

Study of Smartphone Addiction and its Effect on Sleep Quality among College-Going Students

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ABSTRACT

Smartphone have become an important part of everyday life in modern society. They are widely used for staying connected, learning new things and entertainment. However, excessive use of smartphone has become a growing concern, as it can negatively affect both physical and mental. One major area of concern is sleep, especially among young adult people. This study focuses on understanding connection between dependence on smartphones and the quality of sleep among college students between the age of 17 to 25 years. The study's goal is to investigate how different levels of smartphone dependency influence sleep duration, sleep disturbance and feeling of tiredness during the day. To get a correct sample, we randomly pick up 83 students from different colleges and nearby areas. Everyone filled out two surveys: the Pittsburgh Sleep Quality Scale and the Smartphone Addict Scale-Short Version (SAS-SV) Index (PSQI). calculate the responses using descriptive stats and ran a Pearson correlation to see if there's a relation between phone addiction and sleep quality. Turns out that there is a strong connection between them. The more time students will spend on their phones, the worse their sleep gets. If you can't put your phone down, more chances are you're not sleeping well. These results really drive on the point: helping students become more aware of their phone habits and making smarter choices can go a long way in improving their sleep and overall health.

Keywords: Smartphone addiction, Sleep quality, College students, Digital dependence, Young adults, SAS-SV, PSQI

INTRODUCTION

Smartphones are really important to us these days. We use them all the time for lots of things. Students especially use smartphones a lot. They are helpful in ways. Using them too much can be bad for us. One big problem with using smartphones much is that it can mess up our sleep. Students often use their smartphones at night to study or check media or watch videos or talk to friends. Students use their smartphone at night often struggle to fall asleep and end up getting less rest than they need. They do not sleep much as they should. Then they feel tired, during the day. Smartphones are the problem. Smartphones can really affect our sleep and our daily lives. When we are always looking at things on our phones and checking to see if someone sent us a message our brain stays awake. This makes it hard to sleep like we

normally do. Using our smartphones much is connected to not being able to sleep at weird times having trouble waking up and being really tired during the day (Huang *et al.*, 2023).

Studies have found that using our smartphones in a way that's not good for us hurts our sleep. People who really love their smartphones usually go to bed late do not sleep for a time and wake up feeling tired. Using smartphones at night is a reason why people have trouble in sleeping (Snekha, 2023).

Smartphone use is really bad, for our sleep. Smartphone dependence is a problem that affects our sleep. People who use their smartphones a lot have sleep problems because of their smartphone use. Using smartphones before you go to bed is not good for you. This is because smartphones give off light. thus, happens because smartphones emit light, particularly blue light,

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which interfere Melatonin, a hormone that controls sleep, is produced. Reduce melatonin levels can make it difficult for a person to fall asleep. You will also not sleep well.

Smartphone addiction has become a growing concern among college students in India. Studies mainly aim on young people in India indicate that heavy smartphone use can lead to better bedtime, poor sleep and increased daytime fatigue, which may harm both in academic achievement and mental well-being (Yang *et al.*, 2020). Given that individual aged 17 to 25 are among the most active highly smartphone users, understanding the effects of an addiction to smartphones on their sleep patterns is particularly important. Therefore, they research seeks to investigate The connection between college students' sleep quality and smartphone addiction with a focus on how excessive smartphone use impact both on overall well-being (Leow *et al.*, 2023 and Kwon *et al.*, 2013).

Review of Literature

Numerous studies have explored the connection between dependence on smartphones and the quality of sleep among young adult students. Research consistently shows that heavy smartphone use, particularly during night hours, negatively affects sleep patterns and health findings. Students who spend extended hours on smartphones often having difficulty initiating sleep, decreased length of sleep and inadequate quality of sleep. According to Demirci *et al.* (2015), college students who have more smartphone addiction experienced clearly worse sleep quality and increased daytime sleepiness. Their results proposed that late-night smartphone use increases mental alertness, therefore disturbing normal sleep cycles. Similarly, Alhassan *et al.* (2018) reported that individuals having high smartphone dependence were more likely to experience sleep disturbances, having problem waking in the morning, and long-lasting daytime tiredness. The study emphasize that extreme smartphone use negatively affects both physical and psychological health. A structured review and meta-analysis of studies by Sohn *et al.* (2021) also demonstrated a strong relationship between problematic smartphone phone use and reduced sleep quality. The results indicated that individuals with high smartphone addiction showed delayed sleep onset, shorter sleep duration, often night awakenings, and morning tiredness. Research on electronic device usage before bedtime has also drawn attention to its diverse effects. Chang *et al.* (2015)

