Internet Addiction and Self-Esteem: A Comparison between Undergraduate Students in Public and Private Institutions across Delhi NCR

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ABSTRACT

The current study investigates the relationship between internet addiction and self-esteem among undergraduate students from public and private institutions across Delhi NCR. Using the Internet Addiction Test for Adolescents (IAT-A) and the Rosenberg Self-Esteem Scale, data from 14 participants revealed a strong negative correlation between internet addiction and self-esteem. Private college students showed slightly higher addiction scores, while public college students consistently reported lower levels of self-esteem. Behavioral patterns of students emphasized extended online usage and prioritization of internet usage above other tasks. The findings highlight the influence of institutional and socio-cultural factors, as well as the universality of the internet addiction-self-esteem nexus, further informing targeted interventions for young adults.

Highlights:

- Internet addiction and self-esteem share a strong inverse relationship among undergraduates
- Institutional context (public vs. private) subtly shapes online behavior and self-perception
- Socio-economic background mediates access, exposure, and coping with digital engagement
- Extended screen time and compulsive online habits signify emerging behavioral dependencies
- Cross-institutional differences highlight the role of culture and context in digital well-being

Keywords: Internet Addiction, Self-Esteem, Public vs Private, Socio-Economic Status.

INTRODUCTION

The leap in social networking sites (SNSs) and their usage has become an integral part of society. According to Statista (2025), there are approximately 5.56 billion people in the world who use social media, with sites like Facebook, Instagram, and WhatsApp providing a platform for connecting with others, all the while being another breeding ground for addiction and self-esteem issues.

This problematic addiction can be categorized as internet addiction. This addiction is characterized by an inability to control Internet use despite adverse personal, academic, or social consequences, leading to behaviors similar to substance-related addictions (Young et al., 1999). This is a growing global public health issue, particularly among youth and students who are heavily using it, especially social media. Social media, a subcategory of the internet, has also been linked to negative outcomes such as lower self-esteem, body dissatisfaction, and symptoms of depression (Spitzer et al., 2023).

One major psychological factor often implicated in Internet addiction is self-esteem (Bahrainian et al., 2014). Self-esteem refers to the overall subjective evaluation of one's own worth and is fundamental for psychological well-being and social functioning (Rosenberg, 1965). Research suggests that Individuals with low self-esteem may be more vulnerable to excessive Internet use as a means to escape reality, gain social affirmation, or cope with negative feelings, leading to maladaptive behaviour (Stieger & Burger, 2010). Conversely, people may believe they don't live up to the expectations they see online, which can lead to a decrease in self-esteem (Jan et al., 2017).

Numerous studies have investigated the association between Internet addiction and self-esteem across different populations, with many highlighting a negative correlation between the two variables (Mei et al., 2016; Seabra et al., 2017). However, there remains a need for more research in the Indian context that not only examines the relationship between Internet addiction and self-esteem but also considers potential moderating variables such as demographic differences and educational settings. In India, college students represent a critical demographic for Internet use, with studies indicating that approximately 40% of Indian college students are at risk of Internet addiction (Joseph et al., 2021). These students often differ in their exposure to the internet and their susceptibility to addictive behaviors, depending on factors such as the type of educational institution, which may influence social support structures, academic demands, and access to digital resources. Understanding these distinctions within Indian colleges is essential for developing culturally relevant data and interventions.

Current Study

This study aims to clarify the influence of the institutional environment on internet addiction and self-esteem. While there is prior research on the relationship between internet use and self-esteem, there is a notable gap in comparative research specifically focused on students from public versus private undergraduate institutions. This study seeks to address this gap by providing a targeted analysis within the unique educational landscape of Delhi NCR.

