Smartphone Addiction and its Effect on Sleep Patterns

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Abstract

The rising dependence on smartphones, especially among youth, has led to notable disruptions in sleep patterns.This research investigates connection between sleep quality and smartphone addiction Data was collected from 60 respondents aged 18–35 through a Google Form. The results revealed the 63.3% of Candidates reported poor sleep quality, while 75% demonstrated moderate to high levels of smartphone addiction. Emotional triggers such as boredom, anxiety, and loneliness played a substantial role in excessive nighttime phone usage. Addiction levels and poor sleep quality were revealed to be strongly positively correlated. These findings emphasize the importance of implementing digital hygiene practices and behavioral interventions to improve sleep and overall well-being.

Keywords

Smartphone Addiction, Sleep Quality, SAS-SV, PSQI, Screen Time, Mental Health, Digital Behavior, Youth Well-being

Introduction

Smartphones have become a central part of modern human life. From communication to entertainment, education to professional engagement, these devices offer tremendous convenience and accessibility. However, with increasing reliance on mobile phones, there is a corresponding rise in behavioral issues, particularly among young adults.

A vital biological process, sleep is required for emotional control, mental healing, and physical recuperation. Research indicates that smartphone usage—especially close to bedtime—disrupts natural sleep rhythms. The blue light emitted from screens inhibits melatonin production, a hormone essential for regulating sleep. Furthermore, the psychological stimulation from apps, social media, and entertainment delays the onset of sleep and reduces its quality.

This study focuses on understanding the impact of excessive smartphone usage on sleep patterns in young adults. Given the alarming rise in digital dependency, it becomes essential to explore behavioral trends, emotional drivers, and their physiological consequences.

Objectives of the Study

- To use the SAS-SV instrument to determine the extent of smartphone addiction.
- To evaluate sleep quality using the Pittsburgh Sleep Quality Index (PSQI)
- To identify emotional and psychological triggers for late-night smartphone usage
- To propose evidence-based recommendations for improving digital discipline and sleep hygiene

Methodology

This research employed a **quantitative descriptive design** to understand the patterns of smartphone use and their impact

on sleep among individuals aged 18–35.

- **Sample Size**: 60 respondents
- **Data Collection Method**: Structured Google Form
- **Sampling Technique**: Convenience Sampling
- **Data Analysis**: Microsoft Excel and Pearson's Correlation Coefficient

Respondents was informed of the Research purpose and assured of their anonymity. The survey was distributed online across student and young professional networks.

Key Findings

1.1 Demographic Profile

- **Age**:

o 43.3%: 18–22 years

o 36.7%: 23–27 years

o 20.0%: 28–35 years

- **Gender**:

o Male: 56.7%

o Female: 43.3%

- **Occupation**:

o Students: 58.3%

o Working professionals: 41.7%

1.2 Smartphone Use Before Sleep

- < 1 hour: 13.3%
- 1–2 hours: 31.7%
- 2–3 hours: 38.3%
- 3 hours: 16.7%

Insight: More than 55% of participants use smartphones for over 2 hours before bed, increasing the risk of sleep disturbances.

1.3 Smartphone Addiction (SAS-SV)

- Low Addiction: 25.0%
- Moderate Addiction: 53.3%
- High Addiction: 21.7%

Interpretation: Three out of four respondents experience moderate to high smartphone addiction.

1.4 Sleep Quality (PSQI)

- Good Sleep (Score ≤ 5): 36.7%
- Poor Sleep (Score > 5): 63.3%

Conclusion: A majority of respondents suffer from poor sleep quality.

1.5 Emotional Triggers for Smartphone Use

- Boredom: 45.0%
- Stress/Anxiety: 35.0%
- Loneliness: 15.0%
- Habitual Use: 5.0%

Conclusion: Emotional drivers play a significant role in compulsive smartphone use before bed.

1.6 Correlation Analysis

- **Correlation Coefficient (r)**: +0.62
- **p-value**: < 0.01

Result: There is a strong and statistically significant positive correlation between smartphone addiction levels and poor sleep quality.

Discussion

The findings of this study are in alignment with international research which identifies smartphone addiction as a major disruptor of sleep. Emotional reliance on digital content, coupled with poor boundary-setting, leads to prolonged screen exposure at night. Participants frequently report
checking their phones out of habit, even when they acknowledge its harmful effects.

Psychological theories such as **the arousal theory** and **reward cycle model** explain how emotionally stimulating content keeps the brain alert, preventing the transition into restful sleep. The dopamine release triggered by notifications, likes, and messages reinforces addictive behavior patterns.

Furthermore, reduced sleep quality is known to impair concentration, memory, immunity, and mood regulation. These effects collectively compromise academic performance, work efficiency, and overall quality of life.

Conclusion

Smartphone addiction is an emerging digital health concern, particularly for young, tech-savvy populations. This study

confirms a direct relationship between smartphone usage—both in terms of time and emotional engagement—and deteriorating sleep quality.

As mobile devices become more embedded in our routines, it is critical to promote awareness of their health impacts. Without intervention, this silent addiction may lead to long-term mental and physical health challenges.

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2. Recommendations

Given the results, the following strategies are recommended:

- Introduce **digital curfews** to limit screen exposure before sleep
- Use **blue light filters**, night-shift modes, and device timers
- Promote offline relaxing practices like meditation or reading.
- Implement **mindfulness and stress-reduction practices**
- Conduct **institutional workshops** on digital wellness
- Promote the use of **screen time monitoring apps**

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