Reported that evening exposure to radiating devices increases awareness and delays the body's natural sleep process by reducing melatonin levels. Lemola *et al.* (2015) examined the emotional consequences of night-time media use and found that over smartphone usage before sleep leads to sleep problems and emotional difficulties such as irritability, stress, and depressive symptoms. In India, Kumar and Sherkhane (2018) identified a high commonness of gadget addiction among undergraduate students. Their results indicated Those pupils who were more addicted to smartphones had poorer quality sleep, delayed bedtime patterns, and daytime fatigue, thereby affecting daily functioning. Overall, existing literature continuously indicates shows the quality of sleep is significantly harmed by smartphone addiction. However, few studies have focused specifically on Indian college-going students aged 17–25 years using standardized measures for both smartphone addiction and the quality of sleep. The present study seeks to address this gap.

Hypotheses

- H1: High dependence on smartphones and poor sleep quality among college-bound students will be significantly correlated.
- H2: College-bound kids' high dependence on smartphones and poor sleep quality will not be significantly correlated.
- H3: There will be a strong correlation between college-bound students' great sleep quality and their lack of smartphone addiction.
- H4: There will be no meaningful correlation between college-bound students' great sleep quality and their lack of smartphone addiction.

Objectives of the Study

- To assess the level of smartphone addiction among college-going students using SAS-SV.
- To use PSQI to evaluate college-bound students' sleep quality.
- To evaluate the connection between sleep quality and smartphone addiction.

METHODOLOGY

Study

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METHODOLOGY

The study adopted a quantitative research approach to evaluate how dependence on smartphones and sleep quality are related. A total number of 83 college-going students aged 17–25 years were selected using random sampling from various colleges and nearby areas. Participants completed two standardized self-report questionnaires measuring smartphone addiction and sleep quality.

Research Design

This study used a cross-sectional, quantitative methodology, and correlation approach, allowing the analysis of the connection between college-bound kids' smartphone addiction with sleep quality at a particular moment in time.

Participants and Sampling Procedure

The participants of the study were 83 college-going students aged 17–25 years. The sample included students from different colleges and localities to maintain diversity. Participants were selected using the random sampling method, which assisted in obtaining a representative sample. Both male and female students who regularly used smartphones were included.

Procedure

Prior permission was taken before conducting the study. The aim of the research was clearly explained to all participants, and informed consent was taken prior to their involvement. Participants were informed that their responses would be kept confidential and that participation was voluntary. The questionnaires were administered in online or offline form. Clear instructions were provided, and participants were requested to respond truthfully. The completed questionnaires were collected and scored according to the standardized scoring procedures.

Statistical Analysis

Statistical techniques were used to analyze the gathered data. Sleep quality scores and smartphone addiction were summarized using descriptive statistics like mean and standard deviation. Pearson correlation analysis was used to Examine the connection between sleep quality and smartphone addiction. The level of statistical significance was fixed at $p < 0.05$

Measurement tools

Smartphone Addiction Scale–Short Version (SAS-SV)

The SAS-SV was created by Kwon *et al.* (2013) and has ten items, that assesses smartphone addiction, including excessive use, loss of control, and interference with daily activities. A 6-point Likert scale is used to rate responses. The scale has shown strong validity and reliability.

Pittsburgh Sleep Quality Index (PSQI)

Developed by Buysse *et al.* (1989), the PSQI assesses the quality of sleep for the previous month. It consists of 19 items that address seven aspects of sleep, including length of sleep, latency, disruptions, and functioning during the day. The PSQI is widely accepted and psychometrically sound.

