



## DIGITAL DEPENDENCE: ANALYSING INTERNET ADDICTION ACROSS DEMOGRAPHICS AMONG UG STUDENTS OF PURULIA DISTRICT, WEST BENGAL

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### RESEARCH ARTICLE



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### Abstract

This study explored the differences in internet addiction among undergraduate students in the Purulia district of West Bengal, focusing on three key factors: residence (Rural and Urban), gender (Male and Female), and academic stream (Arts and Science). The research hypothesized no significant differences in internet addiction based on these variables. A descriptive survey method was employed, with a sample 400 undergraduate students selected through simple random sampling. The Internet Addiction Test scale by Young (1998) was used to measure internet addiction. Data were analysed using SPSS version 26.0, applying descriptive statistics (mean and standard deviation) and inferential statistics (t-test). The study concluded that internet addiction is prevalent among undergraduate students in Purulia district, but demographic and academic factors such as residence, gender, and stream did not significantly influence the levels of addiction.

**Keywords:** *Academic Stream, Internet Addiction, Residence, Gender Differences, Undergraduate Students*

### Introduction

Internet addiction is a growing concern in the digital age, where the internet has become an integral part of everyday life. It refers to the excessive and compulsive use of the internet, often to the detriment of an individual's personal, social, academic, or professional responsibilities. From social media platforms and online gaming to streaming services and endless web browsing, the internet offers countless opportunities for engagement, which can sometimes lead to problematic usage patterns. People struggling with internet addiction may find it difficult to control their online activities, experiencing symptoms similar to other behavioural addictions, such as neglecting real-life relationships, mood changes, and withdrawal when offline. As a technology continues to evolve, understanding and addressing internet addiction is crucial for promoting healthier digital habits and overall well-being.

In the 21<sup>st</sup> century, the field of educational research has advanced significantly, with the integration of various modern statistical tools. Researchers are employing techniques like t-tests, correlation analysis, cluster analysis, Mahalanobis distance, and the Mann-Whitney U test, among others.

Numerous studies have utilized t-tests, including works by Mahanti, Mondal, and Saha (2016), Das, Gayen, and Sen (2023b), Adhikari et al., (2023c), Mahato and Sen (2021a; 2023a), Mondal and Saha (2023), Mondal et al., (2018), Mondal et al., (2014), Karmarkar et al., (2016), Saha (2012a; 2021), Sen, Mondal, and Saha (2013), Mondal and Saha (2013), Ansary, Saha, and Gorain (2021), Khan et al., (2023), Khatun, Ansary, and Adhikari (2022), Ansary, Ansary, and Adhikari (2022), Dandapat et al., (2021), Gayen and Sen (2023a; 2023b), Rajak and Gayen (2022), Gayen et al., (2021), Kundu, Saha and Mondal (2015), Ansary and Rakshit (2024), Ansary (2023), Ansary and Khatun (2025), Ansary and Bauri (2024). Correlation analysis has also been a focal point of many investigations. Notable contributions in this area include studies by Mahato, Sen, and Adhikari (2023), Das and Mahato (2024b), Gayen and Sen (2021), Mahato and Das (2024), Sutradhar and Sen (2022a; 2022b), Sutradhar et al., (2023), Mahato and Sen (2023b), Gayen, Sen, and Adhikari (2023), Adhikari, Mahato, and Sen (2023), Saha (2013; 2012b), Mahato, Gayen, and Mahato (2023a; 2023b; 2023c), Gayen (2024), Das, Gayen, and Sen (2023a), Mahato, Das, and Gayen (2024), and Das, Mahato, and Gayen (2024), Sen et al., (2023b), Kar and Saha (2021a; 2021b). Cluster analysis has also attracted considerable scholarly attention. Research works in this domain include those by Das, Mahato, and Sen (2023), Adhikari and Sen (2023a; 2023b), Gorain et al., (2022), Mohanta et al., (2023a; 2023d), Saha, Sen, and Adhikari (2021), Sen et al., (2023a), Adhikari et al., (2023a; 2023b), Das and Mahato (2024a), Mahato, Das, and Sen (2024), Ansary et al., (2023).

The application of Mahalanobis distance has also been explored in various studies. Key research contributions include those by Sen and Pal (2020), Das (2023), Mahato and Sen (2021b), Ahmed et al., (2022), Sen et al., (2023c), Adhikari (2023a; 2023b), Mohanta et al., (2023b; 2023c), and Sen, Pal, and Adhikari (2023), Das (2025).

Lastly, several researchers have employed the Mann-Whitney U test in their studies. Prominent examples include Work by Halder et al., (2022), Sen et al., (2021a; 2021b), Mahato et al., (2022), and Saha and Adhikari (2021).

