

Internet Addiction Among College Students Prevalence and Associated Factors

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Abstract:

Background: Internet use has become an integral part of students' lives, but its excessive use can lead to behavioral addiction affecting mental health and daily functioning.

Aim: To determine the prevalence of internet addiction among college students and identify associated factors.

Methodology: A cross-sectional study was conducted among 500 undergraduate students at a Lokmanya Tilak Municipal Medical College and Hospital (LTMMC), Mumbai, Maharashtra (2019–2022). Data were collected using a structured questionnaire, Young's Internet Addiction Test (YIAT-20), and Kessler Psychological Distress Scale (K10). Statistical analysis included descriptive measures and logistic regression.

Results: Out of 500 participants, 52% were normal users, while 32% had mild, 13.4% moderate, and 2.6% severe addiction. Males showed slightly higher addiction levels than females. Higher prevalence was observed among older students (24–26 years) and final-year students. Rural participants exhibited a relatively greater proportion of severe addiction. Social networking and entertainment use were significantly associated with higher addiction levels, whereas academic use showed lower risk.

Conclusion: Internet addiction is moderately prevalent among college students, influenced by demographic and behavioral factors. Early interventions, awareness programs, and promotion of balanced internet use are essential.

Keywords: Internet Addiction, College Students, Prevalence, Behavioral Factors, Social Networking, Mental Health.

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Introduction

The internet has turned into a fundamental aspect of modern day living, particularly for the younger generation and university students [1]. The fast-paced progression in digital technology, the widespread possession of smartphones, the considerable drop in prices of data plans, and the extensive availability of wireless networks have all contributed to the sky-rocketing of internet usage in the last ten years. Besides, the internet is being used for various purposes, including education, communication, entertainment, social networking, and information sharing [2]. The proper and limited usage of the internet might bring many advantages, but there are still disadvantages like addiction, which is a behavioral problem caused by the excessive and uncontrolled use of the internet [3].

Internet addiction is the inability to control internet use, resulting in the affected person's experiencing significant distress and having their daily functioning impaired [4]. The disorder manifests itself through an individual's spending much time online, being constantly occupied with internet activities, having symptoms like those of addicts when being

offline, neglecting school and societal duties, and still using the internet even when negatively impacted by it. College students are at high risk of getting addicted to the internet due to high academic pressures, readily available digital devices, peer pressure, and the liberation that comes with going to college. The transition from school to college often leads to psychological stress, loneliness, and difficulties in adjusting, which might push the students to rely on Internet use as a coping mechanism for the problems created by college life [5].

Recent years have seen a substantial transformation in the internet use habits of college students. Social media sites, online gaming, video streaming service, and instant messaging have replaced traditional means of recreation and socializing [6]. Academic activities conducted through the internet such as online resources, virtual classes, and digital assignments have also contributed to students spending more time on the screens [7]. Even though these technologies offer several benefits, their overuse might negatively impact sleeping patterns, physical activities, learning, and relationships. Long hours of

internet use have been linked with mental disorders like anxiety, depression, stress, low self-esteem, and poor emotional control [8].

The emergence of internet addiction among college students is a multifactorial process. Individual factors like age, gender, personality traits, emotional instability, poor self-control, and low self-confidence are among those that have been mentioned [9]. Academic stress, family problems, lack of social support, and peer pressure are some of the psychosocial factors that significantly influence the situation [10]. Environmental factors, such as the widespread availability of high-speed internet, the trend of unlimited data plans, and the growing dependency on online platforms for education, also facilitate the habit of heavy internet use. Lifestyle factors like unscheduled sleep, no exercise, and bad time management are mentioned as significant factors too.

The present cross-sectional study is, thus, to determine the prevalence of internet addiction in college students and to pinpoint the factors that lead to it. This study will provide the necessary insights for educators, health professionals, and policymakers to understand the scale of the issue and devise the corresponding awareness programs, counseling services, and preventive measures to support the youngsters' internet choice habits.

