



## A STUDY ON SMARTPHONE ADDICTION, ANXIETY, STRESS AND DEPRESSION OF UNDERGRADUATE STUDENTS

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### RESEARCH ARTICLE



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**DOI:**  
<https://doi.org/10.70096/tssr.250301010>

### Abstract

The main objective of this study is to analyse the Smartphone addiction, depression, anxiety and stress of undergraduate level college students in respect to their gender, locality and family structure. All the undergraduate level college students are considered as the population of this study and from there 300 undergraduate students has been selected as sample to conduct this study through the use of stratified random sampling technique. A 'Smartphone Addiction Scale' and 'DASS 21' scale were used to collect responses from the students. The major findings of this study revealed that there is no significant difference exists in Smartphone addiction between male vs. female, rural vs. urban and joint family vs. nuclear family. The findings of this study also showed that there is no significant difference exists in depression, anxiety and stress between male vs. female and rural vs. urban undergraduate students. But a significant difference exists between joint family and nuclear family undergraduate students regarding their depression, anxiety and stress.

**Keywords:** *Smartphone addiction, Depression, Anxiety, Stress, Undergraduate*

### Introduction

Technology in itself is evolving due to continuous endeavours of men for a better tomorrow. In the pursuit of touching every aspect of life of mankind, the idea of Smartphone was conceived. Smartphone has embarked and surpassed the expectations of men on machines. Right from establishing a voice call or video call to a person sitting on the other part of Globe, to create interactive interfaces Smartphone's have done it all. A Smartphone is a mobile phone that performs many of the functions of a computer, typically having a touch screen interface, internet access and an operating system capable of running downloaded apps. A Smartphone not only allows one to make a phone call or to send a message, it has much more benefits than this. The area of Smartphone has no limitations. The Smartphone is now used by over 2.6 billion people worldwide. These little computers in our pockets have freed users from the confinement of landlines and desktops for communication and research, as well as from traditional modes of gaming, photography and navigation.

### Stress

Stress is a common and normal physical response to challenging or new situations. Stress has both mental and physical aspects. When you are stressed, your body releases stress hormones such as adrenaline. This brings on physical changes in your body, which help you respond to the stressful situation. While everyone will feel stress at times, each person's experience will be different.

### Anxiety

Anxiety is a feeling of fear, dread, and uneasiness. It might cause you to sweat, feel restless and tense, and have a rapid heartbeat. It can be a normal reaction to stress. For example, you might feel anxious when faced with a difficult problem at work, before taking a test, or before making an important decision.

### Depression

Depression is a common mental health condition that causes a persistent feeling of sadness and changes in how you think, sleep, eat and act. There are several different types. Depression is treatable - usually with talk therapy, medication or both. Seeking medical help as soon as you have symptoms is essential.

