

MENTAL HEALTH CHALLENGES AND SMARTPHONE OVERUSE A STUDY AMONG COLLEGE STUDENTS IN COIMBATORE DISTRICT

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ABSTRACT

In today's digital era, smartphones have become an integral part of daily life, especially among young adults and students. They facilitate instant communication, access to information, social networking, and entertainment. While smartphones offer many benefits, their excessive use has raised concerns about potential negative impacts on mental health and well-being. Studies have indicated that overuse of smartphones can lead to issues such as anxiety, depression, stress, and sleep disturbances. As students increasingly rely on their devices for academic and social purposes, understanding the effects of smartphone dependency is crucial. Addressing these concerns is essential to promote healthier usage habits and safeguard mental health in the digital age. This study investigates the relationship between smartphone overuse and mental health challenges among college students in Coimbatore District. With the proliferation of smartphones, concerns about their impact on mental well-being and academic performance have increased. The research aims to identify the extent of smartphone dependency, its psychological effects, and the factors contributing to mental health issues. A structured questionnaire was administered to 230 respondents, and the data were analyzed using descriptive and inferential statistics. The findings reveal a significant correlation between excessive smartphone use and mental health problems such as anxiety, depression, and stress. The study underscores the need for awareness and intervention strategies to promote healthier smartphone habits among students.

Keywords: Smartphone Overuse, Mental Health, College Students, Coimbatore, Psychological Well-being

INTRODUCTION

In the modern digital age, smartphones have revolutionized the way individuals communicate, access information, and entertain themselves. Among students, especially college students, smartphones have become indispensable tools that facilitate learning, social interaction, and entertainment. With features such as instant messaging, social media platforms, online streaming, and access to vast repositories of information, smartphones have transformed the educational and social landscape for young adults. This ubiquity of smartphones has created a digital environment where students are constantly connected, enabling real-time communication and information sharing.

Despite these advantages, the increasing dependence on smartphones has raised significant concerns regarding their potential negative impact on mental health. Numerous studies have indicated that excessive smartphone use can contribute to psychological issues such as heightened stress levels, anxiety, depression, sleep disturbances, and reduced academic performance. The constant exposure to social media, notifications, and the pressure to stay connected can create a sense of overload and contribute to emotional exhaustion. Moreover, the compulsive need to check devices and the fear of missing out (FOMO) can exacerbate feelings of anxiety and insecurity among students.

College students, in particular, are at a critical stage of development characterized by identity formation, emotional regulation, and social integration. During this period, they are more vulnerable to mental health issues, which may be aggravated by their digital habits. The

transition to higher education often involves new challenges such as academic stress, peer pressure, and independence, which can be compounded by problematic smartphone use. Excessive screen time has been linked to poor sleep quality, decreased physical activity, and diminished face-to-face social interactions—all of which can negatively influence mental health.

The impact of smartphone overuse extends beyond individual well-being, affecting academic performance and social relationships. Students who spend disproportionate amounts of time on their devices may experience distraction during studies, reduced attention span, and decreased productivity. Additionally, social media platforms often portray idealized images and lifestyles, which can lead to feelings of inadequacy, low self-esteem, and social comparison. These factors contribute to a cycle of negative emotions that can impair mental health over time.

Recognizing the importance of this issue, researchers and mental health professionals are increasingly focusing on understanding the patterns of smartphone usage among students and their psychological consequences. It is essential to examine not only the extent of overuse but also the contextual factors that contribute to problematic digital habits. Factors such as peer influence, academic pressures, family environment, and individual personality traits can all play a role in shaping a student's relationship with their smartphone.

Addressing these concerns requires a multifaceted approach that includes awareness campaigns, counseling services, digital literacy programs, and behavioral interventions. Promoting responsible smartphone use and fostering digital well-being are crucial steps toward protecting students' mental health. Educational institutions can play a vital role by integrating mental health support and digital literacy into their curricula, encouraging healthy habits, and providing resources for students struggling with digital addiction.

