ISSN: 2584-2412
ASHA PARAS INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL (APIMRJ)
An International Half Yearly Online Open Access, Double Blind Peer-Reviewed Research Journal
Jan-June 2026, Volume-III, Issue-I apimrjournal@gmail.com www.apimrj.com

MOBILE USAGE AT NIGHT AND MORNING ALERTNESS OF THE STUDENTS AT UNIVERSITY LEVEL

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Abstract

The present study investigates the relationship between mobile phone usage at night and morning alertness among college students. With smartphones becoming an integral part of daily life, many students engage in late-night activities such as chatting, gaming, and social media browsing, often at the expense of healthy sleep routines. A sample of 100 undergraduate and postgraduate students from Alagappa University, Karaikudi, was selected using simple random sampling. Data were collected using the Problematic Use of Mobile Phone (PUMP) scale and the Morningness–Eveningness Questionnaire (MEQ). Descriptive statistics revealed that the majority of students fell into the moderate category for both mobile usage at night (72%) and morning alertness (69%). The mean score for mobile usage was 56.0 (SD = 13.6), while morning alertness recorded a mean of 56.4 (SD = 6.66), both distributions approximating normality. Correlation analysis indicated a weak negative relationship between mobile usage at night and morning alertness (r = -0.09, p = .378), which was not statistically significant. These findings suggest that although nighttime mobile use is widespread, its direct impact on morning alertness is limited, and other factors such as sleep duration, lifestyle habits, and academic stress may play a more influential role. The study highlights the importance of promoting balanced digital habits and healthy sleep practices to support academic performance and overall well-being among college students.

Keywords: Mobile usage, morning alertness, young adult, social media

Introduction

In recent year's smartphones have become a normal part in everyday life for every college student such as chatting with friends to classwork's updates, playing online games, watching online movies and scrolling social media, the mobile phones stay close to human throughout

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day and late night Because of this mobile use behaviour. Many students spending lot of time with the phones even when they spoil their regular sleep and this behaviour moving their behaviour convert to the addiction into the mobile phones. While this seems like a harmless habit, it can easily affect how healthy sleep and how alerting they feel the next morning.

Taking proper sleep is important for the physically and mentally. Good sleep helps college students stay focused in the classroom and remember what they learn at the present moment and improving better decision-making ability. But they are used at mobile phones in night, especially right before going to bed, they are doing interfere with sleep. Over brightness screens at without light in a room, late night conversation, videos watching and notification keep brain active for longer than it should be. As a result, showed, many students fall asleep late, sleep less or experience disturbed sleep.

When a college students wake up the next day without enough rest, they feel tired, low attention during morning classes. This lack of morning alertness can affect their learning, participation, physical health and overall academic performance. It also affects mood and energy levels throughout the day. In college environment where early classes, assignment writing works and academic pressure are common, these effects become even noticeable.

Overall, the recent years, mobile phone usage was increased at night has become growing concern among educators and college students. Understanding how to influence the bedtime phone habits morning functioning is important because it directly connected with a student's academic well-being and daily performance, many students are unaware that their night-time scrolling or chatting could be the reason behind their morning tiredness.

This study focuses on exploring how college students use their mobile phones at night and how this habit affects their alertness the morning. By examining this relationship, this study aims to highlights an issue that quietly impacts in college student life and encourage heal their mobile and sleep.

Review of literature

Liu et. al., (2019) conducted the study on associations of long-time mobile phone use with sleep disturbances and mental distress in technical college students: a prospective cohort study examined the long-term impact of excessive mobile phone use on sleep and mental health outcomes among technical college students. The primary objective of the study was to determine whether long-time mobile phone use (defined as ≥4 hours per day) predicts the onset of sleep disturbances and mental distress over an eight-month period. Using a prospective cohort design, the researchers collected baseline data from 4,333 students and follow-up data from 3,396 students through questionnaires assessing socio-demographics, lifestyle behaviours, duration of phone use, and sleep patterns. Standardized instruments such as the Insomnia Severity Index, Epworth Sleepiness Scale, Morningness–Eveningness Questionnaire, Beck Depression Inventory and Zung Self-Rating Anxiety Scale were used to measure outcomes. The findings revealed that 23.5% of participants reported long-time mobile

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phone use at baseline, and this behavior significantly predicted new incidences of sleep problems and mental distress, with adjusted odds ratios ranging from 1.31 to 1.53. Importantly, students who discontinued long-time mobile phone use showed reductions in these risks, while cross-lagged analyses demonstrated a bi-directional relationship—excessive phone use worsened sleep and mental health, and poor mental or sleep states further increased phone use. The study concluded that long-term mobile phone overuse is a significant risk factor for sleep and mental health problems, emphasizing the importance of early detection, prevention and interventions targeting excessive phone use among young adults.