RESULTS AND DISCUSSION

Descriptive statistics along with Pearson's product-moment correlation were employed to examine the association between smartphone addiction Regarding students' quality of sleep. The findings of ($n=83$) are present in Table 1. The mean smartphone addiction score was $M = 37.16$ with a standard deviation of $SD = 9.29$, which suggest that, overall students exhibit a moderate level of smartphone dependence. The variability in scores indicates clear individual differences, suggesting that while some students maintained controlled smartphone usage, others showed a higher degree of dependence. With respect to sleep quality, the mean score was $M = 9.49$ with a standard deviation of $SD = 2.72$, reflecting a generally moderate level of sleep quality among the participants. The range of scores implies that students' sleep experiences differed considerably, with some

Table 1 : Mean, standard deviation and correlation between smartphone addiction and sleep quality

Variable	Mean	Sd	Correlation	Significance
Smartphone addiction	37.16	9.29	0.32	Yes
Sleep quality	9.49	2.72	-	Yes

students reporting satisfactory sleep and others experiencing sleep-related problems such as difficulty initiating sleep, interrupted sleep, or feelings of tiredness upon waking. A significant positive association was found using Pearson correlation analysis. association between smartphone addiction and poor sleep quality ($r = 0.32$, $p < .05$). The obtained Pearson correlation ($r = 0.32$) was statistically significant. This result indicates that greater levels of smartphone addiction were associated with poorer sleep outcome. Although the strength of the correlation is moderate, it remains statistically significant and underscore the contribution of excessive smartphone use to sleep disturbance among students.

Interpretation

The results of this investigation show that smartphone addiction is fairly common among students. A mean score of 37.15 reflects frequent engagement with smartphone for activities such as communication, entertainment, social networking, and online browsing. The standard deviation of 9.29 highlights noticeable individual variation, with some students displaying higher dependency patterns than others. The mean sleep quality score ($M = 9.49$, $SD = 2.72$) suggests an overall moderate level of sleep quality within the sample. However, the degree of variability observed indicate that many of students experience sleep-related problems. These problems may include delayed onset of sleep, frequent awakenings during the night, shorten sleep duration, and daytime fatigue, which can negatively influence concentration, mood, academic functioning, and overall well-being. The statistically significant positive correlation ($r = 0.32$, $p < .05$) indicates that increasing level of smartphone addiction are associated with declining sleep quality. This correlation could be explained by several underlying factors. Extended exposure to smartphone screens, particularly due to blue light emission, thereby interfering with normal sleep-wake cycle. Additionally, engaging with mentally stimulation activities such as social media scrolling, video streaming, or gaming may increase cognitive arousal, making it harder to initiate asleep. Late night notifications and habitual checking behaviors may further disturb sleep continuity. The present findings are consistent with prior research demonstrating a link excessive smartphone use with poorer sleep outcomes among students and young adults. Previous studies have reported associations between high smartphone use and less restful slumber, reduced amount of sleep, and reduced sleep quality. The

moderate correlation observed in this study supports these earlier findings and reinforces the view that smartphone addiction is an important behavioral factor influencing sleep health. From an applied perspective, the findings underscore the importance of promoting healthy smartphone habits, motivating students to limit screen usages before bedtime, adopt consistent sleep habits, and practice digital self-regulation may help improving their sleep pattern. Educational institutions and families can also contribute by encouraging balanced technology use and raising awareness about effective sleep hygiene practices. Overall, the study measures a clear and meaningful connection between students' sleep quality and smartphone addiction. Reducing excessive use of smartphone may lead to improvements in better sleep patterns, overall health, and enhanced academic performances as well. These findings also highlighted the need for further research focusing on intervention-based approaches aimed at reducing smartphone dependency and fostering healthy sleep behaviors.

Conclusion

This study makes it pretty clear: the more addicted college students are to their smartphones, the worse their sleep gets. Students glued to their phones end up with shorter sleep, trouble falling asleep, weird sleep patterns, and they're more tired during the day. It's not just a minor thing either. Using a phone too much especially at night really messes with natural sleep rhythms and drags down overall sleep quality. A lot of students don't realize just how much late-night scrolling and constant notifications can mess with their rest. So, raising some real awareness here matters. If students understand the downsides of too much phone time especially before bed, they're more likely to rethink their habits. Simple adjustment, like reducing phone use at night, can make a big difference for both sleep and daily life challenges. Colleges need to step in with practical solutions. Things like screen-time limits, digital curfews, or even regular "digital detox" breaks can help students minimize the habit. Teaching good sleep hygiene going to bed at the same time, turning off screens before sleep, and keeping bedrooms calm also goes a better way. Schools can support this by running workshops, awareness campaigns, or offering counseling about healthy habits and for better sleep patterns. Getting more sleep by dialing back on phone use doesn't just help students feel less tired. It boosts mental health, steadies' moods, sharpens focus, and can even help with

grades. Students who sleep better handle their stress more easily and just feel better overall. For the future, it would be useful to encourage research that examines which intervention strategies are most effective overtime. Researchers should explore approaches such as digital wellness programs, mindfulness-based practices, the behavioral therapy to determine what truly helps students reducing smartphone use and improve sleep quality. The more we know, the better we can help students maintain a healthy balance between staying connected and achieving a good night's rest.