## Review of the Related Literature

Kim, et al., (2017) revealed that loneliness and human relationships health were not significantly correlated. The final multiple regression model explaining human relationships health included Smartphone addiction ( $t=2.753$ ,  $p=0.006$ ), communication ability ( $t=11.714$ ,  $p<0.001$ ), and motivation for Smartphone purchase ( $t=2.125$ ,  $p=0.035$ ) as independent factors. Kumcagiz and Yuksei (2016) found significant relationship between the level of psychological well-being and use of Smartphone addiction. Gayen and Mahato (2023) revealed that the different dimensions of Smartphone addiction like daily-life disturbances, positive anticipation, withdrawal, cyberspace oriented, overuse and tolerance of postgraduate students have statistically significant positive correlation among them. Sriwahyuningsih and Barseli (2023) found that academic stress and cyber loafing together have a significant impact on Smartphone addiction. Nehra and Mehrotra (2022) suggested two important aspects to understand the influence of Smartphone addiction on the academic performance of adolescents. Griffiths (2013) reported that females have some difficulties with phone use and males are more attracted to playing games. Arumugam, Sachi and Nagalingam (2014) concluded that in spite of development of health problems and poor academic performance, the young students have become addictive towards the mobile phone usage. Arefin et al., (2017) suggested that the students should minimise the usage of Smartphone for achieving good academic performance. Ahmed (2011) revealed that majority respondents are able to have definite priorities between their responsibilities and commitments and their cell phone usage. Very few are those who always exhibit the extreme addictive behaviours and rest is the majority who are not frequently involved in addictive usage pattern. The study also revealed that youngster's use their cell phones under reasonable. Renuka, Gopalakrishnan and Umadevi (2019) found that the prevalence of Smartphone addiction is greater in subjects who were below the middle class in comparison to the subjects who were above the middle class and this difference was found to be statistically significant. Kumar (2022) showed a significant difference between rural and urban higher secondary students with respect to their home environment. Subramanyam and Sreenivasa Rao (2008) found no relationship between academic achievement and emotional intelligence. Kar, Saha and Mondal (2014) revealed that students' have high attitude towards e-learning and their attitude scores did not differ significantly with their personal variables such as, gender, stream of study and residence. Gorain et al. (2018) indicated that high internet user is more socially isolated than that of average and low internet user whereas no significant difference exists on internet usage between humanities and science under graduate students. Several studies on Anxiety, Stress and Depression are done by (Sen et al. 2023; Adhikari et al. 2023a; Sutradhar et al. 2023a; Mahato et al. 2023; Sen et al. 2021; Gayen & Sen, 2021). Similarly, several studies on smartphone addiction, internet addiction, Social-media & M-learning are done by (Ansary & Rakshit, 2024; Ansary & Bauri, 2024; Sing Sardar & Ansary, 2023; Kar & Saha, 2021; Mahanti et al. 2016; Khan et al. 2023, Mondal et al. 2018; Chatterjee et al. 2016; Saha & Adhikari, 2021, Mahato et al. 2022). These research articles discuss all the statistics used in education. (Adhikari, 2023; Adhikari & Sen, 2023; Adhikari et al. 2023b; Sutradhar et al. 2023b; Adhikari et al. 2023c; Adhikari et al. 2023d.)

## Research Gap

By going through all these previous literatures, it seems that there are number of gaps current in those previous undertaking that is, most of the researchers has focused on the work on urban institution but till date no researcher has focused the work on rural institutions and above all the Smartphone addiction work has not been done on undergraduate level students of Purulia district.

## Methodology of the Study

### • Objectives of the Study

- i. To find out the difference between male and female undergraduate students regarding their Smartphone addiction.
- ii. To find out the difference between rural and urban undergraduate students regarding their Smartphone addiction
- iii. To explore the difference between nuclear family and joint family undergraduate students regarding their Smartphone addiction
- iv. To find out the difference between male and female undergraduate students regarding their anxiety, stress and depression
- v. To find out the difference between rural and urban undergraduate students regarding their anxiety, stress and depression
- vi. To explore the difference between nuclear family and joint family undergraduate students regarding their anxiety, stress and depression

### • Hypotheses of the study

H<sub>01</sub>: There is no significant difference between male and female undergraduate students regarding their Smartphone addiction

H<sub>02</sub>: There is no significant difference between rural and urban undergraduate students regarding their Smartphone addiction

H<sub>03</sub>: There is no significant difference between joint family and nuclear family undergraduate students regarding their Smartphone addiction

H<sub>04</sub>: There is no significant difference between male and female undergraduate students regarding their DASS 21

H<sub>05</sub>: There is no significant difference between rural and urban undergraduate students regarding their DASS 21

H<sub>06</sub>: There is no significant difference between nuclear family and joint family undergraduate students regarding their DASS 21

- **Research Design:** The researchers used descriptive survey type research method to conduct this study.