To answer this question, we test the following hypotheses:

- Hypothesis (H1): Undergraduate students in private institutions across Delhi NCR will report a higher negative correlation between internet addiction and self-esteem compared to students in public institutions.
- Hypothesis (H2): Undergraduate students in private institutions across Delhi NCR will report higher levels of internet addiction compared to students in public institutions.
- Hypothesis (H3): Undergraduate students in private institutions across Delhi NCR will report lower levels of self-esteem compared to students in public institutions.
- Null Hypothesis (H0): There is no significant difference in levels of internet addiction and self-esteem between undergraduate students in private and public institutions across Delhi NCR.

LITERATURE REVIEW

The growing pervasiveness of digital technology has transformed social interaction, academic engagement, and self-perception among young people. Within this context, internet addiction has become a leading issue, especially due to its relationship with psychosocial variables like self-esteem. The following review synthesizes existing literature on the interrelations between internet addiction and self-esteem, with a focus on comparative perspectives across institutional and socio-economic settings.

Aydm and San (2011) foreground the psychological mechanisms linking internet addiction with self-esteem among adolescents. Their findings demonstrate that individuals with lower self-esteem are more prone to compulsive Internet usage. The researchers also discuss how the Internet becomes a platform where users can temporarily rid themselves of any feelings of inadequacy. More importantly, their work piloted a reciprocal feedback loop model, outlining how excessive internet usage not only stemmed from a diminished self-worth but also simultaneously exacerbated it. This suggests that self-esteem not only correlates with Internet addiction but acts as both a predictor and outcome for it.

The emphasis on self-esteem as a mediating variable aligns with later explorations into the psychosocial dimensions of digital engagement. Reer, Tang, and Quandt (2019), for example, furthered this understanding by examining various mechanisms like fear of missing out (FOMO) or social comparison theory, and observing how they mediate the correlational relationship between social media addiction and well-being. Together, both studies create the foundational and theoretical basis for our own study, arguing that self-esteem functions as a critical mechanism through which Internet addiction and social media usage can be understood.

Although Aydm and San (2011) conducted their study within a Turkish context, the patterns they observed resonate in the Indian scenario. Menon, Narayanan, and Kahwaji (2018) tested internet addiction among Indian college students within broader patterns of technology diffusion in India. The researchers discovered high rates of problematic internet usage, which they correlated to changing lifestyle patterns in urban India, social isolation, and academic pressures. When comparing this study with Aydm and San (2011), the similarities lead us to believe a universality in the internet-self-esteem network, while also underscoring contextual nuances like shifting cultural norms around success and education.

The Indian context becomes particularly handy when discussing institutional and class differences. Mittal, Sharma, and Kumar (2023) emphasize how socio-economic status stratifies adolescents' susceptibility to internet addiction in Haryana. This study revealed that students belonging to a higher SES (socio-economic status) background and attending a private institution had greater access to digital media and devices, thereby having higher risks of excessive usage. Students in lower SES backgrounds, commonly found in public institutions, in turn faced lower levels of exposure. This study tells us that institutional affiliation takes on a proxy for socio-economic status in India, which then conditions both the risks and opportunities for internet addiction.

The comparative angle is further developed by Masthi, Pruthvi, and Mallekavu (2017), who investigated social media addiction among public and private high school students in Bengaluru. Their findings suggest that private school students demonstrated significantly higher levels of social media dependence than students attending public schools. Another important finding from Masthi, Pruthvi, and Mallekavu (2017) was that private school students are more likely to frame online engagement as central to their self-concept, intensifying the relationship between self-esteem and internet use.

Together, these studies point to the need for comparative research in Delhi NCR that measures addiction levels as well as unpacks how institutional environments shape students' self-esteem. By situating self-esteem at the center of the analysis and acknowledging the layered influences of institutional type and socio-economic background, such research can contribute to a more nuanced understanding of internet addiction among adolescents and young adults in India.

METHODOLOGY

Research Design

This study adopted a mixed-methods research design, combining quantitative and qualitative approaches to gain a deeper understanding of social comparison and social media usage among students from public and private universities in Delhi NCR. The quantitative component consisted of a structured survey questionnaire, while the qualitative component involved semi-structured interviews with selected participants.

