)	Examine how smartphone usage patterns affect social connectedness	Survey, statistical analysis	Purpose and quality of smartphone engagement predict perceived social connectedness	Limited research on Nepalese undergraduates
Choi, Christiaans, and Duerden (2025)	Study effects of social media posting/scrolling on mental health	Survey, statistical analysis	Extended screen use increases anxiety and psychosocial difficulties	Focus on adolescents; need student population evidence
Qirtas et al. (2024)	Explore digital biomarkers as predictors of loneliness	Data mining, observational study	Device use patterns predict loneliness	More context-specific studies needed
Wang, Chen, and Liu (2024)	Investigate social media use and loneliness	Survey, moderation analysis	Excessive social media correlates with loneliness; shyness moderates	Limited longitudinal evidence
Kuss and Griffiths (2017)	Examine addiction to social networking sites	Literature review	Addictive social media use negatively affects mental health and social relationships	More empirical studies on young adults needed
Borraccino et al. (2022)	Explore problematic social media use and social support	Mixed-method, surveys	Problematic use + limited support increases cyber aggression and emotional difficulties	Limited research in university settings
Caba Machado et al. (2023)	Examine active vs passive social media use	Survey, analysis	Active, purposeful use enhances social support	Need for cultural context studies
Przybylski and Weinstein (2017)	Test Goldilocks Hypothesis for digital use	Large-scale survey	Moderate, intentional screen use may be neutral/beneficial	Limited studies in South Asian populations
Jiang et al. (2023)	Study online communication and psychological capital	Survey, mediation analysis	Supportive online interactions improve resilience	More evidence needed in undergraduates
Kou (2024)	Investigate social media and well-being	Longitudinal study	Positive engagement enhances well-being	Focus on Nepalese students lacking
Nagata et al. (2025)	Examine health benefits of social media	Review, survey	Structured social media use supports well-being	More adolescent-specific studies needed
Younis, Khan, and Fazal (2024)	Explore social media impact on student socialization	Survey, statistical analysis	Proper use enhances connectedness	Limited studies in Nepal
Baral (2022)	Study digital divide in online learning	Case study	Digital engagement rising; lack of evidence on social impact	Need empirical studies on social connectedness
Spiekerman et al. (2023)	Examine forms of online interaction and emotional adjustment	Survey, mixed methods	Type of interaction affects emotional outcomes	Limited evidence in semi-urban populations

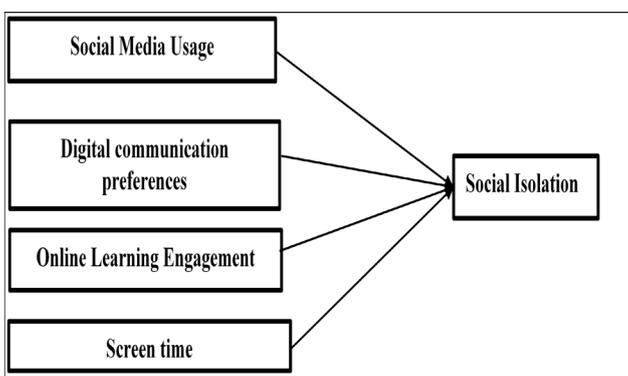
### 2.1 Theoretical and Conceptual Framework

This study is grounded in theories of social isolation and social connectedness, which explain how limited social interactions and weak interpersonal bonds contribute to feelings of loneliness and psychological distress. Prior research highlights that perceived social isolation rather than objective social contact alone can negatively influence mental health, cognitive functioning, and overall well-being (Cacioppo & Hawkey, 2009; Cacioppo & Cacioppo, 2014). These perspectives emphasize that individuals may feel socially isolated even when they are digitally or physically surrounded by others.

activities play a central role in students' academic and social lives. Empirical evidence suggests that excessive or problematic use of social media and prolonged screen time are associated with increased loneliness and perceived social isolation among young adults (Primack et al., 2017; Wu et al., 2024; Wang et al., 2024). However, research also indicates that the social consequences of digital engagement depend on the quality, purpose, and context of use. Meaningful online interactions and balanced screen use have been linked to greater social connectedness and well-being (Nowland et al., 2018; Anderl et al., 2024).

Building on this theoretical foundation, the conceptual

framework of the present study examines four dimensions of digital behavior social media use, digital communication preferences, online learning engagement, and screen time and their relationship with social isolation among management undergraduate students in Chitwan, Nepal. It assumes that excessive or unregulated digital engagement may increase feelings of isolation, whereas structured, purposeful, and socially supportive digital use may help mitigate negative social outcomes (Baral, 2022; Anderl et al., 2024). This framework provides a basis for analyzing how digital practices influence students' perceived social connectedness and overall social well-being in a rapidly urbanizing context.



