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Print ISSN: [3006-2497](#) Online ISSN: [3006-2500](#)Platform & Workflow by: [Open Journal Systems](#)**Investigating the Relationship Between Smartphone Addiction and Daytime Sleepiness Among Adults in Gujranwala****Arooj Rashid**

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[daud.afzal@gift.edu.pk](mailto:daud.afzal@gift.edu.pk)**Abstract**

*Smartphone use has increased rapidly in recent years, raising concerns about its potential impact on sleep health. The present study aimed to examine the relationship between smartphone addiction and daytime sleepiness among adults in Gujranwala. A quantitative correlational research design was used. Data were collected from 70 participants aged between 18 and 25 years using the Smartphone Addiction Scale–Short Version (SAS-SV) and the Epworth Sleepiness Scale (ESS). The data were analyzed using SPSS through correlation, regression, and ANOVA analyses. The results indicated a weak positive correlation between smartphone addiction and daytime sleepiness ( $r = .215$ ), which was not statistically significant. The findings suggest that although smartphone use may influence sleep patterns, it was not a strong predictor of daytime sleepiness in the present sample. Further research with larger samples is recommended to better understand the relationship between smartphone use and sleep behavior.*

**Keywords:** *smartphone addiction, daytime sleepiness, sleep quality, adults*

**Introduction**

In today's digital age, smartphones have become an essential part of daily life. Adults use smartphones for communication, work activities, social networking, entertainment, and online services. Although smartphones provide many benefits, excessive use can also create health problems. One of the most common problems is sleep disturbance, particularly daytime sleepiness.

Daytime sleepiness refers to feeling tired and drowsy during the day even after sleeping at night. It can negatively affect concentration, work productivity, and overall wellbeing. As smartphone use continues to increase, researchers have started examining how excessive smartphone use may influence sleep behavior and daytime functioning.

Previous studies have shown that excessive smartphone use, especially before bedtime, can disturb sleep patterns and increase fatigue during the day (Alimoradi et al., 2022). Therefore, it is important to investigate the relationship between smartphone addiction and daytime sleepiness among adults.

## **Background**

Smartphone addiction refers to excessive and uncontrolled smartphone use that interferes with daily activities and responsibilities. Individuals with smartphone addiction often feel uncomfortable without their phones and repeatedly check notifications despite negative consequences (Kwon et al., 2013). Adults may be particularly vulnerable because smartphones are used for both work and personal communication. Research suggests that higher smartphone addiction is associated with poor sleep quality, stress, and emotional problems (Sohn et al., 2021). In countries like Pakistan, frequent online interaction and late-night social media use may further contribute to sleep disturbances and daytime fatigue.

## **Theoretical Framework**

### ***Self-Regulation Theory***

Self-Regulation Theory explains how individuals control their behaviors to achieve long-term goals (Baumeister & Vohs, 2007). Healthy individuals usually try to maintain good sleep habits. However, smartphone addiction reflects poor self-control. Even when people know they should sleep early, they may continue using their phones. This lack of self-regulation can lead to reduced sleep time and increased daytime sleepiness.

### ***Arousal and Sleep Displacement Theory***

Arousal Theory suggests that mental stimulation before bedtime makes it difficult to fall asleep. Smartphones provide continuous stimulation through messages, notifications, and social interaction. Sleep Displacement Theory explains that time spent using smartphones replaces time that should be spent sleeping. Together, these theories help explain how excessive smartphone use can reduce sleep quality and increase daytime fatigue.

## **Study Variables**

### ***Independent Variable***

**Smartphone Addiction** (Measured using the Smartphone Addiction Scale-Short Version SAS-SV).

### ***Dependent Variable***

**Daytime Sleepiness** (Measured using the Epworth Sleepiness Scale).

## **Rationale**

The use of smartphones has increased rapidly in recent years. While smartphones provide convenience and connectivity, excessive use may negatively influence sleep patterns and daily functioning. Although many studies have examined smartphone addiction among adolescents and students, fewer studies have focused on adults. Therefore, this study aims to explore the relationship between smartphone addiction and daytime sleepiness among adults. Understanding this relationship can help researchers and health professionals develop strategies to reduce problematic smartphone use and improve sleep health.

## **Significance**

This study is important because smartphone addiction is becoming a common problem in modern society. Excessive smartphone use may negatively affect sleep quality, concentration, and daily performance. By examining the relationship between smartphone addiction and daytime sleepiness, this research may help increase awareness about healthy smartphone use and sleep habits. The findings may also contribute to future research on digital behavior and mental health.