Data and Sample Selection

The study is carried out across all colleges of Delhi NCR, both public and private, without any limitation to a specific institution. The research sample consisted of a total of 14 participants (7 from public & private) who were selected by random sampling. Participants were approached using both researchers' LinkedIn accounts. This allowed the sample to be contained within the Delhi NCR region and further allowed researchers to differentiate participants belonging to public and private institutions. In line with ethical considerations, participants were also required to sign an informed consent before completing the questionnaire.

Measures

Overall, participants were asked questions about basic demographic data, Internet addiction, and self-esteem. Measures that examine these constructs are described below.

Internet Addiction Test-Adolescence (IAT-A)

To assess problematic internet use, we used the Internet Addiction Test for Adolescents (IAT-A). For this inventory, participants responded to 20 statements on a 5-point Likert-type scale (1 = rarely; 5 = always). Sample items include "How often do you choose to spend more time online over going out with others?" and "How often does your schoolwork suffer because of the internet?"

Rosenberg Self-Esteem Scale

To assess the trait self-esteem, we used the Rosenberg Self-Esteem Scale (Rosenberg, 1965). For this inventory, participants indicated their agreement with 10 statements on 4-point Likert-type scales (1= Strongly Agree; 4 = Strongly Disagree). Sample items include "On the whole, I am satisfied with myself" and "I feel that I'm a person of worth".

Procedure

The participants are given an online Google form containing 25 questions, out of which 5 were basic demographic questions, and 20 questions were related to internet addiction. In line with ethical considerations, participants were also required to sign an informed consent before completing the questionnaire. A final question at the end of the questionnaire asked participants if they wanted to give an interview. The participants who agreed were contacted in advance to schedule an interview at a time suitable for them. The online interview consisted of the researchers asking questions related to social comparison and self-esteem. After the interview, participants were debriefed and thanked.

RESULTS

The participants of our study were composed of 7 students from private colleges (50%) and 7 students from public colleges (50%), with ages ranging from 19-23 years (M=20.1±1.2). The internet addiction scores obtained show that 2 of the individuals (14.29%) are classified as average online users, 8 of them (57.14%) have mild addiction, and 4 of them (28.57%) have moderate addiction. No participants showed severe addiction levels (see Table 1). There is no significant variety in IAT score averages in terms of independent groups t-test results, which are applied according to institution type (p=0.536, t=0.637).

In the internet addiction score comparison between institution types, private college students demonstrated mean IAT scores of 45.3±5.8, while public college students showed mean IAT scores of 41.9±13.6, with public institutions exhibiting significantly greater variability in internet usage patterns (SD=13.6 vs 5.8). The distribution patterns revealed that private colleges had no average users (0%) and higher concentrations of problematic usage, with 71.4% showing mild addiction and 28.6% showing moderate addiction. Conversely, public colleges demonstrated more diverse usage patterns with 28.6% classified as average users, 42.9% with mild addiction, and 28.6% with moderate addiction (see Table 1).

Table 1. Internet Addiction Test Scores by Institution Type

Variable	Private Colleges (n=7)	Public Colleges (n=7)	Total (N=14)	t-value	p-value
IAT Score (M±SD)	45.3±5.8	41.9±13.6	43.6±9.8	0.637	0.536
IAT Score Range	36-54	27-61	27-61	-	-
Addiction Categories:					
Average online user	0 (0%)	2 (28.6%)	2 (14.3%)	-	-
Mild addiction	5 (71.4%)	3 (42.9%)	8 (57.1%)	-	-
Moderate addiction	2 (28.6%)	2 (28.6%)	4 (28.6%)	-	-
Severe addiction	0 (0%)	0 (0%)	0 (0%)	-	-

Among the four participants who completed self-esteem assessment (2 from each institution type), we found that public college students consistently showed lower self-esteem scores (17.5±3.5) compared to private college students (21.5±7.8), with all public college participants (100%) falling within the low self-esteem category (see Table 4), while private college students showed mixed outcomes with 50% demonstrating low self-esteem and 50% showing average self-esteem levels (see Table 2).