REFERENCES

- Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2018). The relationship between addiction to smartphone usage and depression among adults: A cross sectional study. *BMC Psychiatry*, **18**(1) : 148. <https://doi.org/10.1186/s12888-018-1745-4>
- Buyse, D. J., Reynolds, C. F., III, Monk, T. H., Berman, S. R. and Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research. *Psychiatry Research*, **28**(2) : 193–213. [https://doi.org/10.1016/0165-1781\(89\)90047-4](https://doi.org/10.1016/0165-1781(89)90047-4)
- Chang, A.M., Aeschbach, D., Duffy, J. F. and Czeisler, C. A. (2015). Evening use of light-emitting eReaders negatively affects sleep, circadian timing, and next-morning alertness. *Proceedings of the National Academy of Sciences*, **112**(4) : 1232–1237. <https://doi.org/10.1073/pnas.1418490112>
- Demirci, K., Akgönül, M. and Akpınar, A. (2015). Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *Journal of Behavioral Addictions*, **4**(2) : 85–92. <https://doi.org/10.1556/2006.4.2015.010>
- Huang, T., Liu, Y., Tan, T. C., Wang, D., Zheng, K. and Liu, W. (2023). Mobile phone dependency and sleep quality in college students during COVID-19 outbreak: The mediating role of bedtime procrastination and fear of missing out. *BMC Public Health*, **23**, 1200. <https://doi.org/10.1186/s12889-023-16061-4>
- Kumar, A.K. and Sherkhane, M.S. (2018) Assessment of Gadgets Addiction and Its Impact on Health among Undergraduates. *International Journal of Community Medicine and Public Health*, **5** : 3624-3628. <https://doi.org/10.18203/2394-6040.ijcmph20183109>
- Kwon, M., Lee, J.Y., Won, W.Y., Park, J.W., Min, J.A., Hahn, C., Gu, X., Choi, J.H. and Kim, D.J. (2013). Development and validation of a smartphone addiction scale (SAS). *PLOS ONE*, **8**(2), e56936. <https://doi.org/10.1371/journal.pone.0056936>
- Kwon, M., Kim, D.-J., Cho, H. and Yang, S. (2013). The smartphone addiction scale: Development and validation of a short version for adolescents. *PLOS ONE*, **8**(12), e83558. <https://doi.org/10.1371/journal.pone.0083558>
- Lemola, S., Perkinson-Gloor, N., Brand, S., Dewald-Kaufmann, J. F. and Grob, A. (2015). Adolescents' electronic media use at night, sleep disturbance, and depressive symptoms in the smartphone age. *Journal of Youth and Adolescence*, **44**(2) : 405–418. <https://doi.org/10.1007/s10964-014-0176-x>
- Leow, M. Q. H., Chiang, J., Chua, T. J. X., Wang, S. and Tan, N. C. (2023). The relationship between smartphone addiction and sleep among medical students: A systematic review and meta-analysis. *PLOS ONE*, **18**(9), e0290724. <https://doi.org/10.1371/journal.pone.0290724>
- Sohn, S., Rees, P., Wildridge, B., Kalk, N. J. and Carter, B. (2021). Prevalence of problematic smartphone usage and associated mental health outcomes amongst children and young people: A systematic review, meta-analysis and GRADE of the evidence. *BMC Psychiatry*, **21**, 138. <https://doi.org/10.1186/s12888-021-03107-1>
- Snekha (2023). A study of smartphone addiction and quality of sleep among young adults. *International Journal of Indian Psychology*, **11**(3). <https://doi.org/10.25215/1103.214>
- Yang, J., Fu, X., Liao, X. and Li, Y. (2020). Association of problematic smartphone use with poor sleep quality, depression, and anxiety: A systematic review and meta-analysis. *Psychiatry Research*, **284**, 112686. <https://doi.org/10.1016/j.psychres.2019.112686>