### Literature Review

Recent studies have explored Internet Addiction, highlighting its psychological and behavioural impacts. Milkova et al., (2022) found 6% of Czech university students addicted, with higher risk in males, younger, and full-time students. Dermani and Perdikaris (2022) emphasized Internet Addiction's negative effects on adolescents' mental health, urging tailored interventions. Molina et al., (2025) linked addictions to depression, anxiety, and low self-esteem in adolescents. Bisen and Deshpande (2018) noted problematic internet use resembles substance addiction, especially in adult males. Mukand (2023) reported a negative correlation between addiction and academic performance, stressing responsible internet use. Menon et al., (2018) observed moderate addiction in Indian students, with older males more affected. Singh et al., (2023) connected social networking addiction with ADHD and stress in medical students. Kaur et al., (2020) found addiction harms medical students' mental and social health. Sharma et al., (2020) associated with psychosocial issues like anxiety and OCD. Raina and Bhatt (2021) reported higher anxiety in boys and depression in girls, underlining gender differences in addiction's mental health impact.

**Objectives of the study:** Following objectives are taken into account for the present study:

1. To study the difference in internet addiction of Undergraduate students of Purulia District of West Bengal in regard to Residence.
2. To study the difference in internet addiction of Undergraduate students of Purulia District of West Bengal in regard to Gender.
3. To study the difference in internet addiction of Undergraduate students of Purulia District of West Bengal in regard to Stream.

**Hypotheses of the study:** Following hypotheses are taken for this present study:

**H<sub>01</sub>:** There is no significant difference in internet addiction between Rural and Urban undergraduate students of Purulia district, West Bengal.

**H<sub>02</sub>:** There is no significant difference in internet addiction between Male and Female undergraduate students of Purulia district, West Bengal.

**H<sub>03</sub>:** There is no significant difference in internet addiction between Arts and Science undergraduate students of Purulia district, West Bengal.

### Methodology of the study

- **Method:** The research employed a descriptive survey design to assess internet addiction among undergraduate students in the Purulia district of West Bengal.
- **Population:** The study included all undergraduate students enrolled in various colleges within Purulia district.
- **Sample and Sampling Technique:** To ensure a fair representation, a total of 400 undergraduate students were selected using a simple random sampling technique.
- **Tools used:** The Internet Addiction Test Scale, developed by Young (1998), was utilized as a primary instrument for measuring the internet addiction among the selected participations.
- **Statistic used:** For data analysis, SPSS version 26.0 was employed. Descriptive statistical methods such as mean and standard deviation were used to summarize the data, while inferential statistic, particularly the t-test, were applied to test the formulated hypotheses and determine the significance of the findings.

### Result and Discussion

Pair of comparison	N	M	SD	df	Calculated 't' value	Critical 't' value	Remark
1	Rural	316	29.84	14.298	398	0.471	Not significant
	Urban	84	31.15	16.574			
2	Male	76	29.66	13.444	398	1.96 (0.05) & 2.58 (0.01)	Not significant
	Female	324	30.23	15.109			
3	Arts	340	30.50	14.970	386	0.337	Not significant
	Science	48	28.29	14.391			

**Table 1: Descriptive statistic along with t-value of Internet addiction of Purulia district of West Bengal**

**Hypothesis testing 1:** The table above indicated that computed 't' value for Rural and Urban undergraduate students in Purulia district, West Bengal is 0.471. this value is lower than the critical 't' values of 1.96 at the 0.05 significance level and 2.58 at the 0.01 significance level, with 398 degrees of freedom. Consequently, the computed 't' value was not significant at either the 0.05

or 0.01 level. Therefore, the null hypothesis ( $H_{01}$ ), stating that “There is not significant difference in internet addiction between Rural and Urban undergraduate students of Purulia district, West Bengal” is accepted.

**Hypothesis testing 2:** As presented in the table, the computed ‘t’ value for Male and Female undergraduate students in Purulia district, West Bengal is 0.763. which is below the critical ‘t’ values of 1.96 at the 0.05 significance level and 2.58 at the 0.01 significance level, with 398 degrees of freedom. Consequently, the computed ‘t’ value was not significant at either the 0.05 or 0.01 level. Therefore, the null hypothesis ( $H_{02}$ ), stating that “There is not significant difference in internet addiction between Male and Female undergraduate students of Purulia district, West Bengal” is accepted.

**Hypothesis testing 3:** The table revealed that the computed ‘t’ value for Arts and Science undergraduate students in Purulia district, West Bengal is 0.337. this is below the critical ‘t’ values of 1.96 at the 0.05 significance level and 2.58 at the 0.01 significance level, with 386 degrees of freedom. Consequently, the computed ‘t’ value is not significant at either the 0.05 or 0.01 level. Therefore, the null hypothesis ( $H_{03}$ ), stating that “There is no significant difference in internet addiction between Arts and Science undergraduate students of Purulia district, West Bengal” is accepted.

### Major Finding

Major findings of this study by testing the hypothesis provided insights into whether these factors significantly influence the level of internet addiction among the students. Internet addiction is similar among Rural and Urban undergraduate students in Purulia district. Male and Female undergraduate students show similar levels of internet addiction. Internet addiction levels are alike among Arts and Science undergraduate students.

### Conclusion

This study concluded that internet addiction among undergraduate students in Purulia district is not significantly influenced by their residence, gender, or academic stream. Despite the widespread availability and use of the internet, these demographic and academic factors did not play a critical role in determining the extent of internet addiction among students. This indicated that internet addiction is a common issue across different section of the student population, irrespective of their backgrounds.

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**Competing Interest:** No

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