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Soumi Bhattacharya
Student, M.Sc. in Applied
Psychology, Swami
Vivekananda University,
Kolkata, West Bengal, India

Somedatta Mitra
Student, M.Sc. in Applied
Psychology, Swami
Vivekananda University,
Kolkata, West Bengal, India

Sujata Sharma
Student, M.Sc. in Applied
Psychology, Swami
Vivekananda University,
Kolkata, West Bengal, India

Dr. Nilanjana Mitra
Assistant Professor and Head,
Department of Psychology,
Swami Vivekananda
University, Kolkata, West
Bengal, India

Corresponding Author:
Dr. Nilanjana Mitra
Assistant Professor and Head,
Department of Psychology,
Swami Vivekananda
University, Kolkata, West
Bengal, India

Evaluation of smart phone addiction & its related factors among college students

**Soumi Bhattacharya, Somedatta Mitra, Sujata Sharma and Dr.
Nilanjana Mitra**

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Abstract

Insomnia or deprivation of sleep is a condition where a person's sleep quality is significantly hampered. Over the last few years, it has been noticed that the increasing use of smartphone, late-night browsing and gaming have made a deleterious effect on the health of students. This increasing use of smartphones not only have impacted the wellbeing of students but also have impacted the academic performance of students' in various ways. Hence, this study aims to see the effects of insomnia and smartphone addiction on the academic performance of college students. In this regard, the following questionnaires have been used: Insomnia Severity Index, Smartphone Addiction Scale and Academic Performance Scale on a sample of 100 college students, age ranging between 18-22 years. The statistical analyses of the data have given an interesting insight about how insomnia and smartphone addiction is related to academic performance of the students.

Keywords: Smartphone addiction, insomnia, academic performance, college students

Introduction

Smartphone use has become an integral part of everyday life. We may see that in 21st century without mobile phone it is very difficult to survive. Nowadays we use mobile from online pay to online academy. There are millions of advantages and disadvantages of mobile: For example, it is easy to carry or we interact with each other through mobile on the other hand, student's cognitive ability may be hampered through phone or physical illness or accident increasing rapidly by using mobile phone.

Increasing evidence suggests an association between short sleep and major commodities (diabetes, obesity and hypertension) and higher mortality. Short sleep is usually defined as reporting sleeping less than 6 hours per day including sleeping, napping and resting. The goal of our study is to find out

the association between mobile phone addiction and insomnia and how its impact on student's academic performance.

It is becoming more and more crucial to look at how media consumption is affecting people's lifestyles as the use of various electronic media—including television, computers, video games, mobile phones, and audio devices—increases. Investigating whether media consumption is associated with poor sleep patterns and symptoms of insomnia is a crucial area for further research on this subject. It is generally known that men experience less insomnia than women.

Cause of insomnia in students sometimes can't score perfectly to their academic performance. As a basic need of people, sleep is important for health at all ages. Sleep is defined as a basic element of physical growth and enhancement of the academic performance. Sleep quality is affected from several mobile. This study was intended to determine how Insomnia causes by mobile phone.

Importance of Mobile Phone: Without a social life it is harder for people to survive with good mental health. Smartphone technology as enhanced this social integration through easy availability and unique features such as camera, internet connectivity, messaging, calling,

online shopping etc. Smartphone soon become a priority in the lives of people (Telgote *et al.*, 2021) ^[18].

JOOL Health is a mobile phone-based health app that aims to increase autonomous motivation by helping users link specific health behaviours (e.g., sleep, diet, physical activity) to personal values in specific life domains (e.g., family) and work (Griauzde *et al.*, 2018) ^[6].

The smartphone revolution that began in 2000 has brought significant changes to people daily lives, as it brings more convenience to daily life, but with it comes many adverse effects on relationships, psychological well-being and physical health (Haripriya & Samuel, 2019) ^[7].

Positive Effect of Smart Phone

Advantage: Smartphones offer users on-the-go convenience that ordinary phones cannot, increasing user efficiency. This is important to sales representatives and other managers because smartphones allow them to check e-mail and browse information while on the road or away from a computer. The smartphones are also stylish and reflect professionalism and efficiency, qualities that customers and prospects welcome.

Education: Mobile phone is very effective now a days for education. we can use digital white board, MCQ online exam which help us to check correct option. By colourful screen children are attracted to study.

Healthcare: Smartphone use by healthcare professionals is a growing market. One of the biggest advantages of using medical applications on smartphones is convenient and quick access to medical referrals (Nath & Mukherjee, 2015) ^[16].

Negative Effect of Smart Phone

Our stress levels may suffer because of the frequent usage of cell phones. In general, excessive cell phone use can put young adults at risk for mental health problems (Gowthami & Kumar, 2016) ^[5].

Smartphone addiction can also cause physical and mental injuries which was shown in previous analysis as depression, sleep disorders, anxiety, relationship problems, digital eye strain, neck problems and even car accidents smartphone misuse, such as texting or using a smartphone while driving (Rathakrishna *et al.*, 2021) ^[17].