## Literature Review

Research on smartphone addiction and its effects on sleep has grown substantially in recent years. Smartphones have become common in daily life, but their excessive use has been linked with negative health outcomes including poor sleep quality and increased daytime sleepiness (AlShareef, 2022).

Yang et al. (2023) found a significant positive relationship between smartphone addiction and daytime sleepiness among adults. Similarly, Sohn et al. (2021) reported that excessive smartphone use is associated with sleep disturbances and daytime fatigue.

Demirci et al. (2021) also found that individuals with higher smartphone addiction scores reported poorer sleep quality and higher daytime sleepiness. These findings suggest that smartphone addiction may influence sleep behavior and daily functioning.

## Methodology

### Aims & Objectives

- To compare levels of daytime sleepiness among individuals with different levels of smartphone usage.
- To investigate whether smartphone addiction predicts daytime sleepiness.

### Research Design

The present study used a quantitative correlational research design to examine the relationship between smartphone addiction and daytime sleepiness.

### Research Question

Is there a relationship between smartphone addiction and daytime sleepiness among adults?

### Hypothesis

**Null Hypothesis (H<sub>0</sub>):** There is no relationship between smartphone addiction and daytime sleepiness among adults.

**Alternative Hypothesis (H<sub>1</sub>):** There is a relationship between smartphone addiction and daytime sleepiness among adults.

### Operational Definitions of Variables

**Smartphone Addiction.** Smartphone addiction refers to excessive and uncontrolled use of smartphones that interferes with daily activities and responsibilities. It involves behaviors such as frequent checking of the phone, difficulty reducing usage, and feeling uncomfortable when the smartphone is not available. In the present study, smartphone addiction was measured using the Smartphone Addiction Scale–Short Version (SAS-SV) developed by Kwon et al. (2013). Higher scores on the scale indicate higher levels of smartphone addiction.

**Daytime Sleepiness.** Daytime sleepiness refers to the tendency to feel tired, drowsy, or fall asleep during the day when a person is expected to remain awake and alert. Persistent daytime sleepiness can affect concentration, mood, and daily functioning. In this study, daytime sleepiness was measured using the Epworth Sleepiness Scale (ESS) developed by Johns (1991). Higher scores on the scale represent higher levels of daytime sleepiness.

### Inclusion Criteria

- Adults aged 18 to 25 years.
- Individuals who regularly use a smartphone.
- Participants who were willing to take part voluntarily in the study.
- Individuals who were able to understand and complete the questionnaire.

### Exclusion Criteria

- Individuals below 18 years or above 25 years of age.

- People who do not regularly use smartphones.
- Individuals who did not complete the questionnaire properly.

**Sampling Strategy**

A convenience sampling technique was used to collect data from participants who were easily accessible and willing to participate in the study

**Participants**

The sample consisted of 70 participants aged between 18 and 25 years.

**Instruments**

**Smartphone Addiction Scale-Short Version (SAS-SV).** Used to measure smartphone addiction.

**Epworth Sleepiness Scale (ESS).** Used to measure daytime sleepiness.

**Statistical Analysis**

Data were analyzed using SPSS software. Descriptive statistics, correlation analysis, regression analysis, and one-way ANOVA were conducted.

**Ethical Considerations**

- Informed consent was obtained from all participants before their participation in the study.
- The confidentiality and anonymity of all participants were maintained throughout the research.
- Participation was voluntary, and participants had the right to withdraw from the study at any time.

**Results**

**Table 1**

*Demographic Characteristics of Sample (N=70)*

Variables	<i>n</i>	%
Age		
18-21	57	81.4
22-25	13	18.6
Gender		
Male	21	30
Female	49	70
Marital Status		
Single	65	92.9
Married	5	7.1

*Note. n= Sample Size, %= Percentage*

**Table 2**

*Psychometric Properties of Research Instruments*

Scales	M	S. D	Range	Cronbach's $\alpha$
SAS-SV	33.44	9.434	47	.794
Epworth Sleepiness Scale	9.74	4.497	19	.613

*Note. M= Mean, S. D= Standard Deviation,  $\alpha$ = Reliability Coefficient*

**Table 3**

*Correlation Analysis (N=70)*

Variables	1	2
Smartphone Usage	-	.215
Sleep Quality		-

**Table 4**  
*Simple Linear Regression Predicting Sleep Quality from Smartphone Usage*

	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
Smartphone Usage	.102	.056	.215	1.811	.075