- **Population of the Study:** All the undergraduate level students of Purulia district are considered as the population of this study.
- **Sample and Sampling of the Study:** A total number of 300 undergraduate college students were selected as sample through the use of stratified random sampling technique.
- **Tools used for the Study:** In this study the researchers used two different types of research tools. One of these two scales is the ‘Smartphone Addiction scale’ and another is ‘DASS 21’ scale.
- **Delimitation of the Study**
  - i. This study was delimited only undergraduate students
  - ii. It was also delimited to the undergraduate students of Purulia district
  - iii. This study was also delimited to the undergraduate students in various disciplines of rural and urban only
- **Statistical Techniques:** Mean, SD, t-test and correlation has been used to analyze the collected data in this study. The collected data has been analyzed by the researchers through the use of appropriate statistical techniques.

**Data Analysis and Interpretation**

Hypothesis wise data analysis and interpretation

**H<sub>01</sub>:** “There is no significant difference between male and female undergraduate students regarding their Smartphone addiction”

**Table 1: Presenting t-Test for Smartphone Addiction between Male and Female of Under Graduate Students.**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Male	93	69.16	16.89	298	.126	Not Significant at 0.05 and 0.01 level
Female	207	69.40	14.49			

Form Table 1, it has been found that the mean scores of both male and female are 69.16 and 69.40 while the Standard Deviation is 16.89 for male and 14.49 for female students respectively. The obtained value of the t-Test .126 with df 298 and is not significant at the 0.05 and 0.01 level. The above computed data indicated that there is no significant difference in male and female undergraduate students. So, the null hypothesis, “There is no significant difference between male and female undergraduate students regarding their Smartphone addiction” is retained.

**H<sub>02</sub>:** “There is no significant difference between rural and urban undergraduate students regarding their Smartphone addiction”

**Table 2: Presenting t-Test for Smartphone Addiction between Rural and Urban of Under Graduate Students**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Rural	126	69.58	16.02	298	.244	Not Significant at 0.05 and 0.01 level
Urban	174	69.14	14.70			

Form Table 2, it has been found that the mean scores of both rural and urban are 69.58 and 69.14 while the Standard Deviation is 16.02 for rural and 14.70 for urban students respectively. The obtained value of the t-Test .244 with df 298 and is not significant at the 0.05 and 0.01 level. The above computed data indicates that there is no significant difference in rural and urban undergraduate students. So, the null hypothesis, “There is no significant difference between rural and urban undergraduate students regarding their Smartphone addiction” is retained.

**H<sub>03</sub>:** “There is no significant difference between joint family and nuclear family undergraduate students regarding their Smartphone addiction”

**Table 3: Presenting t-Test for Smartphone Addiction between Joint Family and Nuclear Family of Under Graduate Students.**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Joint Family	219	68.63	15.59	298	1.311	Not Significant at 0.05 and 0.01 level
Nuclear Family	81	71.22	14.17			

Form Table 3, it has been found that the mean scores of both joint family and nuclear family are 68.63 and 71.22 while the Standard Deviation is 15.59 for joint family and 14.17 for nuclear family students respectively. The obtained value of the t-Test 1.311 with df 298 and is not significant at the 0.05 and 0.01 level. The above computed data indicates that there is no significant difference in joint family and nuclear family undergraduate students. So, the null hypothesis, “There is no

significance difference between joint family and nuclear family undergraduate students regarding their Smartphone addiction” is accepted.

**H<sub>04</sub>:** “There is no significant difference between male and female undergraduate students regarding their DASS 21”

**Table 4: Presenting t-Test for DASS 21 between Male and Female of Under Graduate Students.**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Male	93	49.59	10.26	298	0.343	Not Significant at 0.05 and 0.01 level
Female	207	49.17	9.50			

Form Table 4, it has been found that the mean scores of both male and female are 49.59 and 49.17 while the Standard Deviation is 10.26 for male and 9.50 for female students respectively. The obtained value of the t-Test 0.343 with df 298 and is not significant at the 0.05 and 0.01 level. The above computed data indicates that there is no significant difference in male and female undergraduate students. So, the null hypothesis, “There is no significant difference between male and female undergraduate students regarding their DASS 21” is retained. Hence, there is no significant difference exist in male and female of undergraduate students regarding their depression, anxiety and stress.