He and Zhou (2023) conducted a study on Shine light on sleep: Morning bright light improves nocturnal sleep and next morning alertness among college students" with the objective of examining whether exposure to bright morning light enhances nocturnal sleep quality and next-morning alertness among college students who spend most of their daytime indoors. Using a within-subjects, balanced cross-over field design, the researchers implemented two morning light conditions—bright light (1000 lux, 6500 K) and regular office light (300 lux, 4000 K)—administered for 90 minutes daily across two separate 5-day intervention weeks. A total of 12 postgraduate students aged around 25 years participated in the study, and their sleep outcomes were assessed using actigraphy, sleep diaries and repeated subjective ratings of sleepiness, mood, perceived effort and mental fatigue. The findings revealed that morning bright light significantly improved sleep efficiency, reduced sleep fragmentation and shortened sleep latency compared to the control condition. Participants also showed earlier sleep onset and reduced morning sleepiness after the bright light exposure week. The study concluded that morning bright light can effectively enhance nocturnal sleep quality and next-day alertness for individuals with limited access to natural daylight, highlighting the potential of timed light exposure as a practical intervention to support healthy sleep–wake regulation.

Murnane et al. (2016), explored a study on "Mobile Manifestations of Alertness: Connecting Biological Rhythms with Patterns of Smartphone App Use," aimed to explore how individuals' circadian rhythms and daily fluctuations in alertness are reflected in their smartphone usage patterns. The study employed a 40-day longitudinal design involving 20 university-aged participants, who completed daily sleep diaries, ecological momentary alertness assessments and provided continuous logs of smartphone app usage. Using quantitative analysis supported by qualitative interviews, the researchers identified clear associations between chronotype, sleep patterns and patterns of phone use. Productivity app use was highest during peak alertness periods while entertainment app use increased during biologically low-alertness phases, especially morning grogginess and late-night hours. The study concluded that smartphone behavior reflects underlying biological rhythms and can serve as a passive digital marker of alertness patterns, supporting the development of "circadian-aware" technologies that can adapt to individuals' natural performance rhythms.

Haque, A. T. M. E. (2017) conducted a study on "Usage of Mobile Applications at Night Among Students of unikl RCMP, Ipoh, Malaysia" with the objective of examining the

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prevalence, patterns, and impact of nighttime mobile application use on the sleep behavior and daily functioning of university students. The study adopted a cross-sectional survey design and collected data from a sample of unikl Royal College of Medicine Perak students, using structured questionnaires assessing frequency of nighttime mobile use, types of applications accessed, bedtime routines and sleep-related complaints. The findings revealed that a majority of students engaged in excessive mobile phone use during nighttime hours, predominantly for social networking, messaging, and entertainment. This behavior was associated with delayed sleep onset, reduced sleep duration, poor sleep quality and increased daytime fatigue and concentration problems. The authors concluded that nighttime mobile phone use is a significant contributor to sleep disturbances and decreased academic efficiency among university students, emphasizing the need for awareness initiatives and improved digital hygiene practices to mitigate adverse sleep and health outcomes.

Objectives of the study

- To assess the level of mobile usage at night among university students
- To measure the level of morning alertness among university students
- To examine the relationship between mobile usage at night and morning alertness

Hypotheses of the study

- There is no significant relationship between mobile usage at night and morning alertness
- There no significant difference in the level of mobile usage at night of the students at university level
- There no significant difference in the level of morning alertness of the students at university level

Methodology

Research design

The present study adopted descriptive survey research design. To examine the relationship between mobile usage at night and morning alertness among college students.

Population

The population consist UG and PG university students aged between 18 to 25 years.

Sample and sampling technique

The sample size consists of 100 university students' samples collected from Alagappa university Karaikudi. Simple random sampling technique was used.

Tools

- Problematic use of mobile phone (PUMP) scale – Used to assess the level of mobile phone use among the participants
- Morningness eveningness questionnaire (MEQ) – used to measure the morning alertness among the participants

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Statistical analysis

The techniques used for this study is the response questionnaire in which the students who are studying at university students, hypotheses of the study were tested And Descriptive statistics like mean, SD, Pearson correlation and level analysis based on mean +, - 1SD calculated.

Result and Discussion

Table 1 - Descriptive statistics: mean, median, mode, SD, skewness and kurtosis of mobile usage at night among college students

Variable	N	Mean	Median	Mode	SD	Skewness	kurtosis
Mobile usage at night	100	56.0	56.5	60.0	13.6	-0.34	0.51
Morning alertness	100	56.4	56.0	51.0	6.66	0.31	0.28

Table 1shows the examination of mobile usage at night and morning alertness among the sample of 100 college students, which provides the descriptive statistics. With mean score being 56.00 (SD = 13.60), the night mobile usage resulted in a median of 56.50 and a mode of 60.00. The distribution reveals a little negative breaking of symmetry (skewness = -0.34) and soft peakiness (kurtosis = 0.51), which do mean that the data were roughly normally distributed. Morning alertness provided a mean score of 56.40 (SD = 6.66), with a median of 56.00 and a mode of 51.00. The distribution showed slight positive skewness (skewness = 0.31) and low kurtosis (kurtosis = 0.28), which implied an almost normal distribution.

Table 2 - Level-wise Distribution provides the data on the level of mobile usage at night and morning alertness among college students.