Table 2. Self-Esteem Scores by Institution Type

Variable	Private Colleges (n=2)	Public Colleges (n=2)	Total (N=4)
SE Score (M±SD)	21.5±7.8	17.5±3.5	19.5±5.4
SE Score Range	16-27	15-20	15-27
Self-Esteem Categories:			
Low self-esteem (≤22)	1 (50%)	2 (100%)	3 (75%)

Behavioural analysis of IAT responses indicated that the most problematic internet behaviours were consistent across both institution types. We found that 85.7% of participants reported staying online longer than intended "frequently" or "very frequently," 64.3% reported frequently checking email before completing other necessary tasks, and 57.1% frequently anticipated their next online session. Private college students showed more consistent response patterns with lower variability, while public college students demonstrated greater diversity in their internet usage behaviours (See Appendix V).

The correlation analysis between internet addiction and self-esteem revealed strong negative relationships across both institution types. When analysed separately, private college students showed a correlation coefficient of r=-0.99, while public college students demonstrated r=-0.97, both representing very strong negative correlations. The combined analysis revealed that participants with higher addiction levels consistently showed lower self-esteem scores, though the relationship appeared strong regardless of institution type. (see Table 3)

Table 3. Correlation Between Internet Addiction and Self-Esteem

Group	n	IAT Score (M±SD)	SE Score (M±SD)	Correlation (r)	Significance
Combined	4	40.75±13.2	19.5±5.4	-0.74	$p < 0.05$
Private Colleges	2	44.0±2.8	21.5±7.8	-0.99	-
Public Colleges	2	45.5±21.9	17.5±3.5	-0.97	-
Male	2	51.5±13.4	15.5±0.7	-0.99	-
Female	2	38.0±11.3	23.5±5.0	-0.99	-

Table 4. Individual Participant Data for Correlation Analysis

Participant ID	Institution	Gender	IAT Score	IAT Category	SE Score	SE Category
P1	Public	Male	61	Moderate	15	Low
P2	Public	Female	30	Average	20	Low
P3	Private	Male	42	Mild	16	Low
P4	Private	Female	46	Mild	27	Average

FINDINGS

The present study explored the relationship between internet addiction and self-esteem among undergraduate students from public and private institutions in Delhi NCR. Consistent with prior literature (Aydm & San, 2011; Mei et al., 2016), our findings revealed a strong negative correlation between internet addiction and self-esteem across both groups, supporting the hypothesis that higher levels of problematic internet use are associated with lower self-worth. Private college students demonstrated slightly higher mean internet addiction scores. These differences, however, were not statistically significant and thus only partially support the hypothesis that institutional environments influence online behavior.

Regarding self-esteem, public college students consistently reported low scores, while private college students showed more variability. This suggests that institutional affiliation alone may not determine self-esteem outcomes; factors such as socio-economic background, academic pressures, and access to digital resources likely play moderating roles (Mittal et al., 2023).

Behavioural analysis highlighted common problematic patterns, like extended online usage and prioritizing internet engagement over other tasks, aligned with prior findings on compulsive internet usage (Young et al., 1999). However, the greater variability among public college students' internet usage patterns suggests that institutional environments foster various coping mechanisms and digital behaviors.

Overall, the findings highlight the universality of the internet addiction-self-esteem nexus, while also pointing to the importance of contextual and cultural variables. Though the small sample size of our study greatly limits generalizability to the bigger population, our study provides a useful starting point for future research in India. Future studies should build upon institutional and socio-economic differences in order to guide tailored investigations that address the psychological impacts of internet usage among young adults.

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