**Figure 1:** Conceptual Framework of Digital Behaviors and Social Isolation among Undergraduate Students

### 3. Methodology

We employed a quantitative research design to investigate the relationship between undergraduate students' digital behaviors and social isolation, as this approach allows for systematic measurement of variables and statistical analysis of patterns and relationships.

#### 3.1 Survey design

The target population consisted of 261 undergraduate BBA management students from Chitwan, and we used convenience sampling for its practicality and feasibility within the study context. During an internship at an audit firm, we met a student from Boston International College, and we became friends. After preparing the structured questionnaire, we initially shared it with this friend via Google Forms, and they assisted in

distributing it to their college peers. Additionally, we invited classmates, juniors, and seniors from my own college to participate, which helped expand the respondent pool. The questionnaire recorded participants' screen time, digital communication preferences, online learning engagement, social media usage, and perceived social isolation. We analyzed the collected data using descriptive statistics, correlation analysis, and binary logistic regression in SPSS software to determine the strength and significance of relationships between the independent variables and social isolation.

### 4. Results

**Table 2:** Reliability Analysis

Variables	Number of Items	Cronbach's Alpha	Reliability Decision
Social Media Usage	6	0.911	Reliable
Digital Communication Preference	6	0.888	Reliable
Online Learning Engagement	6	0.883	Reliable
Screen Time	6	0.894	Reliable

Reliability analysis results show that all four variables have high internal consistency. Social Media Usage with six items has a Cronbach's Alpha of 0.911, indicating excellent reliability. Digital Communication Preference (0.888), Online Learning Engagement (0.883), and Screen Time (0.894) also exceed the acceptable threshold of 0.7, meaning the items consistently measure their intended constructs. These results suggest that the questionnaire is reliable, and the data accurately reflect participants' responses. Hence, the instruments are stable and suitable for analyzing the relationship between digital behavior and social isolation among undergraduate students.

**Table 3. Demographic Profile of Respondents**

Demographics		Respondents	Percentages
Gender	Male	154	59.0%
	Female	107	41.0%
Age	18-20	48	18.4%
	21-23	91	34.9%
	24-25	122	46.7%



Location	Urban	58	22.2%
	Suburban	190	72.8%
	Rural	13	5.0%
Income Level	Below 20000	75	28.7%
	21000-25000	45	17.2%
	26000-30000	37	14.2%
	Above 30000	104	39.8%
Using Social media	Yes	253	96.9%
	No	8	3.1%

A total of 261 management undergraduate students in Chitwan were included in the study; 59.0% were male, 41.0% were female, 46.7% were 24–25 years old, 34.9% were 21–23 years old, and 18.4% were 18–20 years old; 72.8% were from suburban areas, 22.2% from urban areas, and 5.0% from rural areas; 39.8% earned more than NPR 30,000, 28.7% earned less than NPR 20,000, 17.2% earned between NPR 21,000–25,000, and 14.2% earned between NPR 26,000–30,000; and 96.9% said they use social media, demonstrating that social media is a significant part of the digital and social lives of management students in Chitwan.

**Table 4:** Descriptive Statistics

	Numbers of Respondents	Mean	SD
SU	261	3.50	0.91
DC	261	3.61	0.84
OL	261	3.65	0.78
ST	261	3.75	0.79

The result presents the descriptive statistics for the independent variables: Social Media Usage (SU), Digital Communication Preference (DC), Online Learning Engagement (OL), and Screen Time (ST). The results indicate that respondents indicated moderate to high levels of engagement with all digital activities (mean values ranged from 3.50 [SU] to 3.75 [ST], with standard deviations [0.78–0.91] reflecting moderate variability among respondents). In summary, the findings reflect a pattern of frequent digital activity among management undergraduate students in Chitwan.

**Table 5:** Correlation Analysis

	SU	DC	OL	ST
SU	1	0.897**	0.702**	0.601**
DC	0.897**	1	0.746**	0.675**
OL	0.702**	0.746**	1	0.841**
ST	0.601**	0.675**	0.841**	1

Note: \*\*-Significant at 1%

The Pearson correlation analysis revealed that Social Media Usage (SU), Digital Communication Preference (DC), Online Learning Engagement (OL), and Screen Time (ST) are all positively and significantly correlated at the 0.01 level. SU showed a strong positive relationship with DC and moderate positive relationships with OL and ST. Similarly, DC was strongly correlated with OL and moderately with ST, while OL exhibited a strong positive correlation with ST. These results indicate that higher engagement in social media and digital communication is associated with increased online learning participation and greater screen time among the respondents, highlighting the interconnected nature of digital behaviors .