Variables	High	Moderate	Low
Mobile usage at night	15	72	13
Morning alertness	19	69	12

Table 2 shows level wise analysis in terms of mobile usage at night levels, 15 participants were regarded as high usage, 72 participants displayed moderate usage, and 13 participants noted low usage. Likewise, in terms of morning alertness, 19 participants showed high alertness, 69 participants displayed moderate alertness, and 12 participants showed low alertness. The majority of participants were in the moderate level category for both variables overall.

Table. 3 - Relationship between mobile usage at night and morning alertness among college students

Variables	r value	p value
Morning alertness	-0.09	0.37
Mobile usage at night		

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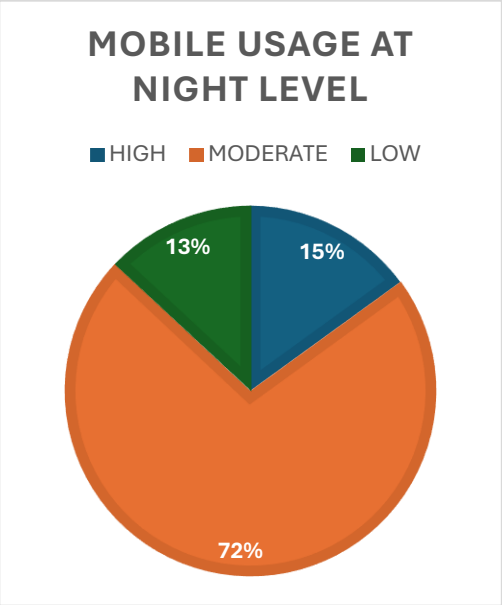
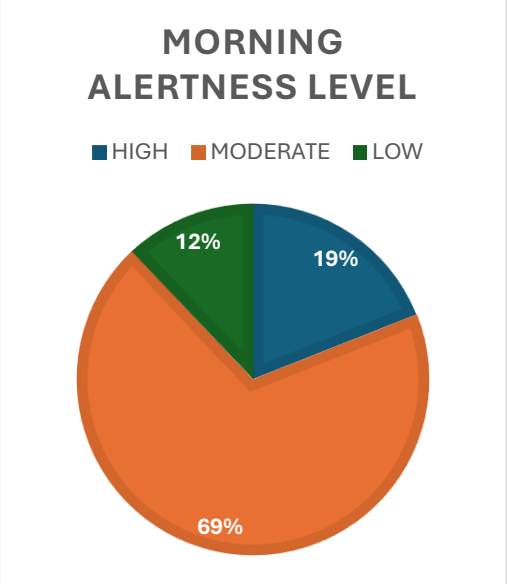
Table 3 shows how the use of mobile phones at night is related to the morning alertness of university students. The results showed a correlation that was very weak and negative correlation (Cohen, 1988: r = −0.09 < .10 = very small), (p = .378 > .05) and it was also not statistically significant. This suggests that even though the relationship between the two variables is very weak, it still points towards the possibility of no strong negative effect caused by the use of mobile phones at night during the morning.





Earlier studies have mainly accepted the notion that nighttime usage of mobile phones has negative effects on the alertness of the following morning, the results of the current research go against this expectation. This contradiction could be ascribed to several reasons. To begin with, most of the participants in the study were categorized with moderate levels of both mobile phone usage at night and morning alertness, meaning that they maintained a rather balanced digital lifestyle and were not engaged in excessive or addictive use. Moreover, mobile phone usage was not segregated by content or duration right before sleep, which might have differentially influenced alertness outcomes. Additionally, personal factors like sleep duration, quality, circadian preferences, academic workload and stress might have more of an impact on morning alertness than mobile phone usage itself. Consequently, although mobile phone usage at night is common, its direct influence on morning alertness is considered limited in this particular sample, thus explaining the divergence from the widely held beliefs.

Conclusion

The study concludes examined the relationship between mobile usage at night and morning alertness among 100 university students. The descriptive statistics revealed that the mean score of mobile usage at night was 56.0 (SD = 13.6), on the other hand mean score for morning alertness was 56.4 and (SD = 6.66). Both variables showed distributions close to normal, with slight skewness and low kurtosis, indicating that the data were normally distributed. Level-wise analysis further highlighted that the majority of students fell under the moderate level for

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both mobile usage 72 students and morning alertness 69 students, while only a small population fall under the high or low levels.

The correlation analysis revealed a weak negative relationship (r = -0.09) between mobile usage at night and morning alertness, which was not statistically significant. This suggests that although students who used their phones more at night tended to report slightly lower alertness in the morning, the effect was too small to establish a meaningful or consistent pattern. In other words, excessive mobile use at night did not strongly predict reduced morning alertness in this sample.

From these findings, it can be interpreted that while mobile phone use at night is widespread among college students, its direct impact on morning alertness is limited. The moderate levels observed in both variables indicate that students are managing their phone use and alertness within a balanced range, though individual differences exist. The weak correlation also implies that other factors such as sleep duration, lifestyle habits, or academic stress may play a more significant role in determining morning alertness than mobile usage alone. The commonly assumed negative impact of nighttime mobile phone usage on morning alertness may not be universal and could vary depending on usage patterns and individual lifestyle factors.

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