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Exploring The Relationship Between Smartphone Addiction, Academic Procrastination And Sleep Quality In Young Adults

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Abstract:
Background: *The modern era is widely recognised as the age of technology, with smartphones becoming essential since their launch in 2007. These devices allow users to access information instantly, stay connected with others, enjoy entertainment, and enhance learning experiences. However, their overuse has created new psychological and behavioural challenges, especially for students. Smartphone addiction is marked by compulsive use that interferes with everyday activities such as studying, sleeping, and social interactions. Students with high smartphone use often find it difficult to control their behaviour, which can lead to academic procrastination the tendency to delay or avoid academic tasks. Procrastination not only affects academic performance but also increases stress and reduces productivity. Another major concern linked to smartphone overuse is poor sleep quality. Frequent nighttime use of smartphones delays sleep onset, shortens sleep duration, and causes fatigue during the day. Blue light emitted from screens also disrupts melatonin production, making it harder to fall asleep. Together, smartphone addiction, academic procrastination, and poor sleep quality can have a serious negative impact on students'mental health, well-being, and educational outcomes.*
Materials and Methods: *A total of 80 young adults aged 18–25 years, all pursuing undergraduate or postgraduate studies in different fields, participated in the study. They were assessed using the Smartphone Addiction Scale, the Academic Procrastination Scale, and the Pittsburgh Sleep Quality Index (PSQI). Descriptive statistics were used to summarise the data. The relationships between the variables were analysed quantitatively using correlation analysis.*
Results: *The study found a strong and statistically significant positive correlation between smartphone addiction and academic procrastination, $r(80) = .850$, $p < .001$, meaning that higher smartphone use was linked to more procrastination. Similarly, smartphone addiction was strongly positively correlated with poor sleep quality, $r(80) = .923$, $p < .001$, indicating that higher addiction was associated with worse sleep. Academic procrastination also showed a strong positive correlation with poor sleep quality, $r(80) = .825$, $p < .001$, suggesting that those who procrastinated more tended to sleep worse. Overall, higher scores in smartphone addiction and procrastination were related to poorer sleep quality.*
Conclusion: *Interventions should be developed to reduce smartphone addiction and academic procrastination among young adults, which can further help to improve sleep quality and overall wellbeing.*
Key Word: *Smartphone Addiction; Academic Procrastination; Sleep Quality; Young adults; Mental health.*

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I. Introduction

The 21st century marks a period of significant technological advancement, with smartphones playing a major role in transforming daily life. They have become a key part of students' daily lives. They help with communication, learning, entertainment, and access to information. However, excessive use of smartphones can cause problems such as distraction, difficulty managing daily tasks, and compulsive use, which is called smartphone addiction. Several studies have shown the negative impact of smartphone addiction on students. Davey and Davey (2014) found that 39% to 44% of Indian adolescents were addicted to smartphones. Soni et al. (2017) and Zhang and Wu (2020) also reported that higher smartphone addiction was linked to poorer sleep quality among university students in India and China. Demirci et al. (2015) and Samaha and Hawi (2016) found that smartphone addiction was associated with higher anxiety, depression, and lower academic performance.

Students who are addicted to smartphones often delay their academic work, a behaviour known as academic procrastination, which can further reduce sleep quality. Gupta and Sharma (2018) and Przepiorka et al. (2019) showed that academic procrastination significantly predicts poor sleep quality, highlighting its negative effects on students' mental and physical health. While many studies have examined smartphone addiction,

academic procrastination, and sleep quality separately, limited research, especially in India, has explored how these variables are interrelated.

The present study aims to explore the interrelationship among smartphone addiction, academic procrastination, and sleep quality in young adults. It investigates the relationship between smartphone addiction and academic procrastination, the relationship between smartphone addiction and sleep quality, and the relationship between academic procrastination and sleep quality. In the Indian context, no relevant studies have yet examined the role of these variables together, emphasising the need for this study.

II. Materials And Methods

To understand the association between smartphone addiction, academic procrastination, and sleep quality among young adults, the study employed a correlational research design. The variables were measured using standardised tools, the Smartphone Addiction Scale- Short Version (SAS-SV) for smartphone addiction, the Academic Procrastination Scale - Short Version for academic procrastination, and the Pittsburgh Sleep Quality Index (PSQI) for sleep quality.

Study Design: The study followed a cross-sectional, non-experimental, correlational research design.

Study Location: Odisha, India.