Materials and Methods

Study Design: The cross-sectional statistical, college-incorporated survey was arranged to calculate the prevalence of Internet dependency among collegegoers and its correlations.

Study Area and Duration: The study was conducted at Lokmanya Tilak Municipal Medical College and Hospital (LTMMC), Mumbai, Maharashtra, India. This institution is a major tertiary care teaching hospital providing undergraduate medical education. The study was carried out over a period of three years, from September 2019 to July 2022.

Study Population: The study population consisted of 500 undergraduate students enrolled at LTMMC, Mumbai. Students from different academic years and departments were included to ensure adequate representation. Both male and female students participated in the study.

Selection Criteria

Inclusion Criteria

- Regular undergraduate students of LTMMC, Mumbai
- Students aged 18 years and above
- Both male and female students enrolled during the study period
- Students present at the time of data collection
- Students who provided written informed consent

Exclusion Criteria

- Students who were seriously ill during the data collection period
- Students unwilling to participate
- Students absent during data collection
- Incompletely filled questionnaires

Study Instruments: Data were collected using a predesigned, structured, self-administered questionnaire in English. The questionnaire included sections on socio-demographic characteristics, patterns of internet use, and mental health status. Internet addiction was assessed using Young's Internet Addiction Test (YIAT-20), a standardized 20-item scale rated on a 5-point Likert scale, with total scores ranging from 20 to 100. Based on the scores, participants were categorized as normal, mild, moderate, or severe internet users. Mild to severe categories were considered indicative of internet addiction. Psychological distress was measured using the Kessler Psychological Distress Scale (K10), which assesses symptoms of anxiety and depression. A score of 20 or above was considered indicative of psychological distress.

Data Processing and Analysis: Quantitative data cleaning, coding, and entering took place in EpiData version 3.1 followed by exporting to SPSS version 25 for statistical analysis. The data were summarized through the application of descriptive statistics such as frequencies, percentages, means, and standard deviations; and the results were displayed in tables and figures. The presence of multicollinearity among the independent variables was evaluated by checking standard errors and no noteworthy correlation was found. Binary logistic regression was employed to study the relationship between independent variables and internet addiction. The variables that yielded a p value ≤ 0.25 in the univariate analysis were subsequently included in the multivariate logistic regression model. A p value < 0.05 together with an Adjusted Odds Ratio (AOR) with 95% Confidence Interval (CI) not overlapping with one were taken as indicators of statistical significance.

Result

Table 1 shows the distribution of internet addiction levels according to gender among 500 participants. Out of 277 male participants, the majority were normal users ($n=140$), followed by those with mild addiction ($n=90$), moderate addiction ($n=40$), and severe addiction ($n=7$). Similarly, among 223 female participants, most were normal users ($n=120$), followed by mild addiction ($n=70$), moderate addiction ($n=27$), and severe addiction ($n=6$). Overall, out of the total sample, 260 participants were normal users, 160 had mild addiction, 67 had moderate addiction, and only 13 exhibited severe addiction. The findings indicate that internet addiction is present in both genders, with a slightly higher number of males

across all categories, although the overall pattern of distribution remains similar between males and females.

Table 1: Distribution of Internet Addiction by Gender

Gender	Sample Size (n)	Normal Users (n)	Mild Addiction (n)	Moderate Addiction (n)	Severe Addiction (n)	Total (n)
Male	277	140	90	40	7	277
Female	223	120	70	27	6	223
Total	500	260	160	67	13	500

Table 2 shows the distribution of internet addiction across different age groups among the 500 participants. In the 18–20 years group (n=180), the majority were normal users (95), followed by mild addiction (55), moderate addiction (27), and a small number with severe addiction (3). Similarly, in the 21–23 years group (n=220), most participants were normal users (115), with 72 showing mild addiction, 29 moderate addiction, and 4 severe addiction. In the 24–26 years group (n=100), only half of the partici-

pants were normal users (50), while 33 had mild addiction, 11 moderate addictions, and a comparatively higher proportion showed severe addiction (6). Overall, out of 500 participants, 260 were normal users, 160 had mild addiction, 67 had moderate addiction, and 13 had severe addiction, indicating that while most individuals fall under normal or mild usage, the prevalence of higher levels of addiction tends to increase slightly with age.