Excessive smartphone use has been associated with depression, anxiety, and social anxiety, shyness and low self-esteem, poor psychological well-being and low mental well-being (Wacks & Weinstein, 2021) ^[19].

Although there are no distinct diagnostic criteria for smartphone addiction (i.e., gambling, internet gaming). This type of addiction is more common in young adults with greater negative affect. Addiction manifest itself in various forms, such as tolerance, lack of control, withdrawal, mood swings, conflicts, likes, excessive use and loss of interest (Choksi & Patel, 2020) ^[3].

Nomophobia is highly prevalent among young adult men and women and is strongly associated with insomnia regardless of cell phone screen size, suggesting that cell phone screen size should not be used as a measure of unsafe use. The prevalence of nomophobia in young adults aged 18-35 years is 75%-100% in both developed and developing countries. (Jharmi *et al.*, 2021) ^[9].

Effect on Academic Performance: Most studies support the claim that there is a negative relationship between smartphone addiction and academic performance. "Smartphone Addiction Leads to Outstanding Academic Performance" (Kates *et al.*, 2018) ^[10].

Data was collected from 435 university students via a Google Web Form survey sent via WhatsApp link. All in all, the result shows that mobile phone dependence was moderate. More than 40% of the respondents experienced this the effect of excessive mobile phone use, while more than 16% experienced it negative academic behaviour (Chan *et al.*, 2022) ^[2].

Mobile Phone Addiction and Poor Sleep: Students who were using their phones more frequently had a higher chance of having poorer quality sleep than those whose use was either stable or improving. Although teens at risk of smartphone addiction claim that support from family or friends is the most useful element for reducing their use of smartphone (Lee *et al.*, 2017) ^[13].

Objective

This study is an attempt to understand the effect of smartphone addiction, level of insomnia, and academic performance among college students.

Methodology

In this study we have to understand that the significant relation between the effect of mobile addiction, insomnia and academic performance among college students.

Site and population

170 individuals aged between 18-23 years have participated in the study.

General Inclusion Criteria

AGE: 18-23 Years

AREA: Urban & Semiurban

General Exclusion Criteria

AGE: Not less than 18, not more than 23

AREA: Rural

Sampling Design

Purposive sampling and snowball sampling techniques are used. The individuals who have fulfilled all the criteria for each of the group were included in the sample. The inclusion and exclusion criteria considered for selection of sample, as well as the inclusion of the participants, male and female both with addicted with mobile and nonaddicted with mobile, needed snowball sampling.

Tool and Scale

Smartphone addiction scale (SAS)-Min Kwon, Dai-Jin Kim, Hyun Cho and Soo Yang (2013) ^[12]: Smartphone addiction scale (SAS) is a scale for smartphone addiction that consisted of 6 factors and 33 items with a six-point Likert scale (1: "strongly disagree" and 6: "strongly agree") based on self-reporting.

Insomnia Severity Index (ISI) - (Morin *et al.*, 2011) ^[16]: A brief screening tool for insomnia, the seven-item questionnaire asks respondents to rate the nature and symptoms of their sleep problems using a Likert-type scale. Questions relate to subjective qualities of the respondent's

sleep, including the severity of symptoms. Reliability and Validity Developers Bastion and colleagues performed an initial psychometric study and demonstrated an internal consistency of $\alpha = .74$ and found item-total correlations that were quite variable, ranging from .36 to .54. Academic Performance Rating Scale (APRS) (DuPaul & Rapport, 1991): The APRS is an 8 item scale that was developed to reflect teachers' perceptions of children's academic performance and abilities in classroom settings. Internal Consistency and Reliability of the AIRS coefficient alphas were calculated to determine the internal consistency of the APRS and its sub scales. Divergent Validity of the APRS Correlation coefficients between APRS scores and criterion measures were calculated with ACTRS ratings partial led out to statistically control for variance attributable to teacher ratings of problem behaviour [15].

Ethical issue

All the necessary ethical approval was taken. The respondents of the study were informed about the purpose of

the study, further, informed consent from the respondents was taken before collection of data.

Data collection and analysis

The primary data was collected during 5th July 2023 to 30th September 2023 from college students aged 18-23 years.

Results

Table 1: Represents, the mean of Insomnia & Academic Performance which is 8.71 and 29.6 with the Standard Deviation 6.13 and 4.86 respectively.