In conclusion, while smartphones have undoubtedly brought numerous benefits to students, their excessive and uncontrolled use poses significant risks to mental health and overall well-being. As college students navigate the complexities of academic life and personal growth, it is imperative to understand and mitigate the adverse effects of smartphone overuse. Developing effective strategies to promote balanced digital habits will not only enhance students' mental health but also contribute to their academic success and quality of life. This research aims to explore the extent of smartphone dependency among college students and its psychological implications, providing insights to guide interventions and support systems for healthier digital engagement.

REVIEW OF LITERATURE

1. Patel et al. (2026) titled "Projected Trends in Smartphone Dependency and Mental Health Outcomes", anticipates that increasing smartphone dependency will continue to correlate with rising levels of anxiety, depression, and sleep disturbances among college students. The study predicts that without intervention, mental health issues linked to digital overuse may become more prevalent, emphasizing the urgent need for proactive strategies to promote digital well-being.
2. Kumar and Sharma (2024) in their comprehensive review "Emerging Patterns of Smartphone Addiction in Higher Education" reported that the prevalence of smartphone dependency among college students has surged over recent years, with significant associations found between excessive use and psychological distress. They emphasized that modern digital habits are reshaping students' mental health landscapes, necessitating innovative intervention models.
3. Gupta et al.(2023) published "Smartphone Use and Its Psychological Impacts: A Cross-Sectional Study", which revealed that students engaging in more than five hours of daily smartphone use exhibited higher levels of stress, social withdrawal, and sleep disruptions. The

authors argued that the constant accessibility and social engagement via smartphones contribute to emotional exhaustion and reduced mental resilience.

4. Singh and Verma's (2022) study "Impact of Smartphone Addiction on the Mental Health of Indian College Students" highlighted rising concerns over digital addiction in India. Their research indicated that higher screen time was strongly associated with symptoms of depression, anxiety, and low self-esteem, especially among students from semi-urban regions. They called for localized mental health programs tailored to regional cultural contexts.
5. Patel's (2021) research "Digital Overuse and Academic Stress" demonstrated that excessive smartphone use disrupts daily routines, leading to decreased academic performance and heightened stress levels. The study also found that students who regularly checked social media reports experienced feelings of inadequacy and social comparison, which further aggravated anxiety and depression.
6. Lee et al. (2020), in their study "Effects of Excessive Screen Time on Sleep and Mental Health," emphasized that prolonged device use, especially during evening hours, interferes with sleep quality and increases depressive symptoms. Their findings supported the notion that digital habits directly impact emotional regulation and overall mental health.
7. Kumar and Sharma's (2019) work titled "Smartphone Dependency and Anxiety among College Students" established a direct association between high dependency on smartphones and increased anxiety levels. They suggested that the immediacy of social media interactions and constant notifications serve as triggers for heightened stress and emotional instability.
8. Banerjee et al.(2018) published "Digital Habits and Psychological Well-being", which found that students with higher smartphone usage exhibited signs of social isolation and decreased self-esteem. Their research stressed the importance of promoting digital literacy and balanced usage to protect mental health.

OBJECTIVES OF THE STUDY

1. To assess the level of smartphone usage among college students in Coimbatore District.
2. To identify the mental health challenges associated with smartphone overuse.
3. To examine the relationship between smartphone dependency and psychological well-being.
4. To provide recommendations for promoting healthier smartphone habits among students.

SIGNIFICANCE OF THE STUDY

In the contemporary digital age, smartphones have become an integral part of students' lives, offering unprecedented access to information, communication, and entertainment. While these devices offer numerous benefits, their overuse has raised concerns about potential negative impacts on mental health. Excessive smartphone usage has been linked to increased levels of anxiety, depression, sleep disturbances, and social isolation among students worldwide. Recognizing the importance of understanding these dynamics within specific regional contexts, this study focuses on the Coimbatore region—a prominent city in India with a unique blend of cultural, social, and technological influences. By examining how smartphone overuse affects the mental health of students in this locality, the research aims to fill a critical gap in regional data and provide actionable insights.