Table 2: Internet Addiction by Age Group

Age Group (years)	Sample Size (n)	Normal Users (n)	Mild Addiction (n)	Moderate Addiction (n)	Severe Addiction (n)	Total (n)
18–20	180	95	55	27	3	180
21–23	220	115	72	29	4	220
24–26	100	50	33	11	6	100
Total	500	260	160	67	13	500

Table 3 shows the distribution of internet addiction according to academic year among the participants. It is observed that the majority of students across all years fall under the category of normal users (n=260), followed by mild addiction (n=160), while moderate (n=67) and severe addiction (n=13) are comparatively less prevalent. In the 1st year, out of 120 students, 65 were normal users, 40 had mild addiction, 13 had moderate addiction, and only 2 had severe addiction. Similarly, in the 2nd year, most students were normal users (70), with 40 showing mild addiction, 18 moderate addiction, and 2 severe

addiction. The 3rd year shows a similar pattern with 62 normal users, 40 mild, 16 moderate, and 2 severe cases. However, in the 4th year, although normal users (63) and mild addiction cases (40) remain consistent, there is a noticeable increase in moderate (20) and severe addiction (7) cases compared to other years. Overall, the findings suggest that while normal internet usage is predominant across all academic years, the severity of internet addiction tends to slightly increase in higher academic years, particularly in the final year.

Table 3: Distribution of Internet Addiction by Academic Year

Academic Year	Normal Users (n)	Mild Addiction (n)	Moderate Addiction (n)	Severe Addiction (n)	Total (n)
1st Year	65	40	13	2	120
2nd Year	70	40	18	2	130
3rd Year	62	40	16	2	120
4th Year	63	40	20	7	130
Total	260	160	67	13	500

Table 4 shows the distribution of internet addiction according to place of residence among the study participants. Out of the total 500 individuals, 300 belonged to urban areas and 200 to rural areas. Among urban residents, the majority were normal users (155), followed by mild addiction (95), moderate addiction (45), and a smaller number with severe ad-

diction (5). Similarly, in rural areas, most participants were normal users (105), followed by mild (65) and moderate addiction (22), while severe addiction was slightly higher (8) compared to urban participants. Overall, normal internet usage was most common in both groups (260), while severe addiction was the least prevalent (13). The findings in-

indicate that although urban participants had higher absolute numbers across categories due to larger sample size, rural participants showed a relatively

higher proportion of severe addiction cases, suggesting a need for targeted awareness and intervention in rural settings.

Table 4: Distribution of Internet Addiction by Place of Residence

Residence	Normal Users (n)	Mild Addiction (n)	Moderate Addiction (n)	Severe Addiction (n)	Total (n)
Urban	155	95	45	5	300
Rural	105	65	22	8	200
Total	260	160	67	13	500

Table 5 shows the distribution of internet addiction levels based on the primary purpose of internet use among 500 participants. The majority of participants used the internet for academic/study purposes (n=200), where most were normal users (120), followed by mild (60), moderate (18), and severe addiction (2), indicating relatively healthier usage patterns. In contrast, participants using the internet for social networking (n=150) exhibited higher levels of addiction, with 50 mildly addicted, 25 moderately addicted, and 5 severely addicted individuals, suggesting a greater risk of problematic use. Similarly,

those engaged in entertainment/gaming (n=100) showed an equal number of normal and mildly addicted users (40 each), with 18 moderately and 2 severely addicted, reflecting a moderate level of addiction risk. The 'other' category (n=50) demonstrated comparatively fewer users, but a noticeable proportion of severe addiction (4), highlighting potential vulnerability in less-defined usage patterns. Overall, while academic use is associated with lower addiction levels, social networking and entertainment activities are linked with higher degrees of internet addiction.