	Smart Phone Addiction	Insomnia	Academic Performance
N	170	170	170
Mean	-	8.71	29.6
Median	-	7.00	30.0
Standard Deviation	-	6.13	4.86

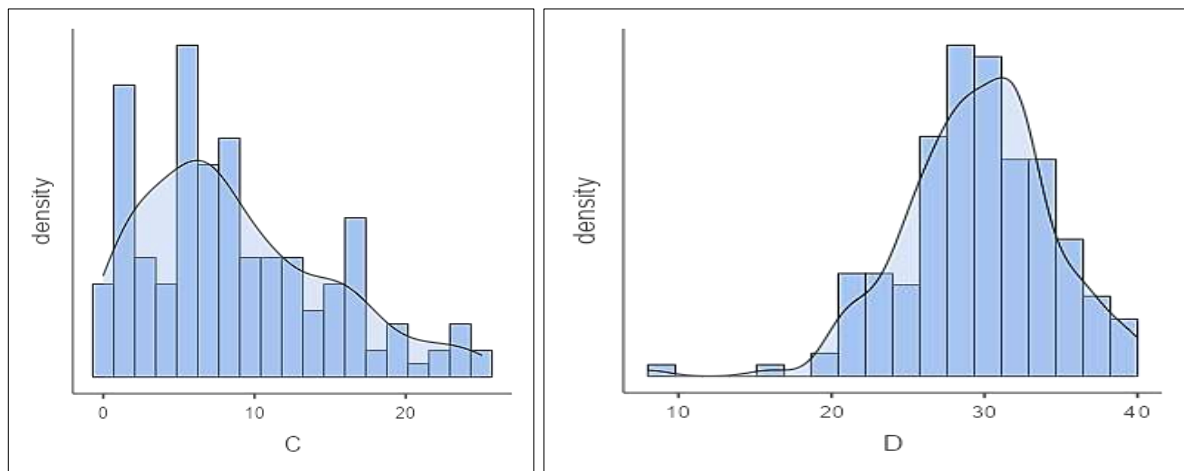
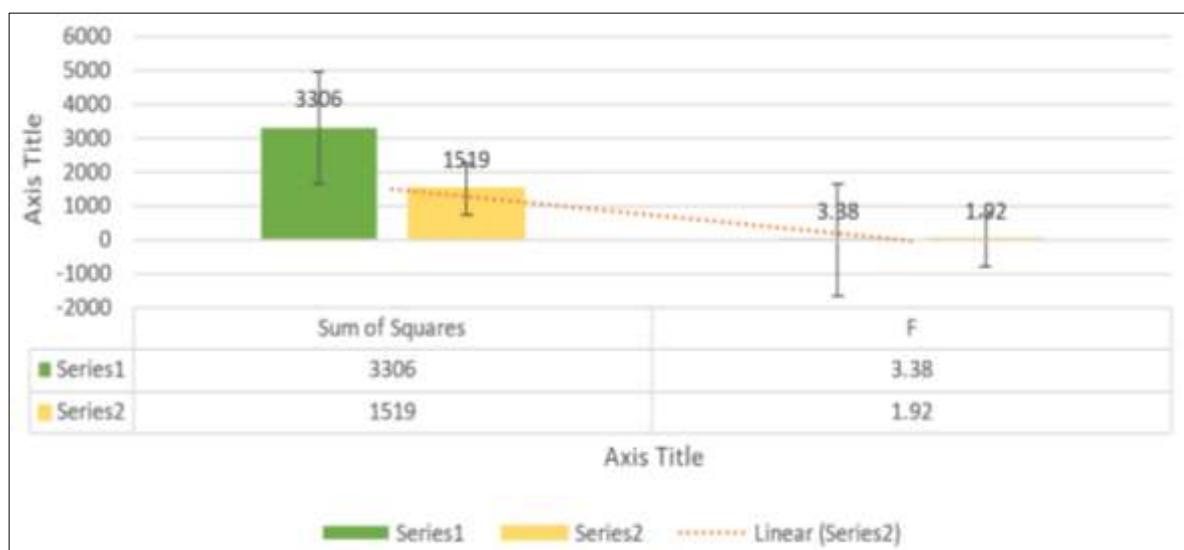


Fig 1: Skewness of the Distribution

Table 2: Presents the Mean Squares of insomnia and academic performance which are 80.6 and 37.1 with F Ratio 3.38 and 1.92 respectively.

Independent Variable	Dependent Variable	Sum of Squares	df	Mean Square	F	p
	Insomnia	3306	41	80.6	3.38	<.001



Graph 1: Graphical Representation of Table 2

Table 3: Independent Variable

Independent Variable	Statistical Analysis	Value	F	df1	df2	p
Smart Phone Addiction	Wilk's Lambda	0.319	2.38	82	254	<.001

Discussion and conclusion

There is a significant difference between Smart Phone Addiction and Insomnia whereas, there are also a significant difference between Smart Phone Addiction and Academic Performance.

Supporting Facts are

Mobile phone usage has become inevitable, is more likely to effect individual's sleep habits and sleep patterns (Daraj *et al.*, 2023) ^[4]. The effect of smartphone addiction impacts the sleep patterns of students negatively and causes insomnia (Liu *et al.*, 2022) ^[14]. Students have poor time management skills to achieve high grades due to involvement in smartphone (Khan *et al.*, 2019) ^[11]. Undergraduate students who are at a high risk of smartphone addiction are less likely to achieve there was in academic situation (Hawi and Samaha, 2016) ^[8].

Contributors

SB, SM, SS did the study, analyzed and frame the paper work. All the authors have conceptualized, read and approved the final version of the manuscript.

Conflicts of Interest

No conflict interest.

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