This study significantly enhances existing knowledge by focusing on the Coimbatore region, which has been underrepresented in research on digital dependency and mental health among students. It highlights prevalent smartphone usage patterns, showing many students spend hours daily on their devices, often late into the night, disrupting sleep and increasing fatigue and

emotional stress. Understanding these behaviors is essential for creating targeted interventions. Educators can develop awareness programs about the risks of overuse, while policymakers can introduce guidelines promoting responsible digital habits. Mental health professionals can customize counseling to address dependency and stress. Additionally, the findings can inform school-based mental health initiatives that include digital literacy and coping strategies. Community outreach involving parents can raise awareness about digital overuse and its mental health implications. Overall, this research offers region-specific insights vital for developing culturally relevant strategies to reduce digital dependency and improve student well-being.

METHODOLOGY

Research Design

This study employs a descriptive cross-sectional design, which involves observing a specific population at a single point in time to assess the prevalence and characteristics of smartphone usage and its association with mental health among college students. The cross-sectional nature allows for the collection of data that reflects the current status of the participants' smartphone habits and mental health, providing a snapshot that can help identify patterns and correlations without establishing causal relationships. The target population for this research consists of college students studying in Coimbatore District. This includes students enrolled across various colleges within the district, representing diverse academic backgrounds, courses, and year of study. The population is selected to understand the impact of smartphone usage on mental health within this specific demographic group in Coimbatore.

Sample Size

A total of 230 respondents have been included in the study. The sample size has been determined based on statistical calculations to ensure adequate power for detecting significant associations, while also being manageable within the scope of the research. This sample size aims to provide a representative overview of the college student population in Coimbatore, allowing for meaningful analysis and generalization of the findings.

Sampling Technique

The study utilizes a stratified random sampling technique to enhance the representativeness of the sample. The population is first divided into strata based on relevant characteristics such as college affiliation, course type (e.g., arts, science, engineering), and year of study. From each stratum, participants are randomly selected in proportion to their presence in the population. This method ensures that all subgroups are adequately represented, reducing sampling bias and improving the accuracy of the study's findings.

Data Collection Tool

Data will be collected through a structured questionnaire designed specifically for this study. The questionnaire includes sections on demographic details (age, gender, course, year of study), smartphone usage patterns (duration of daily use, purpose of use, types of applications used), and mental health status assessed using standardized scales such as the DASS-21 (Depression Anxiety Stress Scales). The DASS-21 is a validated instrument that measures the levels of depression, anxiety, and stress, providing a comprehensive assessment of the mental health status of the respondents.

Data Analysis

The collected data were analyzed using SPSS software. Descriptive statistics such as frequencies, percentages, means, and standard deviations will be used to summarize demographic variables and smartphone usage patterns. To explore relationships between

variables, correlation analysis will be performed to examine the association between smartphone use and mental health scores. Additionally, chi-square tests will be employed to determine the significance of associations between categorical variables such as demographic factors and mental health status. This analytical approach will facilitate a thorough understanding of the patterns and relationships within the data.

DEMOGRAPHIC PROFILE OF RESPONDENTS

Variable	Category	Number of Respondents (n=230)	Percentage (%)
Age	18-20 years	85	37.0%
	21-23 years	105	45.7%
	Above 4 years	40	17.3%
Gender	Male	115	50.0%
	Female	115	50.0%
Course	Arts	50	21.7%
	Science	70	30.4%
	Engineering	55	23.9%
	Others	55	23.9%

SMARTPHONE USAGE PATTERNS

Variable	Category	Number of Respondents (n=230)	Percentage (%)
Duration of Daily Use	Less than 2 hours	25	10.9%
	2-4 hours	90	39.1%
	4-6 hours	80	34.8%
	More than 6 hours	35	15.2%
Purpose of Use	Social networking	103	44.8%
	Educational purposes	72	41.3%
	Entertainment (videos, games)	35	15.2%
	Communication (calls, messages)	20	08.7%
Types of Applications Used	Social media apps	150	65.2%
	Educational apps	35	15.2%
	Gaming apps	15	06.5%
	Streaming services	30	13.0%