Table 5: Distribution of Internet Addiction by Primary Purpose of Internet Use

Purpose of Internet Use	Normal Users (n)	Mild Addiction (n)	Moderate Addiction (n)	Severe Addiction (n)	Total (n)
Academic / Study	120	60	18	2	200
Social Networking	70	50	25	5	150
Entertainment / Gaming	40	40	18	2	100
Other	30	10	6	4	50
Total	260	160	67	13	500

Discussion

The study shows the impact of college students' internet addiction through research about its commonality and the factors that lead to it. The study results show that most participants used internet services within normal and mild limits while only few people showed moderate to severe internet addiction. The study results match the findings of Goel et al. (2013) [11] which showed that 74.5% of participants used internet services at moderate levels while only 0.7% of them reached addict status. The study by Gedam et al. (2017) [12] showed that 19.85% of participants experienced internet addiction which supports the idea that only certain users face problematic internet usage. The study by Singh and Shrestha (2021) [13] found that 51.2% of participants showed moderate to severe internet addiction which exceeds the findings from the current research. The different internet usage patterns among various age groups combined with cultural differences and internet access methods explain this difference.

The current research discovered that internet addiction exists more frequently among male participants than female participants. The study found results that matched the findings of Bhat and Kawa (2015) [14] and Jain et al. (2020) [15]. The study showed

that male students experienced higher addiction levels which resulted from their increased time spent playing video games and using online entertainment. The research conducted by Sinha et al. (2018) [16] demonstrated that males exhibit higher online behavior patterns which support the existence of gender-based differences in internet usage.

The present study found that older students from age 24 to 26 demonstrated higher rates of moderate and severe addiction which Zenebe et al. (2021) [17] established through their research that older university students faced higher addiction rates because of their academic stress and lifestyle choices. The research shows that students who advance in their studies and take on additional responsibilities will begin to use the internet more for their schoolwork and personal activities which will raise their chances of developing an addiction. Younger students maintain their normal usage patterns because they have structured daily schedules which help their supervisors watch their activities.

The association between academic year and internet addiction observed in this study is also consistent with previous literature. Murarkar et al. (2020) [18] reported that senior students had higher addiction levels which reached 82% in engineering students

and 72% in medical students. The study demonstrates that continuous internet use results in higher addiction rates which increase with rising academic demands. The study shows how continuous internet usage creates an increasing addiction problem which develops over multiple time periods.

The research identified residence location as an important factor because rural participants exhibited higher levels of severe addiction problems despite their lower total numbers. The researchers discovered that Saikia et al. (2019) [19] proved that people who lack access to recreational activities and social awareness will develop stronger internet dependency. Digital access in rural areas needs to increase because people who lack digital skills will develop harmful online habits, which creates a requirement for specific solutions to address this problem in those areas.

The current research results show high agreement with existing research because multiple demographic and behavioral factors influence internet addiction in college students. The general rates of severe addiction remain low yet specific groups including males and senior students and rural residents and people who use the internet for non-academic purposes face increased danger. The study results show both commonalities and differences with past research because the current study applied different research methods to study different groups of people in distinct cultural settings. The results demonstrate that colleges need to establish specific preventive programs which should include digital literacy training and guidance for students to use the internet in a controlled manner to prevent addiction".

Conclusion

The present study highlights that internet addiction is a growing concern among college students, with the majority exhibiting normal to mild usage, while a smaller proportion experiences moderate to severe addiction. Factors such as gender, age, academic year, residence, and purpose of internet use were found to influence addiction patterns. Males, senior students, and those engaged in social networking or entertainment activities showed relatively higher levels of addiction. Additionally, rural participants demonstrated a slightly greater proportion of severe addiction cases. Although academic use of the internet was associated with healthier patterns, excessive non-academic use increased the risk of problematic behavior. These findings emphasize the need for awareness programs, early identification, and targeted interventions to promote balanced and responsible internet usage among students.

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