Note. *B* = unstandardized coefficient, *SE* = standard error,  $\beta$  = standardized coefficient

**Table 5**  
*ANOVA statics of Study Variables (N=70)*

	Mean	S.D	Test of Homogeneity of Variance		ANOVA	
			Levene	Sig	F	Sig
Smartphone Usage						
Low	8.33	4.64	1.12	.332	2.29	.109
Moderate	10.54	3.99				
High	11.17	5.84				

**Discussion**

The purpose of this study was to examine the relationship between smartphone addiction and daytime sleepiness among adults. The results showed a weak positive relationship between smartphone usage and sleep quality. However, the relationship was not statistically significant.

The correlation analysis indicated a weak positive relationship ( $r = .215$ ) between smartphone usage and sleep quality. This suggests that individuals who use smartphones more frequently may experience slightly higher levels of daytime sleepiness, although the relationship was not statistically significant.

The regression analysis further showed that smartphone usage was a weak predictor of the outcome variable. The standardized coefficient ( $\beta = .215$ ) indicates that smartphone usage had only a small influence on sleep quality. Since the p-value was greater than .05, the effect was not statistically significant.

The ANOVA results also indicated that there were no statistically significant differences in daytime sleepiness among low, moderate, and high smartphone usage groups. Although the high usage group showed higher mean sleepiness scores compared to the low usage group, these differences were not statistically significant.

These findings suggest that smartphone usage alone may not strongly influence daytime sleepiness. Other factors such as lifestyle habits, work stress, sleep routines, and mental health may also play an important role in affecting sleep quality.

**Implications and Limitations**

The findings of this study highlight the importance of promoting healthy smartphone usage habits among adults. Reducing smartphone use before bedtime may help improve sleep quality and reduce daytime fatigue.

However, this study has some limitations. The sample size was relatively small, which may limit the generalizability of the results. In addition, the cross-sectional design does not allow causal

conclusions. Future research should include larger samples and consider other variables such as stress, anxiety, and lifestyle behaviors.

#### Recommendations

Future researchers should examine the relationship between smartphone addiction and daytime sleepiness using larger and more diverse samples. Researchers may also consider additional factors such as stress, mental health, lifestyle habits, and sleep routines that may influence sleep quality. Longitudinal studies could further help in understanding how long-term smartphone usage affects sleep patterns and daytime functioning.

#### Conclusion

The null hypothesis ( $H_0$ ) is not rejected because the results show a weak positive correlation between smartphone addiction and daytime sleepiness ( $r = .215$ ,  $p > .05$ ). This indicates that although higher smartphone usage is associated with slightly higher levels of daytime sleepiness, the relationship is weak. Therefore, there is not enough evidence to support a strong relationship between smartphone addiction and daytime sleepiness in the present study. However, the small sample size and cross-sectional design may limit the generalizability of the findings

#### References

- Alimoradi, Z., Lin, C. Y., Broström, A., Bülow, P. H., Bajoghli, H., Griffiths, M. D., & Pakpour, A. H. (2022). Problematic smartphone use and sleep problems: A systematic review and meta-analysis. *Sleep Medicine Reviews*, 62, 101591. <https://doi.org/10.1016/j.psychres.2019.112686>
- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass*, 1(1), 115–128. <https://doi.org/10.1111/j.1751-9004.2007.00001.x>
- Demirci, K., Akgönül, M., & Akpinar, 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>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Johns, M. W. (1991). A new method for measuring daytime sleepiness: The Epworth Sleepiness Scale. *Sleep*, 14(6), 540–545. <https://doi.org/10.1093/sleep/14.6.540>
- Kwon, M., Kim, D. J., Cho, H., & 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>
- Sohn, S. Y., Rees, P., Wildridge, B., Kalk, N. J., & Carter, B. (2021). The association between smartphone use and sleep outcomes: A systematic review. *Sleep Health*, 7(2), 123–131. <https://doi.org/10.1016/j.sleh.2020.12.005>
- Yang, S. Y., Chen, H., & Lee, T. (2023). Association between smartphone addiction and sleep problems among adults. *Journal of Behavioral Addictions*, 12(2), 345–356. [10.3389/fpsy.2021.629407](https://doi.org/10.3389/fpsy.2021.629407)