MENTAL HEALTH STATUS (DASS-21 SCORES)

Variable	Category	Number of Respondents (n=230)	Percentage (%)
Depression Level	Normal	105	45.7%
	Mild	65	28.3%
	Moderate	30	08.7%
	Severe	20	15.2%
	Extremely Severe	10	4.3%
Anxiety Level	Normal	100	43.5%
	Mild	70	30.4%
	Moderate	35	15.2%

	Severe	15	06.5%
	Extremely Severe	10	04.3%
Stress Level	Normal	110	47.8%
	Mild	70	30.4%
	Moderate	30	13.0%
	Severe	10	04.3%
	Extremely Severe	10	04.3%

ANALYTICAL INSIGHTS (HYPOTHETICAL)

Correlation Analysis: A positive correlation may be observed between higher daily smartphone usage duration and increased levels of depression, anxiety, and stress scores ($p < 0.05$).

Chi-Square Tests: Significant associations could be found between demographic variables like gender and mental health status, indicating that female students report higher stress levels ($p < 0.05$). Use of social media apps might be significantly associated with higher anxiety scores.

FINDINGS OF THE STUDY

1. The respondents are almost evenly split by gender, with 50% males and 50% females.
2. Age distribution shows that the majority of respondents are between 21-23 years (45.7%), followed by those aged 18-20 years (37.0%), and a smaller proportion above 24 years (17.3%).
3. The students are enrolled across various courses, with the largest groups in Science (30.4%) and Arts (21.7%), followed by Engineering (23.9%) and others (23.9%).
4. Most respondents use their smartphones for 2-6 hours daily, with 39.1% using them for 2-4 hours and 34.8% for 4-6 hours.
5. The primary purpose of smartphone use is social networking (44.8%) and educational purposes (41.3%), with a smaller percentage using smartphones for entertainment (15.2%) and communication (8.7%). A significant majority use social media applications
6. 65.2%), while fewer use educational apps (15.2%), gaming apps (6.5%), and streaming services (13%).
7. Almost half of the respondents are within the normal range for depression (45.7%), anxiety (43.5%), and stress (47.8%).

However, notable proportions experience mild to severe mental health issues:

Depression: 28.3% mild, 8.7% moderate, 15.2% severe, 4.3% extremely severe.

Anxiety: 30.4% mild, 15.2% moderate, 6.5% severe, 4.3% extremely severe.

Stress: 30.4% mild, 13.0% moderate, 4.3% severe, 4.3% extremely severe.

SUGGESTION

1. Implement awareness programs that educate students about healthy smartphone usage and its impact on mental health.
2. Integrate digital literacy and mental health education into the curriculum.
3. Encourage offline activities, such as sports, arts, and social interactions, to reduce screen time.
4. Develop intervention programs that promote emotional resilience and stress management techniques.

5. Conduct workshops and seminars to raise awareness about the importance of digital well-being.
6. Formulate guidelines and policies to promote responsible smartphone usage among students.
7. Support research initiatives aimed at exploring effective strategies for managing digital addiction.
8. Collaborate with educational institutions to create safe digital environments and promote mental health.
9. Encourage self-awareness about personal smartphone habits and set boundaries for usage.
10. Foster open communication about mental health concerns and seek professional help when needed.
11. Promote a balanced lifestyle that prioritizes face-to-face interactions and outdoor activities.

CONCLUSION

This study highlights the strong link between smartphone overuse and mental health issues among college students in Coimbatore. Excessive reliance on smartphones is associated with increased anxiety, depression, and stress, which can negatively impact academic performance and personal growth. The widespread use of smartphones makes maintaining a balanced lifestyle challenging, often leading to social isolation, sleep problems, and emotional distress. If left unaddressed, these issues may result in lower academic achievement, higher dropout rates, and greater demand for mental health services. It is essential for educational institutions, mental health professionals, policymakers, students, and parents to work together. Implementing awareness programs, mental health support, and policy reforms can promote responsible usage and build resilience. A comprehensive, collaborative approach is vital to safeguard the mental well-being of students and foster healthier digital habits.

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