Sample Size: 80 students

Subject and Selection method: A total sample of 80 young adults aged between 18 and 25 years, all of whom were pursuing undergraduate and postgraduate education in various disciplines, was collected. Participants were selected using a convenience sampling technique, with data collected from students who were readily accessible and willing to participate. The sample included both male and female students.

Procedure methodology: The present study employed a convenience sampling method to recruit participants from various colleges and universities across Odisha, and data was collected through both online and offline methods to ensure accessibility and a wider geographic reach. Online surveys were administered via a Google Form link shared through WhatsApp, while printed questionnaires were used for offline responses. Before participating, all respondents were required to read an informed consent statement explaining the purpose of the study, voluntary participation, the right to withdraw at any time, and assurance of confidentiality and anonymity, and they could only proceed after providing electronic consent. Participants were encouraged to answer honestly, with an estimated completion time of 10 to 15 minutes. Only individuals aged 18–25 years enrolled in undergraduate or postgraduate courses were included, and incomplete responses or those not meeting the inclusion criteria were excluded. All data were collected anonymously, securely stored, and compiled for statistical analysis, with ethical considerations and confidential handling of participant data was strictly followed throughout the research process.

Statistical Analysis: Descriptive statistics, including mean, standard deviation, minimum, and maximum values, were calculated for each variable. Pearson correlation analysis was then conducted to examine the relationships among smartphone addiction, academic procrastination, and sleep quality. All statistical analyses were performed using SPSS (Version 20.0) software.

III. Result

Table 1 shows the descriptive statistics for smartphone addiction, academic procrastination, and sleep quality. The mean score for smartphone addiction was 28.40, with a standard deviation of 8.36. Academic procrastination had a mean score of 4.27 and a standard deviation of 1.95. The mean score for sleep quality was 11.62, with a standard deviation of 4.32.

Table 1: Descriptive statistics for smartphone addiction, academic procrastination, and sleep quality

Variables	N	Mean(M)	Standard Deviation (SD)
Smartphone Addiction	80	28.40	8.36
Academic Procrastination	80	4.27	1.95
Sleep Quality	80	11.62	4.32

Table 2 shows Pearson correlations among the variables. Smartphone addiction was strongly positively correlated with academic procrastination ($r = .850$, $p < .001$), indicating that higher smartphone use is linked to

more procrastination. It was also strongly positively correlated with poor sleep quality ($r = .923$, $p < .001$), showing that higher addiction is associated with worse sleep. Also, academic procrastination was strongly positively correlated with poor sleep quality ($r = .825$, $p < .001$), suggesting that greater procrastination is related to poorer sleep.

Table 2: Pearson Correlation Between Smartphone Addiction, Academic Procrastination and Sleep Quality (N=80)

Variable	1	2	3
1. Smartphone Addiction		.850**	.923**
2. Academic Procrastination	.850**		.825**
3. Sleep Quality	.923**	.825**	

**. Correlation is significant at the 0.01 level (2-tailed)

IV. Discussion

This study aimed to explore the relationship between smartphone addiction, academic procrastination, and sleep quality in young adults. Results revealed a strong positive correlation between smartphone addiction and academic procrastination, indicating that individuals with higher smartphone addiction tend to procrastinate more on academic tasks. A strong positive correlation was also found between smartphone addiction and poor sleep quality, showing that extended smartphone use, especially before sleep, disrupts circadian rhythm and delays sleep onset. Additionally, a strong positive correlation was observed between academic procrastination and poor sleep quality, as procrastination increases stress and leads to late-night studying, disturbing sleep schedules. Overall, the findings suggest that excessive smartphone usage increases procrastination and poor sleep quality, and procrastination further worsens sleep disturbances, highlighting the importance of interventions to reduce smartphone addiction and procrastination for better sleep and academic outcomes.

V. Conclusion

The findings revealed significant correlations, showing that higher smartphone addiction is linked to greater procrastination and poorer sleep quality. while procrastination further worsens sleep problems, affecting mental health and academic outcomes. These results highlight the need to address these behaviours in educational and clinical settings through interventions to reduce smartphone use, promote time management, and improve sleep habits. Despite its contributions, the study's reliance on self-report measures and cross-sectional design is a limitation, and future research with objective measures and longitudinal methods is needed to explore causal relationships and develop effective interventions. Overall, the study emphasises the importance of supporting students in managing smartphone use, reducing procrastination, and improving sleep quality to enhance both academic and health outcomes.

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