**H<sub>05</sub>:** “There is no significant difference between rural and urban undergraduate students regarding their DASS 21”

**Table 5: Presenting t-Test for DASS 21 between Rural and Urban of Under Graduate Students**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Rural	126	50.39	9.80	298	1.648	Not Significant at 0.05 and 0.01 level
Urban	174	48.52	9.63			

Form Table 5, it has been found that the mean scores of both rural and urban are 50.39 and 48.52 while the standard deviation is 9.80 for rural and 9.63 for urban students respectively. The obtained value of the t-Test 1.648 with df 298 and is not significant at the 0.05 and 0.01 level. The above computed data indicates that there is no significant difference in rural and urban undergraduate students. So, the null hypothesis, “There is no significant difference between rural and urban undergraduate students regarding their DASS 21” is retained. Hence, there is no significant difference exist in rural and urban of undergraduate students regarding their depression, anxiety and stress.

**H<sub>06</sub>:** “There is no significant difference between rural and urban undergraduate students regarding their DASS 21”

**Table 6: Presenting t-Test for DASS 21 between Joint Family and Nuclear Family of Under Graduate Students.**

Variables	N	Mean	Standard Deviation	df	‘t’-value	Remark
Joint Family	219	48.47	9.46	298	2.44	Significant at 0.05 level
Nuclear Family	81	51.54	10.15			

Form Table 6, it has been found that the mean scores of both joint family and nuclear family are 48.47 and 51.54 while the standard deviation is 9.46 for joint family and 10.54 for nuclear family students respectively. The obtained value of the t-Test is 2.44 with df 298 and it is significant at the 0.05 level. The above computed data indicates that there is a significant difference exists between joint family and nuclear family undergraduate students regarding their depression, anxiety and stress. So, the null hypothesis, “There is no significant difference between joint family and nuclear family undergraduate students regarding their DASS 21” is not retained. Hence, there is a significant difference exist in joint family and nuclear family of undergraduate students regarding their depression, anxiety and stress.

### Findings of the Study

- i. There is no significant difference exist between male and female undergraduate students regarding their Smartphone addiction.
- ii. There is no significant difference exist between rural and urban undergraduate students regarding their Smartphone addiction.
- iii. There is no significant difference exist between joint family and nuclear family undergraduate students regarding their Smartphone addiction.
- iv. There is no significant difference exist between male and female of undergraduate students regarding their depression, anxiety and stress.
- v. There is no significant difference exist between rural and urban undergraduate students regarding their depression, anxiety and stress.

- vi. There is a significant difference exist between joint family and nuclear family undergraduate students regarding their depression, anxiety and stress.

### Conclusion

Smartphone addiction is a problem that connects to disorders like anxiety and depression. Conversely, cyber bullying is not directly related to Smartphone addiction but is also strongly related to anxiety and depression. The prevalence's of depression, anxiety, and stress were high with anxiety and stress significantly higher among females, whereas prevalence's of depression and stress were significantly higher among 12<sup>th</sup> standard students. More studies are recommended to determine the factors leading to these mental disorders. The main objective of this study is to study the Smartphone addiction, depression, anxiety and stress of undergraduate students in respect to their gender, locality and family structure. The major findings of this study revealed that there is no significant difference exists in Smartphone addiction between male vs. female, rural vs. urban and joint family vs. nuclear family. The findings of this study also showed that there is no significant difference exists in depression, anxiety and stress between male vs. female and rural vs. urban undergraduate students. But a significant difference exists between joint family and nuclear family undergraduate students. The mean scores between joint family and nuclear family students suggested that the students who are belongs to the nuclear family suffers more depression, anxiety and stress than who belongs to the joint family.

**Acknowledgement:** No

**Authors Contribution:** Dr. Karim Ansary: Literature Review, Analysis, Drafting, Referencing; Khaleda Sultana Khatun: Data Collection.

**Funding:** No funding.

**Declarations/Consent for Publication:** All the authors have given a consent for the publication.

**Competing Interest:** No

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