**Table 6:** Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
140.486 <sup>a</sup>	0.243	0.435

The model summary shows that the logistic regression has a -2 Log Likelihood value of 140.486, with Cox & Snell R<sup>2</sup> = 0.243 and Nagelkerke R<sup>2</sup> = 0.435, indicating that the model explains about 24% to 44% of the variance in social isolation, which reflects a moderate explanatory power (see Table 5).

**Table 7 :** Binary logistic regression

Predictor	B	S.E.	Wald	df	P-value	OR
SU	0.116	0.593	0.038	1	0.845	1.13
DC	0.664	0.656	1.025	1	0.311	1.94
OL	0.255	0.524	0.236	1	0.627	1.29
ST	0.984	0.426	5.343	1	<b>0.021</b>	<b>2.68</b>

A binary logistic regression analysis was conducted to examine the influence of social media usage (SU), digital communication preference (DC), online learning engagement (OL), and screen time (ST) on social isolation among undergraduate students. The results indicated that social media usage, digital



communication preference, and online learning engagement did not significantly predict social isolation ( $p > 0.05$ ). However, screen time emerged as a statistically significant predictor of social isolation ( $B = 0.984$ ,  $SE = 0.426$ ,  $Wald = 5.343$ ,  $p = 0.021$ ). The odds ratio [ $\text{Exp}(B) = 2.68$ ] suggests that with each unit increase in screen time, the likelihood of experiencing social isolation increased by approximately 2.7 times among the respondents.

## 5. Discussion

The findings of this study indicate that increased screen time (ST) is significantly associated with higher levels of social isolation among management undergraduate students, whereas other digital behaviors such as social media use, digital communication, and online learning engagement were not significant predictors. Students with higher screen time were over 2.5 times more likely to report social isolation ( $OR = 2.68$ ,  $p = 0.021$ ). This result supports existing evidence that excessive or passive screen use can reduce opportunities for meaningful offline interaction and weaken social ties (Anderl, Hofer, & Chen, 2024; Choi, Christiaans, & Duerden, 2025; Nagata et al., 2025). Earlier work also cautions that internet use may increase loneliness when it displaces face-to-face relationships (Valkenburg & Peter, 2009).

The results underscore that the purpose and quality of digital engagement are more important than mere access or frequency. Passive or unstructured screen time may intensify loneliness, while purposeful and relational online activities can support social connectedness (Baral, 2022; Huang, Ssempala, & Wang, 2025; Nowland, Necka, & Cacioppo, 2018). This aligns with recent findings showing that passive browsing is more strongly linked to poorer well-being than active engagement, challenging simplistic assumptions about social media use (Valkenburg et al., 2021). By demonstrating these patterns among semi-urban Nepali undergraduates, the study adds context-specific evidence to the broader literature (Valkenburg,

Meier, & Beyens, 2022).

The findings have practical implications for higher education institutions, suggesting the need to promote mindful and balanced digital practices rather than discouraging technology use altogether. However, the study is limited by its cross-sectional design, self-reported measures, and a sample restricted to management students in one district. Future research should adopt longitudinal approaches, include diverse student populations, and examine qualitative aspects of digital engagement to better understand its social consequences.

## 6. Conclusion

This study demonstrates that excessive screen time is associated with increased social isolation among undergraduate students, while other forms of digital engagement do not show a significant effect. By distinguishing between different types of digital behavior, the research highlights that not all screen-based activities are equally harmful or beneficial. These findings extend existing evidence showing that the social and mental health impacts of digital media depend largely on usage patterns and purposes (Valkenburg, Meier, & Beyens, 2022).

The results carry important practical and policy implications. Educational institutions should promote digital literacy initiatives that encourage intentional, relational, and balanced technology use. Rather than discouraging digital engagement altogether, policies should focus on reducing excessive passive screen time while supporting meaningful online interaction that complements offline relationships (Baral, 2022; Huang, Ssempala, & Wang, 2025; Qirtas et al., 2024; Wang, Chen, & Liu, 2024). By situating its findings within established international literature and focusing on a Nepali undergraduate context, this study addresses a significant research gap and provides context-specific evidence to inform future research, educational practices, and policy discussions aimed at



improving student social well-being.

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